

सत्यमेव जयते।

Census of India, 1951

VOLUME VII

MADHYA PRADESH

PART I—A
Report

By

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NOTE

1. Census of India, 1951, Volume VII, for Madhya Pradesh, is divided into the following Parts :—

PART I	..	Report, Subsidiary Tables and Notes thereon.
Part I—A	..	Report.
Part I—B	..	Subsidiary Tables and Notes thereon.
PART II	..	Tables in four Volumes as follows :—
Part II—A	..	General Population Tables of the "A" Series and Summary Figures for Districts constituting the "E" Series.
Part II—B	..	The Economic Tables of the "B" Series.
Part II—C	..	Household and Age (Sample) Tables of the "C" Series and Social and Cultural Tables of the "D" Series.
Part II—D	..	The Maternity Tables.

2. The Administration Report is in two Parts—

PART I	..	Enumeration (The Enumeration Procedure—Training of Staff—The Census Questionnaire and details of putting it across to the People—The National Register of Citizens—Verification of the 1951 Census Count and the Sample Census Enquiry, etc.).
PART II	..	Tabulation.

INTRODUCTION

From the 21st January 1950 till his sad demise on the 7th October 1952, the late Shri J. D. Kerawalla superintended the census operations in the State. By his unfailing energy and unremitting hard work, continued in spite of the strain of ill-health, he succeeded in making Madhya Pradesh one of the best censused States in India, and in beating all other States in the extreme despatch with which he carried through the census of the State.

2. Changes affecting the Census Organization.—During the decade 1941—50 extensive territorial changes took place in the State. The integration of the fourteen States of the Eastern States Agency and of the tiny State of Makrai of the Bhopal Agency with Madhya Pradesh, resulting in the formation of three new districts of Bastar, Raigarh and Surguja and an increase of 2,750 and 150 square miles respectively in the areas of the existing Durg and Hoshangabad districts, was the most important of the changes affecting the organization of census operations in the State. The other minor changes were the transfer of thirty-nine villages of Nimar district to Madhya Bharat, of eleven villages of Jabalpur district to Vindhya Pradesh and of five villages from Vindhya Pradesh to Jabalpur district. So far as the organization of the census operations was concerned, the net effect of these territorial changes was the addition of about 32,000 square miles of territory with a population of nearly 3·2 million. The additional territory for which census arrangements had to be made by comparison with 1941 consisted, therefore, of the five former States of Surguja, Jashpur, Korea, Udaipur and Changbhakar, associated with the province of Bihar at the last census.

3. Census Organization and Census Officers.—The ninth decennial census of this State was taken in February-March 1951. A full account of the procedure adopted for the enumeration of the people and the compilation of the results has been given in the Administration Report printed in two parts, part I dealing with Enumeration and part II with Tabulation and preparation of Report. As at the last census, the practice of the one-night count in vogue until 1931, which easily lent itself to grave errors, was discarded and a system of enumeration based on the concept of normal residence was adopted. With a view to avoiding slip copying, the system of " billets individuels " was adopted as at the last census. The census organization was closely modelled on that of 1941. As in, previous censuses there were three principal grades of census officers, the Enumerator, the Supervisor and the Charge Superintendent. The actual filling up of the enumeration slips for one or more blocks was carried out by the enumerator who was generally the schoolmaster or other literate resident of the locality. Normally each village was treated as a block. The supervisor and the charge superintendent were responsible for the census organization in their circle and charge respectively. As in the past the Land Revenue staff was the backbone of the census organization. In all districts except those of Berar, it was usually possible to constitute the Revenue Inspector's circle a census charge and the

Patwari's circle a census circle under the direction of these officers. In Berar where the jurisdiction of the Patwari is different, the villages were grouped into arbitrarily constituted census circles, subject to considerations of population and area. Every town, as a rule, formed a charge, the Secretary or some other senior official of the local body constituted for the town acting as the charge superintendent. Division of the town into circles and blocks was made on the basis of population and area. In the municipal towns, each ward was, generally, formed into a census circle. The members and employees of the local bodies were associated with the census organization in urban areas as far as possible. There were 619 charges, 7,815 circles and 69,451 blocks in charge of 647 charge superintendents including additional charge superintendents, 8,081 supervisors and 46,797 enumerators in the State, or in all a staff of about fifty-six thousand persons. Above these census officers was the Tahsil staff, each Tahsildar having four or five Revenue Inspectors' circles within his area of jurisdiction, and over the whole district organization presided the Deputy Commissioner with his staff of Assistants, of whom some, as Chief Executive Officers, held definite areas of administration, while one was placed in special charge of the district arrangements as District Census Officer.

4. The organization of census divisions and the census staff occupied the hot weather of 1950. Thanks to the late Shri Yeatts's demi-official letter No. Y/4 of the 27th November 1947 to the State Government and the subsequent letters written early in 1948, house-numbering and allotment of location code numbers to the districts and tahsils had already been completed when the late Shri Kerawalla joined as Superintendent of Census Operations in January 1950. All that had to be done in 1950 was to get the obliterated house-numbers repainted and permanent number-plates of metal affixed in the more important municipal areas. The old definition of a house, namely, 'every dwelling with a separate main entrance' was retained. A General Village Register was prepared by each Tahsildar in February 1950 showing the names of all the villages and hamlets in the Tahsil and the names of residents suitable for appointment as enumerators. Location code numbers were allotted to the villages, towns and wards by the Tahsildar. If the settlement numbers of all the villages of the Tahsil were found to be in one serial order, the settlement number itself was treated as the location code number of the village. In all other cases, the villages were numbered in alphabetical order. A Circle List and Register was then prepared for each census circle and it served as a record of the final census arrangement in the area.

5. Training of the census staff commenced in June in all districts. It was soon discovered that a certain minimum intellectual equipment was absolutely essential for an enumerator. Numerous changes were found necessary in the staff, particularly in the tracts inhabited by the aborigines where the raising of the "enumeration army" had presented formidable difficulties. The remaining part of 1950-51 was devoted to the checking of house-numbers, the perfection of the census organization, particularly in the remoter and more backward tracts and the systematic training of the census staff by district officers by means of conferences and by continued personal instruction and inspection during their tours. Considering the difficulties of obtaining accurate and complete replies to some of the questions asked at the census, the training of the staff was one of the most important parts of the operations. No other single endeavour connected with the enumeration called for so much exertion as the training of enumerators. The late Shri Kerawalla and I were

able to visit, generally more than once, every district and tahsil headquarters and other important training centres in Madhya Pradesh and to hold conferences there. The National Register of Citizens was compiled by the census staff in the months of November and December 1950. Incidentally it helped greatly to tone up their training. The National Register of Citizens will be useful for the local extraction of census information during the inter-censal period, the selection of random samples for conducting socio-economic surveys, and the maintenance of electoral rolls. Compilation of this register marks a major step in the direction of solving the problem of improvement of population data in the State.

6. The Actual Census.—The census enumeration lasted for a period of 20 days from the 9th February to the 28th February 1951. The enumerator, with the relevant part of the National Register of Citizens in hand, visited each house in turn and filled-up a slip for every individual, subject to the condition that enumeration of an absentee or a visitor was done at his usual place of residence in all cases except when his absence from home extended beyond the prescribed enumeration period. The central or reference date of the census was sunrise on the 1st of March 1951. The usual halting places were searched for travellers, tramps, sadhus, wandering tribes, etc., at that hour, and slips were filled in for such of them as had not already been enumerated elsewhere. Inmates of institutions like hostels, hospitals, jails and the like were also enumerated at that time, provided they had been away from their homes throughout the enumeration period and had not been previously enumerated anywhere else. The next three days were devoted to intensive checking and the slips and the National Register of Citizens were brought up-to-date with respect to the reference date of the census. The State Government declared the 1st and 2nd of March as gazetted holidays for the census. The opportunity was utilized for improving the accuracy of the census returns by deputing Government servants of the various departments to attend to the work of checking.

7. Provisional Totals.—As soon as the census was over the enumerators met their supervisors at an appointed place and prepared Enumerator's Abstracts, showing the total population of each block as well as the number of displaced persons, literates, and occupied houses. The supervisor prepared a Circle Summary and sent it to the Charge Superintendent, who prepared for his charge totals which he sent to the district headquarters. There the charge totals were added and the district total was reported by express telegram simultaneously to the Registrar General, India, and to the Superintendent of Census Operations, Madhya Pradesh. All possible means were adopted to secure speedy arrival of the abstracts at the district headquarters, and so excellent were the arrangements made by the district officers that it was possible for the late Shri Kerawalla to telegraph the figures for Madhya Pradesh to the Registrar General on the 10th March, *i.e.*, only seven days after the conclusion of the final check-up of the census returns—although the last date prescribed for the purpose was the 22nd March 1951. The first total to arrive was that of Surguja district at 2-45 p. m. on the 3rd March, the figures having been actually intimated on the phone to the late Shri Kerawalla six hours earlier. It was followed by the figures of the Bilaspur district which were telegraphed (from Bilaspur) on the 4th March at 2-15 p.m. but received here the following morning. The figures for the Chanda, Raipur, Sagar and Chhindwara districts were also compiled and telegraphed with great

promptitude. By the 9th of March the totals of almost all districts, including those comprising large areas of dense forest, had been received. The accuracy with which this rapid compilation of totals was made by the district staff can be gauged by the fact that the difference between the provisional totals for the State as telegraphed to the Registrar General, India, and the total obtained after analysis in the tabulation office was only 0·378 per cent.

8. Attitude of the Public.—In the months preceding the census, an intensive publicity campaign was organized in the State inviting people to co-operate fully with the authorities in making the First Census of Free India a success. Spontaneous co-operation from the people was forthcoming at this census in a greater measure than ever before.

9. Tabulation.—For the analysis of the statistics collected at the census, two tabulation offices were constituted, one at Nagpur and the other at Raipur. For purposes of tabulation every district was divided into rural and urban tracts, and the latter were grouped together so as to form a unit, called a sub-district, having a population of about three lakhs. Division of districts into sub-districts and tracts marks an important innovation in the tabulation procedure introduced at this census. A team consisting of one supervisor, two compiler-checkers and ten or fifteen sorters was responsible for performing the entire sorting and compilation operations for a sub-district. Thirty-five such teams operated in each tabulation office for varying periods. The staff in each office numbered well over 500 at one time. The compilation of the District Tables was taken in hand in July by a very much reduced staff and occupied about three months. The preparation of the last of the State Tables was, however, not completed till the end of March 1952, the compilation of the elaborate Economic, Language and Fertility Tables proving very tedious.

10. The Census Report.—The census report of Madhya Pradesh consists of two parts of which Part I is divided into two volumes Part I-A and Part I-B and Part II into four volumes, Part II-A to Part II-D. This volume, which has been called Part I-A, confines itself almost entirely to an analysis of certain statistics furnished by the census, an exposition of the significant changes during the past decades and interpretation of the statistics wherever possible. The statements made and conclusions drawn in this report are wholly the responsibility of the author alone in his personal capacity and do not necessarily represent the views of the Government. Part I-B contains the Subsidiary Tables, the Climatological Tables and the District Index of Non-Agricultural Occupations. Part II-A contains the General Population Tables and Summary Figures for Districts, Part II-B the Economic Tables, Part II-C the Household and Age (Sample) Tables and the Social and Cultural Tables and Part II-D the Maternity Tables. Besides these volumes, a District Census Handbook has been published for each of the twenty-two districts of the State. The Handbook, which replaces the ' Village Statistics' published at the previous censuses, contains all the District Tables, furnishing district data with break-up for census tracts within the district, the Primary Census Abstracts, the District Index of Non-Agricultural Occupations, the Census Abstracts of Small-scale Industries, a table showing classification of agricultural holdings in the district according to their size and a calendar of important events of the district. The Administration Report in two parts, which is for departmental use only, contains a review of the progress of the operations from the administrative point of view.

11. The most important changes made in the census tabulation of 1951 have been the substitution of an economic classification for that based on religion, the presentation of census data by rural and urban areas, a complete change in the mode of tabulation of economic data, and preparation of the Age Tables on a 10 per cent sample basis, the age returns being printed as returned, without the application of a smoothing formula. The form and content of the Occupation or Means of Livelihood Tables of past censuses have been recast completely and three Economic Tables, namely B-I (livelihood Classes and Sub-Classes), B-II (Secondary Means of Livelihood) and B-III (Employers, Employees and Independent workers by Industries and Services, Divisions and Sub-Divisions) have been compiled in place of them. The Tables C-I (Household, Size and Composition), C-II (Livelihood Classes by Age Groups), C-V (Single Year age returns), D-V (Displaced Persons), D-VI (Non-Indian Nationals) and D-VII (Livelihood Classes by Educational Standards) have been prepared for the first time at this census. The elaborate race-caste-tribe data found in the reports of 1931 and prior censuses have not been published this time, although separate figures for Scheduled Castes, Scheduled Tribes and Anglo-Indians have been compiled and published. The data furnished by the other Tables compiled at this census are generally available in the reports of the previous censuses.

12. The late Shri Kerawalla had almost completed the census work of the State. The work left to me consisted of writing the two Chapters on 'Literacy' and 'Language' and a note on fertility data included as Appendix 'V' in this volume, and introductory Chapters to Volume II-C, containing the Household and Age (Sample) Tables and the Social and Cultural Tables, and Volume II-D, containing the Maternity Tables, and the second part of the Administration Report, as well as giving finishing touches to the other publications of the State.

13. Cost.—A few words may be added regarding the cost of the census operations. At the time of writing the accounts have not been finally closed, but the outstanding items (of which the most important is the cost of printing the report) are few and can be estimated with reasonable accuracy. The gross expenditure incurred by Government will, when the last bill has been paid, amount to approximately Rs. 7,54,370. Certain recoveries from local bodies and receipts from the sale of furniture, waste paper and the like would reduce the net cost to about Rs. 7,04,270, that is nearly 6 pies per head of the population. The corresponding figure was 3 pies in 1931 when the cost of living was immensely lower than that at present. Only by the exercise of the most rigid economy from the very beginning has the expenditure been kept at such a low level, notwithstanding the steep increase in prices and the more elaborate nature of the tabulation undertaken at this census.

14. Acknowledgements.—It remains to convey my acknowledgements to those—and they are many—without whose assistance and co-operation this report could not have been written. So long as the census is run on its present lines, the first and greatest debt of thanks will always be due to the great multitude of enumerators and other grades of census officers, of whose names there is no printed record and who at best can generally look only for a printed certificate as the reward of their labours. A large share of the credit for the success of the census, undoubtedly, goes to the district officials who, at a time of particular stress, when scarcity conditions in several districts required their constant care and attention, cheerfully undertook the heavy burden of work thrown on their shoulders by the organization of the census.

It is difficult for me to express sufficiently my deep personal gratitude to Shri J. B. Bowman, I.C.S., Superintendent of Census Operations for Bombay, Saurashtra and Kutch, who very kindly read through this volume and helped to enrich it with his exceedingly valuable suggestions at a time when his own preoccupations were most pressing. To the officers of the State Government who kindly recorded notes which have added greatly to the store of general information on various topics in the Appendices to this volume, I am grateful.

I am deeply sensible of my very special obligation to Shri V. K. Aiyar, Superintendent, Shri G. N. Parthasarathi, Deputy Superintendent, Shri J. K. Abhyankar, Assistant Superintendent and Shri B. K. Rao, Junior Assistant Superintendent of the Madhya Pradesh Government Press. With the exception of a few District Census Handbooks, the numerous census forms, pamphlets and booklets—some of them in three languages—and the Administration Report and the Census Report of the State were all printed by the Government Press, Nagpur, most expeditiously. The quality of the production speaks for itself. Even at the best of times the Press is hard put to it to execute this type of work in such a way as to enable the programme to be carried through without hitch. But for the unbounded energy and resourcefulness of Shri Aiyar and his able assistants, Shri Parthasarathi, Shri Abhyankar and Shri B. K. Rao, the census operations in the State could not have progressed so smoothly.

Shri Ramhridaya Tiwari and I held charge of the Tabulation Offices at Nagpur and Raipur, respectively. Shri Tiwari, a Superintendent of the Madhya Pradesh Secretariat, joined the Census Department as Office Superintendent in February 1950 and was promoted to gazetted rank as Deputy Census Superintendent in 1951. He managed with great success the difficult task of exacting the maximum of work with the minimum of friction and discontent from a large staff of temporary workers, not readily amenable to discipline. In November 1949 when I was an Extra-Assistant Commissioner in Hoshangabad district, I was deputed by the State Govenrment to attend a course on censuses and statistics in the International Training Centre on Censuses and Statistics for South East Asia and Oceania organized by the United Nations. The course was held at New Delhi and Calcutta. I joined as Assistant to the late Shri Kerawalla in April 1950. The energy and industry of the Technical Assistants of the two Tabulation Offices, Shri S. D. Verma and Shri S. P. Singh, the former a Naib-Tahsildar and the latter an Assistant Superintendent of the District Office, cannot be praised too highly. The administrative office under the Office Superintendent, Shri A. K. Dutta, who has proved himself a most capable Superintendent in more than one District Office, also worked very well. He and the other members of the ministerial staff were consistently diligent in the performance of their duties and contributed materially to the success of the census operations.

Lastly, before closing this introduction I must express my deep sense of gratitude to Shri R. A. Gopalaswami, I.C.S., Registrar General, India, and to Shri K. B. L. Seth, I.C.S., Chief Secretary to the Government, Madhya Pradesh, for their very kind help and guidance in all my difficulties.

H. N. BANERJEE.

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POPULATION MAP

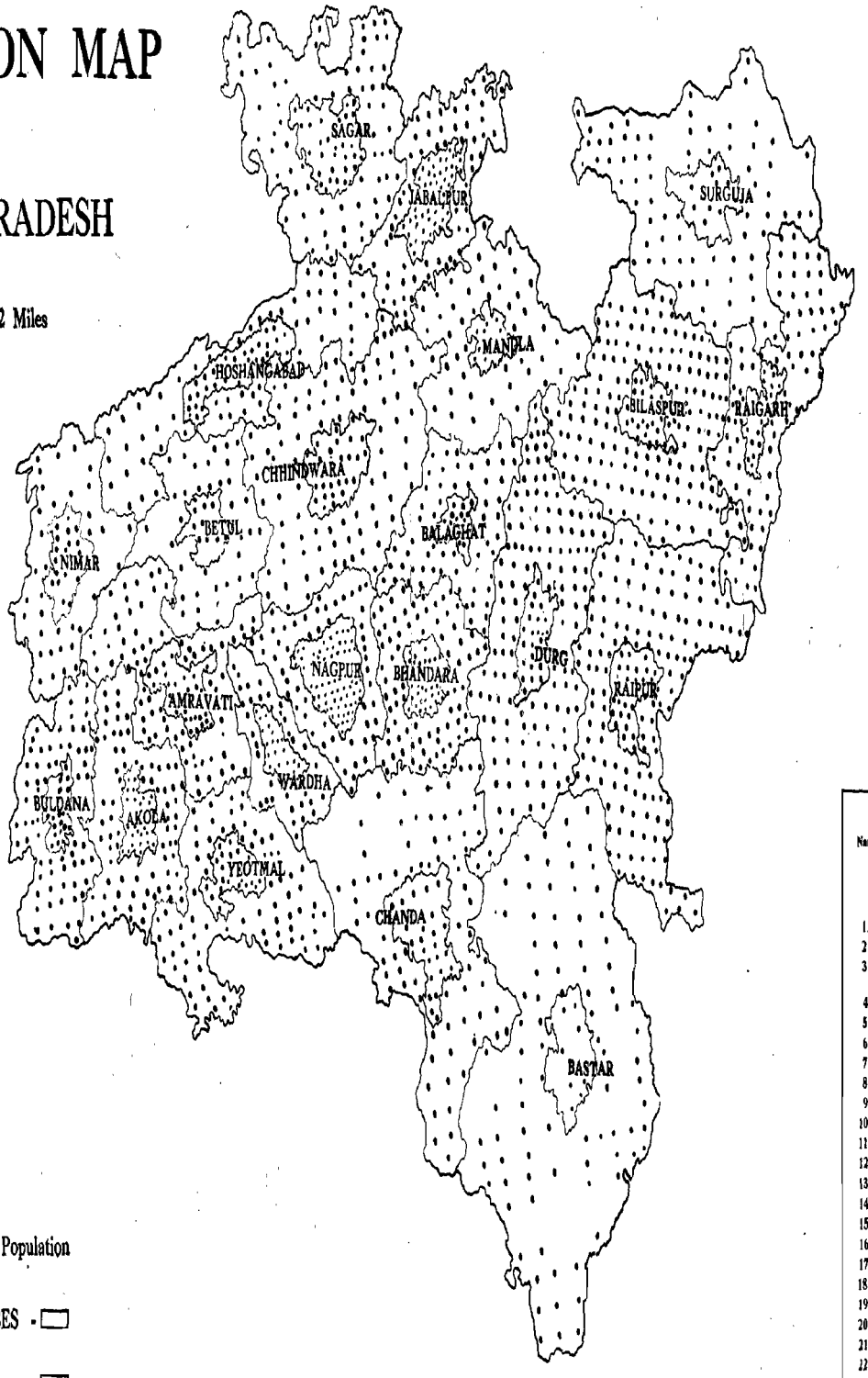
of

MADHYA PRADESH

SCALE 1" = 32 Miles

N

1951



REFERENCES

Each Dot Represents 10,000 of Population

NON-AGRICULTURAL CLASSES -

AGRICULTURAL CLASSES -

Name of District	Agricultural Population	Non-agricultural Population	Total
1. Sagar ..	688,513	305,141	993,654
2. Jabalpur .	598,931	446,665	1,045,596
3. Hoshang-abad.	559,776	288,122	847,898
4. Nimar .	349,621	173,875	523,496
5. Mandla ..	468,646	78,974	547,620
6. Betul ..	365,336	86,319	451,655
7. Chhindwara	828,168	252,323	1,080,491
8. Raipur .	1,383,977	256,029	1,640,006
9. Bilaspur ..	1,471,692	207,945	1,679,637
10. Durg ..	1 254,050	227,706	1,481,756
11. Bastar ..	835,577	78,169	913,746
12. Raigarh ..	769,092	150,428	919,520
13. Surguja .	726,554	95,487	822,041
14. Chanda ..	735,888	241,730	977,618
15. Bhandara	760,745	310,912	1,071,657
16. Balaghat ..	574,719	118,660	693,379
17. Wardha ..	351,496	187,407	538,903
18. Nagpur ..	530,685	703,871	1,234,556
19. Amravati ..	747,453	283,707	1,031,160
20. Akola ..	718,954	232,040	950,994
21. Buldana ..	695,940	174,228	870,168
22. Yeotmal ..	733,066	198,916	931,982

CHAPTER I

General Population

SECTION I.—PRELIMINARY REMARKS

Brief Description of the State and its Boundaries

1. The State of Madhya Pradesh, as now constituted, is situated between latitudes 17° 46′ 52″ and 24° 27′ 00″ north and longitudes 75° 55′ 24″ and 84° 23′ 54″ east, covering an area of 130,272 square miles. This territory includes the old Central Provinces and Berar as well as the fourteen integrated Chhattisgarh States and the Bhopal Agency State of Makrai. Madhya Pradesh is thus situated in the centre of the Indian Peninsula, comprising a large portion of the broad belt of hills and plateau country which separates the Northern Plains from the Deccan. The State occupies about 9·75 per cent of the total area of the territory of India and is the largest State of the Indian Union. Compared in extent with other countries of the world, it is larger than the British Isles or Italy and a little smaller than Japan or Germany. The State is bounded on the north and north-west by the States of Madhya Bharat, Bhopal and Vindhya Pradesh and along the small strip of the Sagar district by the State of Uttar Pradesh. On the west, it is bounded by the Khandesh district of Bombay ; on the south by the States of Hyderabad and Madras ; and on the east by the States of Bihar, Orissa and Madras.

Change in Area

2. The area of the Central Provinces and Berar as shown in the 1941 Census was 98,575 square miles as against the area of 130,272 square miles which is now given in the 1951 tables. The change in area is mainly due to the integration of the Chhattisgarh and Bhopal Agency States soon after the attainment of Independence, when the late Hon'ble Sardar Vallabh Bhai Patel by his wisdom and foresight brought about the historic unification of the Princely Order with the people of India. This event has been of great significance not only to Madhya Pradesh but to the country as a whole and the circumstances which led to it are summarised in the words of the late Sardar himself in Appendix 'A', which contains his speech delivered during the inauguration of the Provincial States Advisory Board on the 4th November 1948 at Nagpur.

3. The States of Nandgaon, Khairagarh, Chhuikhadan and Kawardha were transferred to the Durg district resulting in the increase of the area of that district by 2,750 square miles. The Bhopal Agency State of Makrai was transferred to the Hoshangabad district resulting in an addition of 150 square miles to the area of the district. The Bastar and Kanker States were formed into one district with an area of 15,091 square miles. Similarly, the States of Raigarh, Sarangarh, Sakti, Udaipur and Jashpur were formed into the Raigarh district with an area of 5,093 square miles. The Surguja, Korea and Changbhakar States were formed into the Surguja district with an area of 8,613 square miles. As a result of the Provinces and States (Absorption of Enclaves) Order, 1950, thirty-nine villages were transferred from the Nimar district to Madhya Bharat and the area of the district was thus reduced by 95 square miles. Similarly, on account of the transfer of eleven villages from the Jabalpur district to Vindhya Pradesh and five villages from Vindhya Pradesh into Madhya Pradesh, the area of the Jabalpur district was reduced by five square miles. The area of each district, as recalculated by the Surveyor-General, is given in Main Table A-I (Area, Houses and Population) in Part II-A of this

Report. The net increase in the area of the State comes to 31,697 square miles. Wherever comparative figures of previous Censuses are considered, the effect of the changes in area is taken into account and the population of the area involved is duly adjusted.

Explanation about Difference in Areas

4. The Surveyor-General of India has very kindly supplied the area figures for the districts of Madhya Pradesh as now constituted. He, however, could not supply the figures for the individual tahsils and for purposes of calculation of densities of the tahsils, the area figures supplied by the Deputy Commissioners have been made use of. Notes to this effect will be found in the Main Tables 'A-I'(Area, Houses and Population) and 'E' (Summary figures by districts and tahsils) given in Part II-A of the Report. The area figures supplied by the Deputy Commissioners differ to a fairly considerable extent in certain cases from those supplied by the Surveyor-General and with regard to these discrepancies the Surveyor-General has commented as follows :—

> " Our area figures are scientifically calculated from our maps which show the actual ground projected on a plain at the mean sea-level. Hence our figures will always be less than the area if actually measured on the ground. It will never be possible to measure the whole of India on ground whether by local governments or by us. Also, due to various reasons (*viz.*, taking different boundaries, different methods of calculation, different maps used, etc.) it is simply impossible to expect our area figures to agree in toto with those supplied by the local governments. Keeping the broader views in mind we will always recommend to use the figures supplied by us."

5. In considering the area and density figures, therefore, the discrepancies in the area figures supplied by the Surveyor-General and by the Deputy Commissioners have to be borne in mind. On a district level, the Surveyor-General's figures should be regarded as fairly accurate, but while considering the area figures for tahsils, the probable error in the local survey should be kept in view.

Political Divisions and Administrative Set-up

6. Up to the year 1948, the Central Provinces and Berar was, for political purposes, divided into four Commissioners' divisions of Jabalpur, Chhattisgarh, Nagpur and Berar. These divisions were abolished under the Central Provinces and Berar Commissioners (Construction of References) Act, 1948 (LXI of 1948), which came into force from the 1st of November 1948. The State now consists of 22 districts and the administration is controlled by the State Government through the Deputy Commissioners.

The Janapada Sabhas

7. With a view to implementing the policy of decentralisation of power, the Janapada Sabha Scheme has also been introduced into the State. The districts are divided into a convenient number of Janapadas in a manner similar to that adopted in the Sub-Divisional system of administration. The Sub-Divisional Officer of old continues to discharge Revenue and Judicial functions, but becomes subordinate to the Chief Executive Officer of the Janapada Sabha, who is invested with the powers of an Additional Deputy Commissioner and an Additional District Magistrate, and is responsible to the State Government through the Deputy Commissioner for the transaction of Revenue business and the maintenance of law and order within his jurisdiction. The Chief Executive Officer also exercises general supervision and control over all officers of the State Government within his jurisdiction and is permitted to correspond direct with Government keeping his Deputy Commissioner informed by sending him copies of such correspondence. A note on the Janapada Scheme has been very kindly prepared by Shri R. D. Beohar, I.A.S., Secretary to the Government of Madhya Pradesh in the Local Government Department, and is given in Appendix 'B'.

The Gram Panchayats

8. The Gram Panchayats are an integral part of the Janapada Sabha. The Village Panchayats Act, 1947, contemplates a Gram Panchayat for every village with a population of not less than 500 persons and the number of Gram Panchayats, which was only 797 in 1947, was increased to 5,214 by 1950. The Gram Panchayats are in charge of sanitation, water-supply, agriculture, public health and education in the villages. There are 96 Janapada Sabhas in the State and they have the general power of inspection, supervision and control over the performance of the administrative duties of the Gram Panchayats. The Gram Panchayats have no judicial powers and for purposes of administration of justice in simple local cases, another institution known as " Nyaya Panchayat " is provided. The Nyaya Panchayats are constituted at individual centres within each Janapada and the members of this body are selected by Government from amongst the members of the Gram Panchayats within the jurisdiction of the Nyaya Panchayat. In 1947, there were 172 Nyaya Panchayats and by 1950 the number had gone up to 1,223.

Judicial Reforms

9. Another administrative reform, which needs to be mentioned here, concerns the steps taken to separate the executive and judicial functions of the revenue officers. Although complete separation has not yet been effected, normal criminal work is entrusted to special officers called " Judge Magistrates ". They work under the District Magistrate but are not required to do other executive work.

10. The administrative reforms are at present in a formative and experimental stage and the progress made will no doubt be watched with interest.

The Natural Divisions

11. For statistical purposes, the old Central Provinces and Berar was divided into five natural divisions in the previous Censuses since 1911. These were the Nerbudda Valley, the Maratha Plain, the Plateau, the Chhattisgarh Plain and the Chhota Nagpur Plateau. While the system of natural divisions was adopted in the State reports as a matter of course, it fell into disuse for all-India references after 1911 and the Registrar-General considered it necessary to revive it for purposes of review of all-India data also. The country is, therefore, now divided into six 'union population zones' on the basis primarily of contiguity and convenience for purposes of review. Independently of these divisions it is also divided into five " natural regions ", based solely on physical features and without reference to material differences in soil and rainfall conditions. These five natural regions are further divided into fifteen "natural sub-regions" on the basis of substantial differences within each natural region, in respect primarily of soil or rainfall conditions, and also taking into account differences in the cropping pattern. The fifteen natural sub-regions are again sub-divided into fifty-two "natural divisions" on the basis primarily of intersection of the sub-regions with existing political divisions.

12. As a result of this all-India scheme, the State of Madhya Pradesh is divided into three natural divisions, namely :—

(1) The North-West Madhya Pradesh Division;

(2) The East Madhya Pradesh Division ; and

(3) The South-West Madhya Pradesh Division.

The North-West Madhya Pradesh Division is part of the North Central Hills and Plateau Sub-Region. It is further divided into two Sub-Divisions, the Nerbudda Valley and the Plateau. Similarly, the East Madhya Pradesh Division is a part of the North-East Plateau Sub-Region and is also divided into two Sub-Divisions, the Chhattisgarh Plain and the East Maratha Plain. The South-West Madhya Pradesh Division is a part of the North Deccan Sub-Region and consists of the West Maratha Plain. All the three sub-regions are in turn parts of the Peninsular Hills and Plateau Region, which is one of the five natural regions into which the country has been divided. The scheme of these natural regions, sub-regions, divisions and sub-divisions along with the districts constituting them is given in Table 1 below. The numbers written against the natural region, sub-region and divisions represent the code numbers allotted to them on an all-India basis :—

Table 1

The Natural Divisions

3	Peninsular Hills and Plateau Region.
3·2	North Central Hills and Plateau Sub-Region.
3·24	North-West Madhya Pradesh Division.
3·241	Nerbudda Valley Sub-Division—
	Sagar.
	Jabalpur.
	Hoshangabad.
	Nimar.
3·242	Plateau Sub-Division—
	Mandla.
	Betul.
	Chhindwara.
3·3	North-East Plateau Sub-Region.
3·32	East Madhya Pradesh Division.
3·321	Chhattisgarh Plain Sub-Division—
	Raipur.
	Bilaspur.
	Durg.
	Bastar.
	Raigarh.
	Surguja.
3·322	East Maratha Plain Sub-Division—
	Chanda.
	Bhandara.
	Balaghat.
3·4	North Deccan Sub-Region.
3·41	South-West Madhya Pradesh Division.
3·411	West Maratha Plain Sub-Division—
	Wardha.
	Nagpur.
	Amravati.
	Akola.
	Buldana.
	Yeotmal.

13. It will be noticed that the Nerbudda Valley and Plateau Divisions of the old Censuses remain unaffected in the new scheme except that they are now called sub-divisions of the North-West Madhya Pradesh Division. The old Maratha Plain has on the other hand been sub-divided into two sub-divisions, the East Maratha Plain and the West Maratha Plain. The former is a part of the new East Madhya Pradesh Division while the latter is that of the South-West Madhya Pradesh Division. This re-grouping is based on the differences in soil, climate, rainfall and cropping patterns as noticed in the districts of Chanda, Bhandara and Balaghat with those found in the districts of Wardha, Nagpur, Amravati, Akola, Buldana and Yeotmal. The last mentioned six districts included in the South-West Madhya Pradesh Division form a unit in themselves, while the three districts of Chanda, Bhandara and Balaghat are rightly included in the East Madhya Pradesh Division as the characteristics mentioned above resemble the districts of the Chhattisgarh Plain.

14. The old "Chhota Nagpur Plateau" was regarded as a distinct natural division in the 1911 Census Report as the five States of Surguja, Korea, Changbhakhar, Jashpur and Udaipur were then recently transferred from Bengal to the Chhattisgarh Agency and it was deemed proper to keep their statistics separate during that Census. It was also stated that these States belonged more nearly to the tract of the country which includes the Rewa State of Central India, rather than Chhattisgarh. It may be mentioned that soon after the integration of the States into Madhya Pradesh, a claim was made for integrating the Surguja and Jashpur States with Bihar. The dispute was settled by the Hon'ble the Deputy Prime Minister of India, the late Sardar Vallabhbhai Patel, on the principle that the States should be integrated with the provinces, of which they formed a geographical part and the claim was rejected and the States were finally amalgamated with Madhya Pradesh. The Chhota Nagpur States Natural Division of the past is now treated as a part of Chhattisgarh and as pointed out the old Surguja, Changbhakar and Korea States are constituted into the Surguja district, while Jashpur and Udaipur are included in the Raigarh district.

Climate, Soil and Geology

15. Appendix 'C' contains the climatological, soil classification and geological summary of the Natural Divisions which will be helpful in appreciating the statistical discussion later about problems of population growth and sustenance and of the existence of different industries in the different parts of the State. Part I-B of the Report contains a series of climatological tables. The climatological and geological information has been very kindly made available mostly by the Meteorological and Geological Departments of the Government of India and that relating to soil classification and local rainfall from 1930 by the Director of Land Records, Madhya Pradesh.

Reference to Statistics

16. The principles on which the main tables of the 1951 Census are prepared are explained in the Registrar-General's letter on the subject of "Census Tabulation Forms and Procedure" reproduced in Appendix 'D.' The main tables are contained in Parts II-A to II-D of the Report. The Subsidiary Tables are given in Part I-B of the Report. They are prepared from the main tables and other available statistics as mentioned in the notes given with the tables.

17. The eight Subsidiary Tables—1·1 to 1·8 mentioned below are reviewed in this Chapter:—

(1) 1·1—Area and Population, Actual and Percentage, by Tahsil Density.

(2) 1·2—Variation and Density of General Population.

(3) 1·3—Mean decennial Growth-rates during three Decades—General Population.

(4) 1·4—Immigration.

(5) 1·5—Emigration.

(6) 1·6—Migration between the State and other parts of India.

(7) 1·7—Variation in Natural Population.

(8) 1.8.—Livelihoood Pattern of General Population.

18. Table 1·1 corresponds to Subsidiary Table II of Chapter I of the 1931 Census Report, except that the 1951 table gives greater details about the distribution of the population according to the density. There is no particular difficulty in comparing the data of 1931 with those of 1951, except that to get comparative figures in the new "Natural Divisions" and "Sub-Divisions" for the previous Census, the corresponding figures of the districts will have to be added. In the case of the newly constituted districts, comparative figures for the previous Census can be obtained by adding the figure for individual States constituting the particular districts.

19. Table 1·2 corresponds to Subsidiary Table III in Chapter I of the 1931 Report and except for the above remark with regard to comparability, there are no other points of difference.

20. Table 1·3 about mean decennial growth-rates during the three decades is a new one, and a note explaining how this table has been prepared is attached to it.

21. Tables 1·4 and 1·5 about immigration and emigration correspond to Subsidiary Tables I and II, Chapter III—Birth Place of the 1931 Report.

22. Table 1·6 corresponds to Subsidiary Table III of Chapter III of the 1931 Report.

23. Table 1·7 relates to the variation in natural population. The figures of immigrants for 1931 required for this table have been incorporated from Table VI—Birth Place of the 1931 Census Report, Part II; while the figures of emigrants for 1931 are adopted from the Subsidiary Table III of Chapter III of the Census Reports 1931, Part I.

24. Table 1·8 is entirely new and gives the livelihood pattern of the general population on the basis of the Indian Census Economic Classification Scheme of the Registrar-General, which is fully reproduced with all annexures in Part II-B of the Report.

25. In addition to the tables mentioned above, certain additional tables are also included in the first series of Subsidiary Tables in Part I-B of the Report. These additional tables relate to the migrants and their livelihood classification, the age structure of the population, specific death-rates and deaths from certain diseases.

SECTION II.—GENERAL DISTRIBUTION AND DENSITY

1. The population map given on the front page of this volume shows the general distribution of population and its density. Subsidiary Tables 1·1 and 1·2 in Part I-B of the Report give the details of the distribution of the population and its density in the different parts of the State, while Main Table 'E'—Summary figures by districts and tahsils—given in Part II A of the Report contains the density of population in each tahsil.

Distribution of Population by Tahsil Density in Madhya Pradesh

2. A study of the tables mentioned above indicates that more than half the population of Madhya Pradesh lives in the groups of tahsils with medium density between 150 to 300 persons per square mile and only about a quarter of it lives in tahsils with low density of under 150 persons to a square mile. It is further noticed that the group of tahsils with density between 200 to 300 also contain nearly a quarter of the population (24·4 per cent), while that with density of population between 150 to 200 contain nearly 30 per cent of the people.

Distribution of Population by Tahsil Density in the Natural Divisions

3. Subsidiary Table 1.1 also shows that the low density areas are more prominent in the North-West Madhya Pradesh Division, while they are practically absent in the South-West Madhya Pradesh Division. In the East Madhya Pradesh Division, the two Sub-Divisions of Chhattisgarh Plain and East Maratha Plain show typical contrast. In the East Maratha Plain, there is a total absence of the group of tahsils with density between 100 to 150, and 16.4 per cent of population resides in the lowest group of tahsils with density under 100 persons to a square mile. In the Chhattisgarh plain, on the other hand, the lowest group of tahsils possess only 7·9 per cent of the population, while the group with a density of 100 to 150 persons per square mile contains 26·1 per cent of the population.

4. It is also to be noted that the high density areas are more prevalent (21·2 per cent) in the South-West Madhya Pradesh Division, as well as in the East Maratha Plain Sub-Division, which adjoins it and where the same group of tahsils contains as large a percentage as 40 of the population. On the other hand, the Chhattisgarh Plain Sub-Division contains only 17·8 per cent of the population in this group of tahsils with density between 300 to 450 persons to a square mile.

Reasons for the Variation of Tahsil Densities in the Natural Divisions

5. The South-West Madhya Pradesh Division is the most developed part of the State with its textile and other industries and rich cotton cultivation and the high density figures are thus obviously accounted for. The East Maratha Plain Sub-Division of the East Madhya Pradesh Division is located between this developed tract and the comparatively backward Chhattisgarh Plain. There are, however, excellent manganese mines in the Balaghat and Bhandara districts and coal mines in the Chanda district as is pointed out in the geological review given in Appendix 'C'. Again some of the best rice cultivation in the State is also to be found in parts of the Bhandara and Balaghat districts. The Bidi industry of the Bhandara district is also of considerable significance. It is, however., to be noted that in the East Maratha Plain there are some dense forest areas also rendering the population distribution uneven to a certain extent. The typical distribution of tahsil densities in this Sub-Division, therefore, is not difficult to understand.

6. In the North-West Madhya Pradesh Division, 62·6 per cent of the population of the fertile Nerbudda Valley resides in tahsils with medium density varying between 150 to 300 persons per square mile. The valley also contains the industrial city of Jabalpur and has, therefore, part of its population residing in the high density areas of over 300 persons to a square mile.

7. The Plateau Sub-Division of the North-West Madhya Pradesh Division is comparatively a backward tract with considerable forest and about half of its population resides in low density areas and the rest in the medium density ones.

Relative Density of the Natural Divisions and Sub-Divisions

8. Amongst the Natural Divisions, the most densely populated is again the South-West Madhya Pradesh Division with a density of 231 persons per square mile. The North-West Madhya Pradesh Division has the least density (146), while the East Madhya Pradesh Division has that of 149. Actually, the Chhattisgarh Plain Sub-Division of the East Madhya Pradesh Division is even more sparsely populated with a density of only 143 persons to a square mile. Similarly, the Plateau Sub-Division of the North-West Madhya Pradesh Division is also a very thinly populated area having a density of only 123 persons to a square mile.

The East Madhya Pradesh Division

9. Although some of the most thickly populated tahsils lie in the East Madhya Pradesh Natural Division with a density varying between 397 to 2,396 persons per square mile, the mean density of this Division, as mentioned above, comes to only 149 and we will proceed to examine the reasons.

The Sparsely Populated Bastar and Surguja Districts

10. The low mean density of population in the East Madhya Pradesh Division is due to the fact that the Division includes the extremely backward and sparsely populated tracts of the Bastar and Surguja districts. The mean density of the Bastar district is only 61 persons per square mile; whereas that of the Surguja district is 95 and out of the total area of 68,550 square miles covered by the East Madhya Pradesh Division (equal to about half the area of the State), these two large districts account for 23,704 square miles. The Bijapur tahsil of the Bastar district covers an area of 3,299 square miles with a mean density of 22 persons per square mile. The Antagarh-Narayanpur tahsil has an area of 2,885 square miles with a mean density of about 25 persons per square mile. In fact, out of the eight tahsils of the Bastar district, five have a density of less than 100 persons per square mile. The highest density is in the Jagdalpur tahsil which has an area of 1,935 square miles and a density of 145 persons per square mile. In the Surguja district, the Changbhakar (Bharatpur) tahsil has an area of about 1,224 square miles, but the mean density is only about 20 persons per square mile. The Pal tahsil has an area of 1,352 square miles with a mean density of about 67 persons per square mile.

The Raigarh District

11. The Jashpur, Udaipur and Gharghoda tahsils of the Raigarh district, which adjoin the Surguja district, are also sparesely populated, the density being 145, 198 and 208 persons per square mile, respectively, compared to that of 415 of the Raigarh tahsil.

The Durg District

12. The density of the tahsils in the Durg district is fairly even, except for the Sanjari Balod tahsil which has a density of about 160 persons per square mile against the average density of about 195 persons per square mile of the Durg district.

The Bilaspur District

13. In the Bilaspur district, the distribution is again very uneven, being 437 pesons per square mile in the fertile Janjgir tahsil as against 108 in the forest clad Katghora tahsil adjoining the Surguja district. The density of the Bilaspur tahsil itself is 253 persons per square mile and that of Mungeli is 184.

The Raipur District

14. The mean density of the Raipur district is about 199 persons per square mile. The density of the Dhamtari, Mahasamund and Baloda Bazar tahsils is 175, 145 and 239, respectively, while that of the Raipur tahsil is as high as 345 persons per square mile. This is on account of the industrial town of Raipur with a large number of rice mills and other factories and commercial concerns. Actually, the density of the rural area of the Raipur tahsil, which covers about 1,100 square miles, is about 260 persons per square mile; whereas that of the urban area of about 8 square miles the mean density is 12,310 persons per square mile. The low density in the Dhamtari and Mahasamund tahsils is due to the large forest areas.

Conclusions about the Population Distribution in the East Madhya Pradesh Division

15. If we summarise the population distribution in the East Madhya Pradesh Division with reference to the Subsidiary Table 1.1 mentioned above we find that the largest percentage of about one-third (32·4 per cent) is covered by tahsils with population density under 100 persons to a square mile. Similarly, about a quarter of the area (23·3 per cent) is covered by tahsils having a population density between 100 and 150 while about 18·3 per cent of the total area is covered by tahsils with a population density between 150 to 200. In other words, about 74 per cent of the area is covered with tahsils with density below 200 persons to a square mile. This vast area holds only about 50 per cent of the people while the remaining 50 per cent are crowded in the 26 per cent of the area of the division in which 25·5 per cent of the people reside in tahsils with density between 200 to 300 persons to a square mile, while 23·8 per cent of them live in tahsils with density between 300 to 450 persons to a square mile. A negligible area (about 16 square miles) is occupied by the fertile Khamaria tahsil with the density of 2,396 persons to a square mile; while the thickly populated and rich rice growing tahsils of Janjgir, Sakti, Raigarh and Sarangarh with density ranging between 415 to 548 occupy about 3·2 per cent of the total area of the Division and contain about 9·0 per cent of the total population.

16. The East Maratha Plain Sub-Division of the East Madhya Pradesh Division has a density of 167 persons to a square mile. In the Bhandara district, with its industries and fertile cultivation mentioned above, the density is as high as 299 and is only second to Nagpur in the State.

The North-West Madhya Pradesh Division

17. The Division covers an area of 37,645 square miles with a mean density of 146 persons to a square mile. It consists of the fertile Nerbudda Valley extending over the Sagar, Jabalpur, Hoshangabad and Nimar districts with mean density of 165 persons to a square mile. It also consists of the Plateau Sub-Division consisting of the districts of Mandla, Betul and Chhindwara with a mean density of 123 persons to a square mile. The lowest density is 107 persons to a square mile in the Mandla district. In Sagar and Hoshangabad districts, the distribution is fairly even and the density of these districts is 147 and 145 persons to a square mile, respectively.

The Jabalpur District

18. In the Jabalpur district the position is again different on account of Jabalpur city. The average density of the district comes to 266. This is due to the large concentration of population in and around Jabalpur on account of the industrial activities in the city. Actually, the mean density of the rural areas of the district is only about 200 to a square mile. The density of population of the urban area of the Jabalpur district is about 7,890 persons to a square mile.

The Nimar District

19. In the Nimar district the density of population in the Burhanpur and Khandwa tahsils is 155 and 131, respectively, whereas in the Harsud tahsil it is only 84. The mean density of the district comes to about 126 persons to a square mile.

The Plateau

20. The density of population in the Plateau Sub-Division of the North-West Madhya Pradesh Division, consisting of Mandla, Betul and Chhindwara districts, is fairly uniform, being 107 in Mandla, 116 in Betul and 136 persons to a square mile in Chhindwara.

Conclusions about the Population Distribution in the North-West Madhya Pradesh Division

21. In the North-West Madhya Pradesh Division about 62 per cent of the population resides in tahsils covering about 63 per cent of the total area of the Division and having a density of between 100 and 200 persons to a square mile. About 18 per cent of the population resides in tahsils covering about 13 per cent of the total area of the Division and having a density of population between 200 and 300 persons to a square mile, while about 12 per cent of the population is to be found in tahsils occupying about 21 per cent of the total area and having density of population under 100 persons to a square mile. Only about 8 per cent of the population lives in tahsils with a density of population between 300 and 450 and covering about 3 per cent of the area of the Division.

The South-West Madhya Pradesh Division

22. This Division as pointed out has the highest mean density of 231 persons per square mile. It covers an area of 24,077 square miles and consists of the districts of Wardha, Nagpur, Amravati, Akola, Buldana and Yeotmal, which contain the rich cotton tract of Madhya Pradesh.

The Nagpur District

23. Excluding the thickly populated industrial and commercial city of Nagpur, the density of population over the rest of the Nagpur district is fairly uniform. Actually, in the Nagpur tahsil excluding the urban area the density is only 202 persons per square mile, while that of Katol tahsil is 242, Saoner 248, Umrer 163 and Ramtek 164 persons per square mile, respectively. The density of population in the urban area of the Nagpur tahsil including Nagpur City is about 31,429 persons per square mile.

The Berar

24. The distribution of population in the four districts of Berar, namely, Amravati, Akola, Buldana and Yeotmal, is again fairly uniform in the tahsils, except in the hilly tract of the Melghat taluq with an area of about 1,546 square miles where the average density is hardly 34 persons to a square mile. The mean density of the Amravati district is about 219, while that of Akola is 232, Buldana 231 and Yeotmal 178. The low density of 154 persons to a square mile in the Kelapur tahsil with an area of about 1,086 square miles has lowered the mean density of the Yeotmal district to some extent. The density in the other tahsils varies from 196 to 172 persons to a square mile.

CONCLUSIONS ABOUT DISTRIBUTION OF POPULATION IN THE SOUTH-WEST MADHYA PRADESH DIVISION

25. The distribution of population in this Division is comparatively very even. About 66·1 per cent of the people reside in tahsils with density between 150 to 300 and occupy about 75·5 per cent of the total area of the Division. About 21·2 per cent of the population reside in tahsils with a population density between 300 to 450 and covering about 14·7 per cent of the total area. Similarly, 11·7 per cent of the population resides in tahsils with density over 750 persons to a square mile and covering about 3·4 per cent of the total area. Less than 1 per cent of the population of the Division is found in the backward Melghat tahsil of the Amravati district which has a population density of under 100 persons to a square mile.

THE MOST THICKLY POPULATED AREAS OF THE STATE

26. The most thickly populated district of the State is Nagpur with a population of 1,234,556 in an area of 3,842 square miles, a mean density of 321 persons per square mile. The small wheat-growing fertile tahsil of Khamaria in the Durg district with an area of 16 square miles only is the most thickly populated tahsil with a density of 2,396 persons to a square mile.

27. As we proceed from East to West and then to North or from the cotton-growing and industrial part of the State to the rice and wheat-growing areas, we come across some of the very thickly populated tahsils of the State. The following tahsils of the cotton area have all a density of population of over 300 persons to a square mile. They are Nagpur (797), Amravati (379), Achalpur (364), Wardha (308) and Akola (307). Adjoining the Nagpur area, we have also the excellent rice-producing and thickly populated tahsils with similar high densities. They are Bhandara (353), Gondia (391) and Waraseoni (352).

28. As we go further to the East into the Chhattisgarh Plains, we come across the Khamaria tahsil mentioned above followed by five other tahsils with high density of population including Janjgir(437), Sakti (548), Kharasia (397), Raigarh (415) and Sarangarh (419). In the Northern part of the State the wheat-growing tahsils have a medium density, and the only tahsil with a density over 300 persons per square mile is Jabalpur, which has an area of 999 square miles and a density of 431 persons to a square mile.

DENSITY OF MADHYA PRADESH COMPARED WITH OTHER PLACES

29. Table 2 given below shows the density of population per square mile in Madhya Pradesh and some of the other States of India and some of the countries of the world. The figures are derived from Subsidiary Table 1·19—Distribution of World Population and Land given in Part I-B of the Report and from the 1951 Census figures for India:—

Table 2

Density of Madhya Pradesh compared with other places

Serial No.	Territory	Density
(1)	(2)	(3)
1	India	281
2	Madhya Pradesh ..	163
3	Bihar	572
4	Bombay	323
5	Madras..	446
6	Orissa	244
7	Uttar Pradesh ..	557
8	Assam	106
9	China	123
10	U. S. S. R.	23
11	U. S. A.	50
12	Japan	577
13	Pakistan	210
14	United Kingdom ..	536
15	France	193

HIGH DENSITIES IN THE ASIAN COUNTRIES AND THE UNEVEN DISTRIBUTION OF POPULATION

30. Commenting upon the high densities in the Asian countries, the United Nations Report on World Population Trends states, " The density of the population of Asia is extremely high, though great variations appear in this vast area. Asia, including the Asiatic part of the U. S. S. R., has an area somewhat smaller in size than that of Europe including the whole of the U. S. S. R., yet in 1949 it maintained a population more than twice that of the latter. Over the entire area the average number of persons per square kilometer was 47 (122 per square mile), notwithstanding the fact that the Near East covering slightly less than $\frac{1}{4}$th of the total area was relatively sparsely populated. In the regions of Asia, average densities varied from 12 persons per square kilometer (31 per square mile)

in the Near East to as high as 223 persons per square kilometer (577 per square mile) in Japan. This may be compared with a figure of 18 (47 per square mile) for the world as a whole. The density of *population in South Central Asia (consisting of* India, Pakistan, Ceylon, the Maldiva Islands and the adjacent area of Nepal, Bhutan and French and Portuguese possessions) was more than twice that in the whole of Asia, excluding the U. S. S. R., while it was nearly six times as thickly populated as the world as a whole. These are thought provoking figures in view of the unequal distribution of population within this region and its considerable rate of growth in recent decades."*

31. In this Section we have considered the general distribution of the population in the State and its density in the different parts. We will now proceed to consider the more important question of the rate of change of the density or the rate of growth of the population which is causing anxiety in the context of an increasing number of persons in a finite world.

*"World Population Trends 1920-1940" U[illegible] Demographic Yearbook 1949-1950 Chapter II

SECTION III.—GROWTH

1. The history of the growth of population in Madhya Pradesh is closely connected with the history of famine and pestilence in the State, which is briefly reviewed in Appendix "I". The variation in population of the State during the last 50 years is given in Main Table A-II in Part II-A of the Census Report. Subsidiary Table 1·2 in Part I-B of the Report gives variation and density of the general population of the State, the Natural Divisions and Districts during the last three decades, and similarly Subsidiary Table 1·3 in the same volume gives the mean decennial growth-rate for the State and its different units.

History of Growth

2. Table 3 given below is of considerable interest in tracing the history of the growth of population in Madhya Pradesh from the time the regular decennial Census commenced in 1872. The first Census of the Central Provinces was taken in 1866 when the total number of persons enumerated in the territory as it existed at the time was 9,036,983. In 1872 the population had slightly increased in the same territory and was 9,223,534. The table shows the changes in population of the territory which now comprises Madhya Pradesh including the integrated States. It also takes into account other changes in areas since 1872 up to the time of the Census of 1951.

The Mean Decennial Growth Rate

3. It is to be noted that Table 3 gives the mean decennial growth-rate and not the ordinary rates of percentage variation, which express the growth of population during the decade as a percentage of the population at the beginning of the decade. For comparison of the growth-rates of different States, the usual method is to compare the mean decennial growth-rate. These rates are arrived at by expressing the difference between the general population totals of two successive Censuses as a percentage of the arithmetical mean of these totals. The difference involved is small, but is nevertheless considered necessary in order to ensure comparability of growth-rates over long periods:—

Table 3

Growth of Population in Madhya Pradesh.

Decade ending	Persons	Males	Females	Variation since last Census	Mean decennial growth-rate	Density
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1872	10,796,004	5,510,436	5,285,568	..	..	83
1881	13,228,516	6,705,233	6,523,283	+2,432,512	20·3	102
1891	14,648,464	7,378,529	7,269,935	+1,419,948	10·2	112
1901	13,464,782	6,670,505	6,794,277	−1,183,682	−8·4	103
1911	15,863,697	7,900,603	7,963,094	+2,398,915	16·4	122
1921	15,796,282	7,890,654	7,905,628	−67,415	−0·4	121
1931	17,791,896	8,899,084	8,892,812	+1,995,614	11·9	137
1941	19,631,615	9,836,909	9,794,706	+1,839,719	9·8	151
1951	21,247,533	10,662,812	10,584,721	+1,615,918	7·9	163

4. In spite of the severe famine in 1869, the population at the time of the Census of 1872 had slightly increased compared to that in 1866 as already mentioned. This was due to the rapid recovery of the population from the effects of the famine which had removed the very young and the very old people without very seriously affecting the reproductive age-groups. The recovery process continued during the decade 1872—1881 when, as will be noticed from Table 3 above, the population increased by 20·3 per cent over the mean population of the decade. The decade 1881 to 1891 was free from famines although in the latter part of the decade there were some seasons of scarcity conditions and the

year 1889 was typically unhealthy. The mean decennial growth-rate during this decade was 10·2. During the period 1891 to 1901, the State had to face two great famines of 1898 and 1900 in addition to four seasons of partial crop failure. During seven years out of ten, there were also severe epidemics of cholera and the net effect of these calamities is reflected in the reduction of the population by 8·4 per cent over the mean population of the decade. The recovery period between 1901 and 1910 again shows a mean decennial rate of increase of 16·4 per cent in the population.

5. The population growth of the State between 1872 and 1911 has been described as follows in the Census Report of 1911. It is desirable to bear the details in mind as they have an important bearing in appreciating the variation in the birth-rate which we shall discuss in the next Section :—

> " During the decade between 1872—1881 there was a rapid recovery from the effects of the famine of 1869, checked only by epidemics of cholera and smallpox. The Census of 1881 showed an increase of 20 per cent in the Central Provinces British districts, 49 per cent in the Feudatory States and 20 per cent in Berar. Between 1881 and 1891 the condition of the people continued on the whole to be prosperous, though the latter part of the decade was marked by some seasons of scarcity and high prices culminating in a very unhealthy year in 1889. The increase during the decade was 9·5 in the British districts, 23 per cent in the Feudatory States and 8·4 in Berar. The decade of 1891-1901 was one of continued calamity. In seven out of the ten years, there were severe epidemics of cholera and in four years besides the two great famines of 1898 and 1900 there were partial failures of crops. The population of the British districts decreased by 9·2 per cent. In the Feudatory States the decline was 4·8 and in Berar 5. A calculation made in the India Report of last Census (Paras. 121—128) places the abnormal mortality of the Central Provinces at about 735,000 for that decade and the loss by balance of migration at 70,000. The Famine Commission calculated that the population of Berar found by the enumeration of 1901 was less by about 277,000 than that which it should have been had the decade been one of ordinary prosperity. In no year of the decade subsequent to 1894 was the birth-rate of the Central Provinces higher than 33, and in 1897 it fell to 27 per mille. The death-rate of the Central Provinces in that year rose to 69 and in 1900 stood at 58. In Berar there was an excess of deaths over births in five years out of the ten and in 1900 the birth-rate fell to 31·3 and the death-rate rose to 82·7. While allowance has to be made for defective reporting during periods of famine and for the effect on the provincial death-rate of the mortality among half-starved immigrants from neighbouring areas, these statistics will serve to exhibit the condition of the population at the beginning of the decade 1901—1911. The scarcity fell with greatest severity on the lower orders of society. The Dravidian tribes of the Central Provinces lost nearly 12 per cent of their number and the lower labouring castes almost as many, the proportion decreasing as we ascend through the cultivating and artisan caste to the higher grades. On the other hand, the high mortality at the two extremes of life and among the weaker members of society left a population purged of its weaker elements and with constitution improved both physically and morally by the trials it had gone through. 'Though the population was almost decimated, though at one period nearly a fourth of the total population came on relief lists, though land went out of cultivation, cattle died, cheap crops took the place of valuable ones, while prices rose to levels never before attained, yet amidst all this hopeless depression and seemingly complete demoralization there merged almost as if by a miracle a new spirit of vigour and energy. It had apparently needed a severe trial and tribulation to bring out qualities and energies which had so long lain latent during the anterior period of early existence [Chief Commissioner's Resolution No. 1242 (Finance Department), dated the 2nd August 1911].' "

6. The population growth since 1911 is also of considerable importance. The decade between 1911 to 1920 is an epoch-making one in the history of the State, when the great influenza epidemic swept the country with lightning effect and wiped out about 3/4th of a million of the population of the State. A full description of this epidemic will be given in paragraphs 15-17 of section V when we consider its prolonged effect on the birth rate due to the violent distortion of the age-structure of the population. As a result of the influenza epidemic and the very complex agricultural history of the State during 1911—1920, the population was again reduced by 0·4 per cent over the mean population of the decade.

7. The period of the next ten years, between 1921 to 1930, is notable for the recovery of the population when the mean decennial growth-rate was 11·9 per

cent. The decade 1931 to 1940 was fairly normal except towards the end when there were partial failures of crop and the outbreak of the World War. The mean decennial growth-rate of the population during this decade was 9.8 per cent.

The Last Decade

8. Although no unusual mortality took place in Madhya Pradesh on account of famine or the partition of the country as happened in some other parts during the decade 1941—50, it was by no means a period free from grave anxieties. The decade opened in unprecedented gloom. Scarcity conditions in the State itself gave cause for concern. The developments in the War, the loss of Burma and the Bengal famine had their severe impacts. Prices shot up in an unprecedented manner and although in the Central Provinces and Berar they were prevented from becoming spectacular by the timely action of the Government and the introduction of the monopoly system of procurement, they were unrestricted in some of the Chhattisgarh States like Nandgaon and Raigarh, which now form parts of Madhya Pradesh. The introduction of the free trade policy in the Eastern region brought about abnormal conditions in some of the integrated States, which were included in the region at that time. In fact, the conditions in Raigarh and the adjoining States were similar to those described in the following passage quoted from the Famine Enquiry Commission Report on Bengal giving the account of the abnormal conditions as depicted by the Bihar Government:—

> "The new policy resulted in large scale incursion of speculators, agents of big business, hoarders and small buyers from Bengal into all the markets..... Prices flared up almost immediately. Merchants, who had previously sold their stocks to Government tried to avoid delivery by any means in their power because they received higher offers from Bengal buyers. The Bengal merchants or their agents went into the interior villages and offered fantastic prices, as a result of which the arrivals of supplies in local markets were extremely poor. Prices fluctuated almost from hour to hour due to wild speculation, and ownership of goods passed through various hands before they actually moved".

These abnormal conditions on the Eastern boundary of the then Central Provinces had naturally their repercussions, particularly in the rice-growing districts of Raipur and Bilaspur. In spite of the monopoly procurement system and stringent measures to prevent illegal export, people indulged in black-marketing and, attracted by fabulous prices in the adjoining States, resorted to all types of devices in attempts to smuggle rice. Government were in fact compelled to post police patrols on the border at important places and it was with great difficulty that the situation was kept under control.

9. The political atmosphere was by no means calm. Men's minds were disturbed with different ideologies. The struggle for freedom seemed to be the watch-word of the day. India was no exception to this upheaval and there came the clarion call from Mahatma Gandhi in the "Harijan" of May 31st, 1942, where he said, "As I have already said, in this struggle every risk has to be run in order to cure ourselves of the biggest disease—a disease which has sapped our manhood and almost made us feel as if we must for ever be slaves. It is an insufferable thing. The cost of the cure, I know, will be heavy. No price is too heavy to pay for the deliverance". How true this statement proved to be and how in fact it meant the supreme sacrifice and a martyr's death for him is clearly brought out by the events which followed. In the words of the Honourable the Home Minister of Madhya Pradesh—"These years have witnessed epoch-making events and grim human tragedies, almost unprecedented in human history. The passing away of an empire, the partition of India followed by the horrors of communal blood-bath, the uprooting of millions, the murder of Gandhijee, the Father of our nation, and the consequent darkness and gloom that enveloped the entire country were events of such magnitude that it is almost a miracle that we have survived their catastrophic impacts".*

10. As a result of vague uncertainties caused by events in other places, a large number of Muslims began to migrate from the Province freely to Hyderabad and to a small extent to Bhopal. The assurance given by the Government that law-abiding citizens, whether Muslim or non-Muslim, had nothing to fear brought about a happy change, particularly after the visit of the Honourable the Chief Minister to Bhopal, where in similarly reassuring terms, he convinced the Muslims about their safety in the State. The effect was that by December 1947 the evacuees began to return to their home province.

11. The rush of displaced persons from Pakistan into India is a history in itself. The movement meant the arrival of 112,711 people into Madhya Pradesh.

*"Through Freedom Towards Peace and Progress", being a review of Govt. activities, 1946—49, page (i) [Nagpur: Govt. Printing Press.].

12. The integration of the Chhattisgarh and Bhopal Agency States, referred to in the previous section, after attainment of Independence meant an addition of 3,196,968 people to the old Central Provinces and Berar and the creation of the present State of Madhya Pradesh.

13. Soon after the integration of the above States, anxiety began to be felt about the situation in the neighbouring State of Hyderabad. The increasing number of border incidents caused considerable anxiety and eventually in September 1948, the 'Police Action' was launched, in which the police and the home-guards of Madhya Pradesh co-operated fully with the army authorities and the work of restoring orderly government in Hyderabad was taken up.

14. It is, therefore, clear that the background against which the growth of population has taken place in the State during the last decade is unusually complicated.

Comparative Study of Growth Rates

15. Table 3 given above shows that from 1872 to 1951 the population of Madhya Pradesh increased by about 96.8 per cent. That is to say, in about 79 years, we have almost doubled ourselves. The average annual percentage increase, therefore, works out at 1.23 during this period. For India as a whole, the annual growth-rate for the period between 1871 to 1951 is about 0.60. Comparing the growth-rate of India with that of other countries of the world Kingsley Davis observes, "The total of Indian increase during 1871—1941 was 52 per cent. The British Isles during the same period increased 57 per cent and during the 70 years period from 1821—1891 (more comparable to India's recent history) they increased 79 per cent. Similarly, Japan during the 70 years from 1870 to 1940, experienced a growth of approximately 120 per cent and the United States a growth of 230 per cent."* Subsidiary Table 1.20 shows the growth of population in different countries and the world during the last four half centuries, while Subsidiary Table 1.21 gives the growth of population in India and Pakistan during the last half century. Subsidiary Table 1.22 contains the mean decennial growth-rate of India, Burma and Pakistan for five decades from 1871.

16. In a study of the growth of population in the world, Dr. S. Swaroop of the World Health Organization has made the following observations :—

> "the world population has nearly quadrupled in the last three centuries, and two-thirds of this increase has occurred within the last century alone. In the space of the last fifty years, the world has added more persons than actually were living in 1900 in the whole world excluding Asia, and the rate for the twentieth century shows world population to be increasing as never before. 'The daily net addition to the world's population is now nearly 60,000 (Huxley). In three centuries they (the Europeans and their migratory descendants overseas) increased more than sevenfold, while the rest of the world increased threefold..... The rate of increase from 1900 to 1949 has been slowest (36 p. c.) in Europe (excluding U. S. S. R.) and most rapid in the Americas (112 p. c.). Among the European countries the Republic of Ireland has actually shown a decrease of 7 p. c. while France shows only negligible increase. The total addition to the population of Europe has been of the order of 100 millions. The present territory of U.S.S.R. which in 1900 contained less than half of the population of the remainder of Europe added about 74 millions in the same period. The rates of population growth in Australia, Canada, New Zealand and United States have exceeded those of Europe. The most rapid increase has been recorded in Argentina (251 p. c.) followed by Cuba (231 p. c.), Colombia (217 p. c.) and Brazil (191 p. c.). On the whole, the American continent added about 170 millions and doubled her number from 1900 to 1949. Africa which in 1900 had presumably a population as large as that of both Americas, added only one-third (57 millions) of the American increase. *Half of the total world increase has been contributed to Asian countries alone.* Even though some of the smaller countries, such as Indonesia, the Philippines, Thailand, etc., recorded rates of increase well over 100 per cent, the two large countries, *viz.*, China and prepartitioned India, increased relatively slowly at the rates of approximately 30 p. c. and 49 p. c., respectively, yet their contribution to the total world increase is almost one-third ".†

The Fallacy of Comparing European Growth with Ours

17. In the concluding portion of the last section we pointed out how the growth of population in the world and in the Asian countries particularly, was a cause of anxiety. We have seen in the above paragraphs how rapid this growth has been and how

*"The Population of India and Pakistan" by Kingsley Davis, pages 26-27 (Princeton University Press, 1951).
†"Growth of Population in the World by S. Swaroop (World Health Organization Epidemiological and Vital Statistics Report, April 1951). E. V. S. 47, page 167.

in our own State we are growing fast. Many of our countrymen, however, say that there is no reason why we should be afraid of the growth of population as we have such vast resources. According to them, you can increase in number indefinitely and yet have a higher standard of life, and the latest slogan is that, if we only have a trained enterprise, everybody will be happy in this world. Experience of the Europeans during the period of 200 years—certainly during a period of 150 years lends powerful support to this illusion that if only you develop industries you can increase population indefinitely and give it an increased higher standard of life. For, undoubtedly, Europe did increase about four times during the last two centuries and it is quite undisputed that the standard of living of all Europeans has gone up during these 200 years tremendously. They have been given better services and have been made comfortable in every way. The growth-rate of Europe during the last three half centuries has been as follows :—

1800—50	.. ..	7 per cent.
1850—1900	.. ..	8.1 per cent.
1900—50	.. ..	6 per cent.

18. This is the net growth in Europe. The actual increase of the natural population was faster than this and it was simultaneously moving out into America and Oceania. It would be interesting to note that in 1750 there were fewer people in America and Oceania than the number in Madhya Pradesh today. In fact, in the whole of America and Oceania, the population at that time was about 14 millions. At the same time (1750), Europe had about 140 millions population. In other words, about one-tenth of European population was in what may be called "the outer Europe". This combined population of Europe and the "outer Europe" was growing from 1800. The growth was running at the rate of about 6·5 per cent. In the three half centuries after 1800, this growth was of the following order :—

1800—50	.. ..	8·3
1850—1900	.. ..	10·2
1900—50	.. ..	9·1

19. There is, therefore, no doubt that the Europeans peoples grew very rapidly in numbers and also improved their standard of living. But the illusion is there. Is it the greater number of industries which accomplished this miracle ? The most significant point to be remembered is that this growth-rate was sustained not by factories and the industrialisation of Europe, as is the common belief, but by the expanding cultivation in America and Oceania. This fundamental fact must be clearly understood though, unfortunately, very few appreciate it at present. Iron and steel, or cement have their uses; but they cannot replace food, and except for fishing, food-stuffs must come directly or indirectly from the soil. The Westerners established and improved their standard of life because cultivation was progressing at such terrific speed that they could get food cheaply to any extent they needed ; besides they had vacant continents in which to expand. Our fight for food on the other hand is becoming more and more acute and we are increasingly dependent on uncertain imports to feed our people. In Chapter IV we will discuss how our food production has failed to keep pace with our growth of population during the last three decades and in the concluding section of this chapter we will point out how emigration as a remedy to solve our population problem even temporarily is not available to us, and how only a supreme effort to control the population growth and an all-out endeavour to develop our food resources can alone save us from catastrophic consequences.

The Mean Decennial Growth Rate of the Adjoining States and Territories

20. Table 4 given below shows the mean decennial growth-rate of Madhya Pradesh and some of the other adjoining States of India :—

Table 4

*The mean decennial growth rates of Madhya Pradesh and some of the adjacent States.**

Name of State	Growth-rate during		
	1921-30	1931-40	1941-50
(1)	(2)	(3)	(4)
Madhya Pradesh ..	11.9	9.8	7.9
Bihar and Orissa ..	11.0	11.0	8.9
Madras ..	9.4	11.0	13.4
Bombay ..	12.4	15.3	20.8

21. The mean decennial growth-rates of India as a whole and its main divisions are given in Table 5. (The figures exclude the population of Jammu and Kashmir and part "B" of the tribal areas of Assam):—

Table 5

*The mean decennial growth rates of India and its main divisions.**

Name of territory	Mean decennial growth-rate		
	1921-30	1931-40	1941-50
(1)	(2)	(3)	(4)
India ..	10·5	13·3	12·5
North India ..	6·5	12·7	11·5
North-East India ..	10·8	14·4	10·7
South India ..	10·9	11·7	15·2
West and South Central India.	13·1	13·9	17·5
North Central India ..	11.2	10.8	7·8
North-West India ..	11 3	16.9	9.6

* The figures are based on the Registrar-General's Preliminary Analysis of the Growth of General Population.

Study of Growth Rates in the Natural Divisions of Madhya Pradesh

22. The mean decennial growth-rates of the Natural Divisions and districts of Madhya Pradesh are given in Subsidiary Table 1·3 in Part I-B of this report. The rates for the Natural Divisions and Sub-Divisions are given in Table 6 below :—

Table 6

The mean decennial growth rates of Madhya Pradesh and the Natural Divisions and Sub-Divisions.

State, Natural Divisions, and Sub-Divisions	Mean decennial growth-rate		
	1921-30	1931-40	1941-50
(1)	(2)	(3)	(4)
Madhya Pradesh.	11.9	9.8	7.9
North-West Madhya Pradesh Division.	9.1	9.0	6.2
Nerbudda Valley.	6.5	9.4	6.9
Plategu.	13.4	8.3	5.1
East Madhya Pradesh Division.	13.3	12.7	9.4
Chhattisgarh Plain	13.5	12.2	9.0
East Maratha Plain	12.7	14.1	10.4
South-West Madhya Pradesh Division.	12.3	5.7	7.0

23. The figures show that the mean decennial growth-rate of the general population for the State as a whole has dropped by 4 per cent during the last three decades. This drop is divided into two fairly equal components of 2·1 and 1·9 per cent each between 1921—30 to 1931—40 and 1931—40 to 1941—50 respectively.

24. The Census records show that the Census figures of the Censuses under review are reliable and further that the accuracy of the Censuses has been gradually improving, from decade to decade and, therefore, the figures indicating the fall in the growth-rate mean that the fall is real.

25. In the North-West Madhya Pradesh Division the fall in the growth-rate is of 2·9 per cent over the period of 30 years. It is separable into a drop of 0·1 per cent between 1921—30 and 1931—40 and a further drop of 2·8 per cent between 1931—40 and 1941—50. It will, therefore, be noticed that while in the State as a whole the drop in the growth-rate is almost equal in its two parts, it is not so in the case of the North-West Madhya Pradesh Division. The reasons for these abnormalities will be discussed when we deal with the problem of births and deaths in Section V later and consider the effect of the natural calamities of the past in different parts of the State as also that of the phenomena of migration.

26. The figures of growth-rate for the Nerbudda Valley show that here there is an increase of 2·9 per cent between 1921—30 and 1931—40 followed by a fall of 2·5 per cent between 1931—40 and 1941—50. On the other hand, the figures for the Plateau Sub-Division show that there is a sharp fall of 5·1 per cent between 1921—30 and 1931—40 and a further fall of 3·2 per cent between 1931—40 and 1941—50.

27. In the East Madhya Pradesh Division there is again unequal spacing of the drop in the decennial growth-rate. There is a fall of 0·6 per cent between 1921—30 and 1931—40 and of 3·3 per cent between 1931—40 and 1941—50.

28. The South-West Madhya Pradesh Division shows a drop in the growth-rate of 6·6 per cent between 1921—30 and 1931—40 and a rise of 1·3 per cent between 1931—40 and 1941—50. The change in the growth-rate of the South-West Madhya Pradesh Division is thus different from the change in the other two Natural Divisions and we will consider the reasons in Section V as mentioned above.

29. We will now proceed to study the mean decennial growth-rate of the different districts of the Natural Divisions.

Growth Rates in the Districts of the North-West Madhya Pradesh Division

30. The mean decennial growth-rate, in this Division, as we have seen, is least during the past decade. If we exclude the extremely backward district of Mandla and the industrialized district of Jabalpur as well as the exceptional case of the Hoshangabad district, which we will presently consider, we find that the growth-rate in the remaining districts of the North-West Madhya Pradesh Division is fairly uniform ranging between 3 to 5·5 per cent during the decade 1941—50.

Exceptionally Low Growth Rate of the Hoshangabad District

31. A perusal of Subsidiary Table 1·3 shows that the rate of growth of population of the Hoshangabad district is abnormally low, being 1·2 per cent compared to the growth-rate of 6·9 in the Nerbudda Valley and 7·9 for the State as a whole during the period 1941—50. In the previous decade 1931—40 also the growth-rate of the Hoshangabad district was again only 1·7, compared to 9·4 for the Nerbudda Valley and 9·8 for the State as a whole. During 1921—30 the growth-rate of the district

was 6·3 compared to 6·5 for the Nerbudda Valley and 11·9 for Madhya Pradesh. Prior to 1921—30 also the growth-rate in the Hoshangabad district was found to be very low, and the tendency to what was termed "stagnation of population" was visualized as early as 1911 in the Census Report and was also referred to in the 1931 Report. In 1911 the Census Superintendent made the following observations about the Hoshangabad district. At that time Narsimhapur which is now a Sub-Division of the Hoshangabad district was a separate district. Describing the stationary nature of the population of the Nerbudda Valley and the Hoshangabad district Shri Marten observed, "Some of the economic factors governing the distribution of population in this tract have been discussed in Chapter I of this Report. Practically all the available land has been already put under the plough and it is doubtful whether the land can, under present conditions of cultivation, support a larger rural population than that which it, at present, possesses, while the tract does not attract labourers except at certain periods of the year and has stood in great measure apart from the industrial progress which is the feature of the cotton-growing districts. The tract with its heavy rainfall and its soil retentive of moisture is not a healthy one. Besides visitations of dysentery and cholera, it is subject to periodic attacks of epidemic malaria such as those of 1906 and 1910, and the effect of epidemic malaria on the birth-rate has been shown by Major Kenrick to be more severe than that of the endemic malaria of the hilly and woody areas. Partly on this account, and partly, it would seem, owing to a naturally inferior degree of fecundity, the Brahmans, Rajputs, Lodhis, Kurmis, and Kirars, immigrants mostly from the north who have not yet had time to be thoroughly acclimatised, have never shown the same degrees of prolificness as the peoples of the centre and south of the province. Exceptional conditions have perhaps retarded the growth of the population during the decade, but it would seem doubtful whether any great expansion of rural population is likely in the future, at any rate under present conditions of cultivation."

Principal Causes of Low Growth Rate in Hoshangabad

32. The main causes for the low growth rate in the Hoshangabad district in particular and in other agricultural parts of the Nerbudda Valley are clearly (*a*) the pressure on agricultural land and (*b*) unhealthy surroundings. The density of population of the Hoshangabad district during the last three decades has varied very little. It was 140 persons to a square mile in 1931, 143 in 1941 and 145 in 1951. The rural population of the Nerbudda Valley Sub-Division has shown an increase of only 1·4 per cent during the decade 1941—50 as against 5·5 for Madhya Pradesh as is clear from a perusal of the Subsidiary Table 2·2 (variation and density of rural population). In the Hoshangabad district, on the other hand, the rural population has been declining for the last two decades and the same tendency is now found during the current decade even in the Nimar district.

Effect of the Influenza Epidemic on the Growth Rate in the Hoshangabad District

33. In his report of 1931, the Census Superintendent observed encouraging growth in the population of the Harda, Hoshangabad and Sohagpur tahsils of the Hoshangabad district and thought that the observations made in 1911 with regard to the stagnation of the population were not correct. The analysis of the variation of population in the three tahsils, however, tends to indicate that the growth noticed in 1931 by Shri Shoobert was in fact connected with the bad history of the previous decade associated with the Influenza epidemic. Thus, the Report of 1911—20 shows that the population of the Sohagpur tahsil was reduced by 6·3 per cent during the decade 1911—20 and that during the decade 1901—1910 there was an increase of 6·8. Therefore, the increase of 9·6 per cent noticed by Shri Shoobert in 1931 was by no means a very encouraging indication. It merely showed the progress of recovery of the tahsil after the evil effects of the abnormal decade 1911—20. In the case of the Hoshangabad and Harda tahsils the percentage variations observed in 1931 need very careful scrutiny to appreciate the big growth of 10·6 and 9·6 per cent in these tahsils. The Census tables of 1921 show that the percentage reduction of population in the Hoshangabad tahsil as a whole was only 0·1 per cent whereas in the Harda tahsil it was only 0·5 per cent during the decade 1911—20. If, however, the towns of Hoshangabad and Itarsi are considered separately, that is, if we consider the percentage variation of the rural and urban areas separately we find that in the case of the rural area of the Hoshangabad tahsil there was a percentage reduction of 7·8 per cent during the decade 1911—20 whereas in the same decade the urban population had gone up by 91·8 per cent. Itarsi is a big railway junction and it has developed very considerably. Again similar analysis for the decade 1921—30 shows that the growth of 10·6 per cent for the entire tahsil was composed of a growth of 7·8 per cent only in the rural population and 26·6 per cent in the urban population. Thus it would be obvious that the growth in the rural population noticed in 1921—30 in the Hoshangabad tahsil was just the type expected during the recovery period following

the influenza epidemic. In the case of the Harda tahsil, similar analysis of percentage variation shows that the actual reduction of rural population in 1911—20 was 2·8 per cent, whereas in the same decade the towns of Harda and Timarni showed an increase of 25·7 per cent in the same tahsil. It is to be noted that Timarni which has all the urban characteristics was formally regarded as town during the Census of 1941. Again during 1921—30 the rural growth rate in the Harda tahsil was only 5·8 and in the urban area it was 42·6. There is, therefore, no abnormal increase in the rural tracts of the Harda tahsil and the slight increase over what would have been expected as a result of normal recovery process is perhaps due to the expansion of the cotton cultivation mentioned by Shri Shoobert in his report during that decade. The cotton cultivation figures in the Hoshangabad district are also interesting. The following table gives the quinquennial averages for five years ending with the year mentioned in column (1):—

Year (1)		Area under cotton (In thousand acres) (2)
1920-21	..	75·2
1930-31	..	112·2
1940-41	..	57·6
1950-51	..	24·7

It will be seen how there was a jump in the area under cotton during the cotton boom period mentioned by Shri Shoobert, but how it came down later and is now very much below even 1920-21 level.

Pressure on Agriculture in Hoshangabad Confirmed by Low Percentage of Earning Dependants Amongst Agricultural Classes

34. The remarks in the Census Report of 1911 quoted above that the district cannot support greater agricultural population are confirmed from a study of the figures of dependants amongst the agricultural classes which we shall undertake in Chapter IV. Here it may be pointed out that the proportion of earning dependants to non-earning dependants amongst the agricultural classes in the Hoshangabad district is conspicuously low as compared to that of the Natural Division or the State. This shows that the dependants of cultivators are not as much employed as in other parts. In fact, the study shows, as we will see later, that in the Hoshangabad district amongst the agricultural classes the part-time man cannot compete with the full-time man who is himself demanding employment and that the scope for secondary means of livelihood elsewhere as cultivating labourer or otherwise is very little. In other words, the study shows that there are more men amongst the agricultural classes than are required for handling the agricultural operations.

Nature of Industries in the Hoshangabad District

35. When we consider the livelihood pattern of the rural population in Section VI of the next Chapter, it will be noticed that in the Hoshangabad district more than 10 per cent of the rural population belongs to livelihood class V (Production other than cultivation). This circumstance further shows how there is little scope for absorbing more people in agriculture. The industries, as we will see, are connected with forest, fishing, grains and manufacture of tiles and bricks. There are no large industries to absorb the increasing population.

Balance of Population in the Hoshangabad District

36. It will, therefore, be seen that in the Hoshangabad district the population tends to be constant for the simple reason that all the normally available culturable land is under the plough and are no heavy industries to absorb more men. If there this balance is disturbed by particular circumstances as happened in 1911—20 on account of the influenza epidemic, the natural process of recovery begins and the population comes to the normal level again and balances itself by the phenomena of births, deaths and migration.

37. The question of migration, births and deaths will be considered in the sections which follow; but here attention might be drawn to the fact that in the Hoshangabad district there is a significant migration-cum-registration error of a negative nature (see columns 29 to 31 of Subsidiary Table 1·3 in Part I-B of the Report) during the last three decades indicating emigration from the district because, as we will see later in Section V, the error due to registration in births and deaths is not very large. That there is clear emigration from the Hoshangabad district will be further discussed in Section IV, where it is shown that while the immigrants from other parts of the state enumerated in the district numbered 27,881, the emigrants from the Hoshangabad district enumerated in other districts of Madhya Pradesh alone numbered 55,594. The movement from the Hoshangabad district into the Bombay and Madhya Bharat States is also referred to in that Section.

THE UNHEALTHY NERBUDDA VALLEY AND THE LOW GROWTH RATE OF HOSHANGABAD

38. We have pointed out above that the unhealthy surroundings is yet another reason for the low growth rate in the Hoshangabad district and the Nerbudda Valley as a whole. That the Valley is the most unhealthy part of the State is clearly brought out by the death rates given in Subsidiary Table 1·3 for the general population and those in Subsidiary Table 2·3 for the rural population reproduced below. They show that the rates in the Valley have been the highest in the State :—

State, natural Divisions and sub-divisions	Mean decennial death rates					
	1941—50		1931—40		1921—30	
	General population	Rural	General population	Rural	General population	Rural
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh ..	30·3	31·1	31·9	32·0	31·8	31·6
Nerbudda Valley ..	33·0	34·9	37·3	38·5	35·1	35·2
Plateau	29·0	29·0	31·5	31·5	28·3	28·1
East Madhya Pradesh Division.	28·1	28·4	27·8	27·9	29·8	29·8
South-West Madhya Pradesh Division.	32·1	33·7	33·6	34·2	33·3	33·4

39. It is interesting to note that during the influenza epidemic the Nerbudda Valley was the worst affected area of the State and the reason is not far to seek. A population constantly exposed to unhealthy surroundings loses vitality and power of resistance to infection and naturally falls an easy prey to a virulent calamity like the influenza epidemic.

THE SAGAR DISTRICT

40. The mean decennial growth rate of the district for the last three decades is as follows :—

Decade	Mean decennial growth rate
(1)	(2)
1921—30	4·2
1931—40	9·9
1941—50	5·5

The increase in the growth rate during 1931-40 and the subsequent levelling off tendency is associated with the behaviour of the birth rate which will be discussed in Section V of this Chapter later and also with the scarcity conditions which prevailed in the district during the decade 1921-30 an account of which is given in the Census Report of 1931.

41. Extensive tractor cultivation has recently been undertaken by the State Government in this and the Hoshangabad districts and about 161,046 acres of land have been ploughed up *and it is hoped that the crop outturn will increase very considerably.

THE JABALPUR DISTRICT

42. The mean decennial growth rate during the last three decades in this district has been as follows :—

Decade	The mean decennial growth rate
(1)	(2)
1921—30	3·7
1931—40	16·2
1941—50	14·0

The bad effects of the 1921—30 decade mentioned above are reflected in the low growth rate of the decade. The abnormal rise in 1931—40 is due to the unusual developments of the Jabalpur City and other urban areas of the district. We will deal with the urban development in Chapter III.

THE NIMAR DISTRICT

43. The mean decennial growth rate has been as follows :—

Decade	The mean decennial growth rate
(1)	(2)
1921—30	16·4
1931—40	9·4
1941—50	5·1

The abnormal growth in 1921—30 in the Nimar district has been referred to in the Census Report of 1931 and it is pointed out that it is mainly connected with the influenza epidemic when numerous villagers particularly of the Korku community were

* "March of Madhya Pradesh"—Agriculture, 1942-56, page 4, issued by the Department of Information and Publicity, Madhya Pradesh. [Nagpur: Government Printing].

completely wiped out and the rapid growth was ascribed to the extraordinary fertility of the Korkus. The growth in the subsequent decades is obviously being levelled off.

44. It is necessary at this stage to point out that the Nimar district is more akin to the districts of Berar of the South-West Madhya Pradesh Division which adjoin it than to the districts of the Nerbudda Valley in respect of the cropping pattern and seasonal outlook. The population growth rates in the Nimar district are also more comparable to those of the districts of Berar than to those of the Nerbudda Valley. A perusal of column 13 of the Subsidiary Table 1·3 at once shows how during the decade following the Influenza epidemic, when the rest of the districts of the Nerbudda Valley showed a growth rate of 3·7 to 6·3, the Nimar district was outstanding with a growth rate of 16·4, which is more comparable to the adjoining district of Amravati in Berar where it was 12·9. It is also to be noted that during the decade 1921-30 the districts of the Nerbudda Valley, except Nimar, were in the grip of severe scarcity years which encouraged emigration from these districts, a phenomenon which is reflected in column 31 of Subsidiary Table 1·3 (given in Part I-B of the Report), which gives the migration-cum-registration error which we shall discuss in Section V. Here we may point out that the error in all the districts of the Nerbudda Valley, except Nimar, during 1921—30 is of a negative character; while that in the Nimar district is of a marked positive character indicating the local movement of population.

The Plateau Sub-Division

45. The trend of growth rates in the districts of Mandla, Betul and Chhindwara are given in Subsidiary Table 1·3 in Part I-B of the Report. They are similar to that in the Nimar district, where there is a large increase in the decade following the influenza epidemic and a levelling off tendency in the other two decades.

Districts of the East Madhya Pradesh Division

46. As pointed out already, the mean decennial growth rate in this Division is the highest in the State and of all the districts of Madhya Pradesh, the maximum decennial growth rate of population of 16·1 has been recorded in the Surguja district of this Division. Bastar comes next with 15·4. If the extreme cases of these highly backward districts are not taken into consideration, it will be found that the growth in the districts of the entire Chhattisgarh Plain Sub-Division of the East Madhya Pradesh Division has been fairly uniform during the last three decades. Similarly, in the East Maratha Plain Sub-Division, the growth has been fairly uniform in the districts.

The Backward Districts of the East Madhya Pradesh Division

47. The backward districts are a problem in themselves. These are sparsely populated areas and naturally, therefore, there is ample room for expansion. Secondly, the geographical conditions, means of communications and almost utter illiteracy in these areas tend to encourage under-enumeration during the Censuses and with increased efforts better records are obtained at each successive Census. The abnormal growth is, therefore, partly due to the probable under enumeration in the past. In this connection, it is interesting to refer to the sample Census verification enquiry which was undertaken after the 1951 Census. A detailed account of this enquiry is given in Appendix 'R'. The enquiry showed that there is a tendency to under-enumeration to the extent of about 2·3 per cent in the East Madhya Pradesh Division and about 1 per cent in the South-West Madhya Pradesh Division, while in the North-West Madhya Pradesh Division the error is negligible. It is interesting to notice that the Natural Division, which shows the highest growth in population, is the one in which the tendency towards under-enumeration is comparatively pronounced, and the geographical and other disadvantages account for it. In the East Madhya Pradesh Division itself, again, the highest tendency towards under-enumeration of about 5·5 per cent was indicated in Surguja, which is one of the most backward districts of the Division and which has recorded the highest growth rate. In the Bastar district, the under-enumeration comes to nearly 2·8 per cent. Similarly, in the backward district of Mandla in the North-West Madhya Pradesh Division, the percentage of under-enumeration comes to about 1·6 as against the probable divisional figure of 0·7 per cent.

48. It is true that during the present Census very intensive efforts were made by the Deputy Commissioners of the backward districts to have as complete a count of the people in the most isolated tracts as possible. An account of these efforts will be found in the Administrative Volume of the Report. As a result of concerted efforts in these vast jungle tracts, the Census was obviously more effective there than in the past and this partly accounts for the apparent high growth rate. The sample verification enquiry, however, shows that even now there is some under-enumeration and this fact will have to be borne in mind while judging the figures of the next Census.

DISTRICTS OF THE SOUTH-WEST MADHYA PRADESH DIVISION

49. The mean decennial growth rate in the South-West Madhya Pradesh Division during the last decade was 7·0 per cent against 5·7 during the previous decade and 12·3 during 1921—30. This Natural Division consists of the four districts of Berar, namely Amravati, Akola, Buldana and Yeotmal and the two districts of Nagpur and Wardha. Of the six districts in this Division, Nagpur alone shows the mean decennial growth rate of 15·2 during the current decade compared to 12·0 during 1931—40 and 17·0 during 1921—30. In the other districts the growth is fairly uniform.

50. As in the case of the districts of the other Natural Divisions, the high growth rate during 1921—30 is associated with the influenza epidemic.

51. In the case of the Nagpur district the unusual growth rate is connected with urban development which will be considered in Chapter III.

CONCLUSION

52. In our discussion on the growth of population of the State, we have found that although in the extremely backward areas there has been a certain amount of under-enumeration at the Censuses, on the whole the Census figures are fairly reliable and, therefore, the growth noticed by us is real and is of the order of 11·9, 9·8 and 7·9 per cent during the last three decades 1921—30, 1931—40 and 1941—50, respectively. We have noticed how this growth rate varies in different parts of the State and we will now proceed to study the causes of this variation as well as of the gradual fall from decade to decade during the last three decades, and for this purpose we shall examine first the question of migration and later that of births and deaths.

SECTION IV.—MOVEMENT

The Unchanging Migration Pattern

1. The figures of the 1951 Census do not differ greatly from those of the previous Censuses in respect of migration, except that the effect of the partition of the country and the resulting movement of displaced persons is reflected in them. Table 7 below shows the distribution of the total enumerated population of Madhya Pradesh by birthplaces for the last six decades, except 1941, when full tabulation was not undertaken :—

Table 7

The Migration Pattern.

	1901 (1)	1911 (2)	1921 (3)	1931 (4)	1951 (5)
Total Population	14,627,045	16,033,310	15,979,660	17,990,937	21,247,533
Born in Madhya Pradesh	13,728,276	15,283,325	15,370,156	17,335,363	20,520,156
Rest of India	893,403	743,067	603,924	649,064	611,004
Rest of Asia	1,460	1,533	906	1,905	115,704
Europe	3,776	5,132	4,173	4,206	269
Africa	17	46	75	87	186
America	93	145	374	279	200
Australasia	16	60	51	21	14
At Sea	4	2	1	1	..
Birthplace not specified	..	..	..	11	..

2. These figures show how during the last fifty years the movement pattern of the State has hardly changed except during the 1951 Census. Pakistan, which was a part of India formerly, is now treated as a foreign country and the figure under the head " Rest of India", therefore, shows a remarkable fall. For the same reason and due to the arrival of the displaced persons, the figure under the head " Rest of Asia" shows considerable increase. Similarly, with the withdrawal of the European officers and their families after the attainment of Independence, the European population has dwindled to 269 in 1951 from 4,206 in 1931. Emigration from Madhya Pradesh outside India is negligible and is confined to students and public men. A few people go as domestic servants accompanying their masters on their travels and a few have found their way to Africa. Actual figures of the few people of Madhya Pradesh residing in the various foreign countries are not available.

Emigration of the Anglo-Indians

3. During the last decade the number of Anglo-Indians in Madhya Pradesh is reduced by about 2,200 persons, and local enquiries made by the Deputy Commissioners showed that after the partition of the country some Anglo-Indians left for Pakistan, Australia, New Zealand and United Kingdom. Some families have also shifted to big cities like Calcutta and Bombay and are reported to have settled there.

The Home-keeping Habit

4. The reasons for the very slight movement of the people of the State in general are associated with our predominantly agricultural economy. Agricultural operations require constant attention and absence from villages is thus discouraged. The social fabric including the joint family system, the caste system and the system of early marriages has also encouraged the home-keeping habit while lack of education, diversity of languages and culture too have been impediments to the flow of population from one part to the other. Perhaps the most important cause of the poor emigration from India to other parts of the world was due to our political position in the past. Emigration as a solution of the population problem is considered in paragraphs 28 to 31 of Section VII of this chapter (page 64).

Persons of Foreign Birth

5. The total number of persons of foreign birth enumerated in Madhya Pradesh was 116,373 of whom 112,746 were from Pakistan including the displaced persons, the Pakistan Nationals and persons who had migrated before the partition of the country. The details of the persons of foreign birth are given in Table 8 below :—

Table 8

Persons of Foreign Birth.

Name of the country where born (1)	Number of persons of foreign birth enumerated in Madhya Pradesh (2)
Afganistan	437
Burma	438
Ceylon	33
China	26
Nepal	1,491
Pakistan	112,746
Straits Settlements and Malaya..	35
Elsewhere in Asia	498
United Kingdom and Northern Ireland.	169
Elsewhere in Europe	100
Union of South Africa	52
Elsewhere in Africa	134
Canada	10
United States of America	95
Elsewhere in America	95
Australia	13
Elsewhere in Australasia	1

6. The total number of foreign nationals in Madhya Pradesh was found to be 2,903 including 1,682 from Pakistan. Their distribution in the different parts of the State will be found in Main Table D-VI given in Part II-C of the Report. There are some differences between the number of persons born in a country according to Table D-IV (migrants) and the nationals of the country according to table D-VI (non-Indian nationals). Small differences are bound to exist (*e.g.*, children born in India to foreign nationals; persons born in one foreign country acquiring the nationality of a different country and so on). As, however, on a superficial comparison, an error may be suspected these facts should be borne in mind.

Different Types of Migration

7. In the past Censuses, five different types of migrations have been mentioned :—

(1) *Casual Migration.*—This is associated with the social customs and is also termed "the marriage migration." On account of the custom connected with the choosing of the bride from within the caste and also not within the prohibited degrees, Hindu marriages usually take place outside the village. Again, after marriage the young bride has often to go to her parent's home for her first confinement. During the Census, migration is determined approximately from the data relating to the birth-place only and, therefore, the casual movement of the people connected with the marriages is taken as a migratory movement. In such migration, the place of birth-records naturally show a preponderance of women over men.

(2) *Temporary Migration.*—This type of migration comes within the purview of the Census on account of the movement of businessmen and temporary demand for labour in different places. On account of the extended *de facto* system of enumeration adopted at the 1951 Census with the specified period of twenty days for enumeration, this type of migration would be less noticeable than in the previous Censuses, because a person was to be enumerated in a place other than his usual residence only if he was away from his house for the entire enumeration period.*

(3) *Periodic Migration.*—This is the usual harvest-time migration, when people from different places go to distant villages for harvesting the crops. It also includes seasonal movement of people accompaning herds of cattle. For reasons given in the case of temporary migration, periodic migration was also not of much significance during the 1951 Census.

(4) *Semi-Permanent Migration.*—This is confined to people, who go out for earning their living and return to their homes after a fairly long time. Such migration is noticeable in industrial places, like Nagpur, Jabalpur, Raipur, etc., where people from different places come and reside to earn a living.

(5) *Permanent Migration.*—As the term suggests, it is the permanent shifting of the residence of the people. In Madhya Pradesh, this type of migration is to be found not only in the industrial centres, where the semi-permanent migration is also noticed, but also in the backward tracts where there is scope for expansion of agriculture.

* For a detailed discussion of the extended *de facto* system of enumeration, *see* Chapter I of Census of India, 1951—Madhya Pradesh Administration Report, Part I.

8. The Census figures cannot distinguish between the different types of migration from the data relating to the birth-place; but, nevertheless, some idea can be had from the proportion of the sexes in the figures. Thus, as mentioned above, the casual migration connected with marriage and the relevant social customs can be easily noticed if there is a preponderance of women among the migrants. Similarly, the preponderance of the male sex would indicate semi-permanent or periodic migration because in such cases the men leave behind their families during their movements.

INTER-DISTRICT AND INTER-STATE MIGRATION

9. Of the total population of 21,247,533 people in Madhya Pradesh, 19,300,477 were recorded at the Census as having been born in the district of enumeration. It is, therefore, clear that the vast majority of the inhabitants of the State practically live all their life in the district in which they are born. The Census figures also indicate that of the remaining people, 863,990 were enumerated in different districts of the same Natural Division in which they were born, while 355,689 people were enumerated in other parts of the State. Again 510,165 persons born in the adjacent States and 100,839 people born in other parts of the Indian Union were enumerated in Madhya Pradesh.

10. Table 9 given below gives the proportionate figures per 1,000 of total population and per 1,000 males and females of home-born and immigrants found in Madhya Pradesh during the 1951 Census:—

Table 9

Proportion of Home-born and Immigrants.

Born in	Number per 1,000		
	Persons	Males	Females
(1)	(2)	(3)	(4)
1. District of enumeration	908	922	894
2. Other districts of the State ..	58	45	70
3. State adjacent to Madhya Pradesh	24	21	27
4. Other States of India	5	6	4
5. Outside India	5	6	5

The above figures show at a glance how little migratory movement takes place even within the districts of the State and from other States of the country to our State.

11. The preponderance of women in the above table among inter-State immigrants and, to some extent, amongst those from adjoining States points to the casual nature of the migration. Similarly, the very slight excess of men entering Madhya Pradesh from other States would appear to indicate casual or periodic migration.

12. The nature of the movement of the people from the State to other States of India and the counter movement from the other States to Madhya Pradesh is clear from Table 10 given below:—

Table 10

Migration.

Name of the State	Immigrants to Madhya Pradesh from States in column (1)	Emigrants from Madhya Pradesh to the States in Column (1).
(1)	(2)	(3)
States adjacent to Madhya Pradesh	510,165	417,615
Bihar	22,495	40,817
Orissa	66,668	34,690
Uttar Pradesh	85,900	32,528
Madras	16,949	5,758
Bombay	66,138	112,585
Vindhya Pradesh	94,033	23,239
Madhya Bharat	48,312	57,277
Hyderabad	93,902	82,451
Bhopal	15,768	28,270
Other States	100,839	38,611
Assam including Manipur and Tripura.	1,692	10,643
Punjab	17,426	3,074
Bilaspur	..	52
West Bengal	19,522	2,364
Jammu and Kashmir	806	Not available
Patiala and East Punjab States Union.	2,608	1,016
Rajasthan	36,957	5,945
Saurashtra	17,676	1,106
Travancore-Cochin	929	159
Ajmer	304	4,768
Cooch-Behar	47	..
Coorg	4	12
Delhi	1,276	8,082
Himachal Pradesh	112	5
Kutch	898	190
Mysore	574	1,038
Andamans-Nicobar	8	157

13. It will be noticed that the largest number of immigrants to Madhya Pradesh is from Vindhya Pradesh, Hyderabad, Uttar Pradesh, Orissa, Bombay, Rajasthan, Bihar, West Bengal, Saurashtra, Punjab, Madras and Bhopal. Similarly, Madhya Pradesh has sent out the largest number of migrants to Bombay (112,585) and Hyderabad (82,451).

14. The over-all position in respect of migration is shown in Subsidiary Table 1.7 in Part I-B of the Report. It shows that the figure of immigrants into the States exceeds that of emigrants by 271,151 persons in 1951 as compared to 234,173 in 1931.

15. It is also interesting to compare the movement of immigrants into the State from the adjacent States and other States as ascertained at the 1951 Census with the corresponding figures of 1931 and 1921 as given in the Census Report of 1931. The following Table 11 gives the comparative figures :—

Table 11

Comparative Figures of Immigrants.

Place of migration	Immigrants to Madhya Pradesh					
	1921		1931		1951	
	Total number	Per cent of total population	Total number	Per cent of total population	Total number	Per cent of total population
(1)	(2)	(3)	(4)	(5)	(6)	(7)
From adjacent States.	512,445	3·2	553,975	3·07	510,165	2·40
From other States and Pakistan.	90,993	0·56	94,468	0·52	213,585	1·0

16. The figures tend to indicate that the immigrants into Madhya Pradesh from the adjacent States vary between 2.4 to 3 per cent of the total population and from distant States the percentage is about 0.5 to 1. In comparing the figures of the previous Censuses with the 1951 Census it is to be borne in mind that the method of taking the Census was slightly different in 1951 from that adopted in 1931 and 1921. As previously pointed out, during the Census of 1951 visitors to a place were enumerated only if they were away from their normal residence for the whole enumeration period of twenty days and not otherwise ; whereas in 1931 and prior to that year everybody present on the Census night at a particular place was recorded where he was found. This change in the enumeration procedure accounts for the larger number of "migrants" noticed in 1931 than those recorded in 1951.

17. The rush of displaced persons in 1951 is reflected in Table 11 very clearly. In fact 112,771 displaced persons from Pakistan came into Madhya Pradesh after the partition of the country.

COMPARATIVE STUDY OF IMMIGRANTS INTO THE DIFFERENT PARTS OF THE STATE

18. Table 12 below gives the proportion of immigrants in the different districts of Madhya Pradesh during the 1931 and 1951 Censuses :—

Table 12

Number of Immigrants per mille of actual population during 1931 and 1951.

Name of State, Natural Divisions, Sub-Divisions and Districts	Number of immigrants per mille of actual population			
	From other districts		Rest	
	1931	1951	1931	1951
(1)	(2)	(3)	(4)	(5)
Madhya Pradesh	68.0	57	36	34
3.2 North Central Hills and Plateau Sub-Region—				
3.24 North-West Madhya Pradesh Division.	55	40	52	49
3.241 Nerbudda Valley	56	40	77	70
Sagar	32	11	65	46
Jabalpur	51	54	97	119
Hoshangabad	56	33	42	34
Nimar	106	78	127	78
3.242 Plateau	54	41	13	13
Mandla	49	36	20	21
Betul	44	32	8	9
Chhindwara	68	46	12	11
3.3 North-East Plateau Sub-Region—				
3.32 East Madhya Pradesh Division	50	46	17	23
3.321 Chhattisgarh Plain	40	40	20	25
Raipur	36	49	24	32
Bilaspur	31	36	25	19
Durg	62	41	5	8
Bastar	..	21	..	26
Raigarh	..	67	..	31
Surguja	..	16	..	47
3.322 East Maratha Plain	67	64	12	16
Chanda	46	52	22	30
Bhandara	73	65	7	12
Balaghat	87	78	7	4
3.4 North Deccan Sub-Region—				
3.41 South-West Madhya Pradesh Division.	100	95	50	41
3.411 West Maratha Plain	100	95	50	41
Wardha	163	154	26	24
Nagpur	107	123	37	56
Amravati	107	97	36	24
Akola	91	93	58	37
Buldana	38	40	72	55
Yeotmal	112	77	64	41

19. It will be noticed that the number of migrants in the North-West Madhya Pradesh Division is shown to be considerably less during the 1951 Census as compared to the figures of 1931. This is, as already pointed out, mainly due to the change in the enumeration procedure. The wheat harvesting gangs coming from the adjoining districts and States temporarily into the North-West Madhya Pradesh Division have not, obviously, been enumerated during the 1951 Census. In this Natural Division, the number of immigrants in the Jabalpur district has increased and a similar rise is seen even in the case of the Nagpur district of the South-West Madhya Pradesh Division. This is on account of the rapid industrial growth of the Nagpur and Jabalpur cities and the area round about.

20. In the East Madhya Pradesh Division, as would be expected, there is a slight increase of migrants from outside the State as they contain the large sparsely populated areas of the State. The Balaghat district is an obvious exception in this Division as in this district the number of migrants has slightly fallen.

MIGRATION PROBLEM OF THE HOSHANGABAD DISTRICT.

21. In the previous section we have pointed out the abnormally low growth-rate of the Hoshangabad district and have referred to the negative character of the migration-*cum*-registration error for the last three decades suggesting emigration from the district. That this is so is brought out clearly from the figures of the 1951 Census. They show that 55,594 persons born in the Hoshangabad district were enumerated in other districts of the State, while people born in other districts of the State and enumerated in the Hoshangabad district were only 27,881. Those figures indicate the trend of emigration from the district. The districts which have attracted the migrants are given in Table 13 below :—

Table 13

Emigration from the Hoshangabad district.

Name of district of enumeration	Number of persons born in the Hoshangabad district and enumerated in other districts		
	Persons	Males	Females
(1)	(2)	(3)	(4)
1. Sagar	2,474	1,057	1,417
2. Jabalpur	12,432	7,325	5,107
3. Nimar	20,209	8,620	11,589
4. Mandla	581	266	315
5. Betul	4,127	1,856	2,271
6. Chhindwara ..	6,539	2,828	3,711
7. Raipur	587	257	330
8. Bilaspur	394	149	245
9. Durg	362	146	216
10. Bastar	73	61	12
11. Raigarh	108	74	34
12. Surguja	348	286	62
13. Chanda	167	93	74
14. Bhandara	315	190	125
15. Balaghat	368	158	210
16. Wardha	323	131	192
17. Nagpur	3,719	1,910	1,809
18. Amravati	1,725	1,100	625
19. Akola	520	252	268
20. Buldana	59	18	41
21. Yeotmal	164	90	74
Total ..	55,594	26,867	28,727

Table 13—*cont.*

22. Unfortunately figures of persons born in the Hoshangabad district and enumerated in other States of India are not available but local enquiries made through the Tahsildars indicated that outward movement into the Bombay State was noticeable in the district for reasons similar to those which will be presently discussed in connection with the emigration from the South-West Madhya Pradesh Division into Bombay State. Madhya Bharat like Bombay has also attracted a large number of migrants from Madhya Pradesh as we have already seen and Hoshangabad district which adjoins Madhya Bharat would have naturally contributed freely towards this movement.

Migration Problem of the South-West Madhya Pradesh Division Further Considered

23. Table 12 given above further shows that the percentage of immigrants in the South-West Madhya Pradesh Division is the largest as compared to the other Natural Divisions. This is a significant circumstance which needs attention because in the next section we will consider the question of excess of births over deaths and the increase in the natural population. We will find that the figures indicate that during the decade 1941—50 there has been a distinct outward movement from the South-West Madhya Pradesh Division. Unfortunately figures of emigration from the different districts or Natural Divisions of the State are not available and we have to base our conclusions on the available evidence. We have already seen that amongst the States which have attracted the largest number of migrants from Madhya Pradesh are Bombay and Hyderabad. Both these states adjoin the South-West Madhya Pradesh Division and the probability of the people from this Division going to the adjoining States is obvious. Luckily the figures of immigration in the South-West Madhya Pradesh Division are available for the last 50 years. This is, however, not the case for the other Divisions in which there have been territorial changes. It is, therefore, possible to study the immigration into the South-West Madhya Pradesh Division in greater detail. We can arrive at the actual number of immigrants in a place during a decade by subtracting from the number of immigrants found at the end of the decade, the number of immigrants at the beginning of the decade and by adding to the balance the probable number of deaths amongst the immigrants enumerated at the beginning of the decade. On the basis of this formula the actual number of immigrants during the different decades in the South-West Madhya Pradesh Division has been calculated and the results are given in Table 14 below. Unfortunately during 1941 there was no detailed tabulation and the figures of immigration are not available and therefore the flow of immigrants between 1931—51 has been calculated :—

Table 14

Immigration into the South-West Madhya Pradesh Division.

Period (1)	Actual number of Immigrants (2)
1901—11	238,694
1911—21	269,774
1921—31	284,134
1931—51	427,041

24. The figure of immigrants in the South-West Madhya Pradesh Division during the period 1931—51 needs further analysis to arrive at the probable figure of immigrants during 1931—41, and 1941—51. At the 1951 Census the abnormal immigration of the displaced persons has to be considered. The total number of displaced persons enumerated in the South-West Madhya Pradesh Division was 33,769. Allowing for this extraordinary movement in 1951 and assuming that the pace of immigration was otherwise roughly equal during the two decades we find that during 1931—41 there could not have been more than about 200,000 migrants in the South-West Madhya Pradesh Division, and during the decade 1941—51 their number would be of the order of about 230,000. These figures clearly show that while immigration into the South-West Madhya Pradesh Division was increasing up to 1931, the position has since changed and there is a gradual fall in the number of immigrants also.

Reasons for Emigration from the South-West Madhya Pradesh Division

25. It is interesting to consider the probable reasons for the outward movement of the people from the South-West Madhya Pradesh Division and the fall in the number of people coming to the Division during the last two decades. The classification of the emigrants, who have migrated into the other States from Madhya Pradesh by livelihood classes is given in Subsidiary Table 1·10 and similar classification in respect of the immigrants who have come into Madhya Pradesh is given in Subsidiary Table 1·9. It is interesting to find from Table 1·10 that from amongst 112,585 emigrants to Bombay the vast majority of them are to be found amongst the non-agricultural livelihood classes as shown in Table 15 below :—

Table 15

Major Livelihood Classification of Emigrants to Bombay State.

Livelihood class (1)	Number of Emigrants (2)
V.—Production other than cultivation ..	29,303
VI.—Commerce	15,578
VII.—Transport	9,005
VIII.—Other services and miscellaneous sources.	40,641

It is therefore obvious that the industrialised State of Bombay has been a source of attraction for these migrants. The big network of railways also seem to have attracted people from this State. While a large number of them have also probably gone to the big cities of the State to serve in different capacities.

26. With a view to verifying the above conclusions drawn from the Census statistics a detailed enquiry was made with the help of the Deputy Commissioners and Tahsildars in all the tahsils of Madhya Pradesh and from the reports received it was found that the main sources of attraction for the migrants were (*a*) allurement of city life ; (*b*) better opportunities of industrial employment and commercial activities ; and (*c*) facilities of getting employment in the railways. These enquiries also show that the places from which people appear to have left for Bombay State are mostly from the South-West Madhya Pradesh Division and from the Nimar and Hoshangabad districts of the North-West Madhya Pradesh Division.

Emigration into Hyderabad

27. The classification of the emigrants from Madhya Pradesh to Hyderabad is shown in Table 16 below :—

Table 16

Livelihood Classification of Emigrants to Hyderabad State.

Livelihood class (1)	Number of Emigrants (2)
I.—Cultivation of owned land	20,354
II.—Cultivation of unowned land ..	5,458
III.—Agricultural labourers	16,008
IV.—Land owners and agricultural rent receivers.	2,028
V.—Production other than cultivation ..	13,419
VI.—Commerce	8,303
VII.—Transport	2,408
VIII.—Other services and miscellaneous sources.	14,473

28. It will therefore be seen that the emigrants to Hyderabad are almost equally divided amongst the agricultural and non-agricultural classes. The largest number amongst the non-agricultural classes is to be found in Livelihood Classes V and VIII which indicates that here again the attraction is in the industrial areas of the Hyderabad State. Amongst the agricultural classes the largest number consists of cultivators of owned land and agricultural labourers, the latter being very probably of the seasonal type.

29. In the above paragraphs we have considered the attractions in the adjoining States which have drawn the migrants. It is also interesting to review the factors at home which have encouraged the outward movement. In this connection a perusal of Subsidiary Table 4·9 (Land area per capita 1951 and trend of cultivation during the 3 decades) is of considerable interest. This table shows that the area of cultivation per capita in cents has fallen in the State and the Natural Divisions as follows :—

State and Divisions (1)	Area of cultivation per capita (in cents) 1951 (2)	1941 (3)	1931 (4)	1921 (5)
Madhya Pradesh	135.1	145.1	160.8	175.3
North-West Madhya Pradesh Division.	142.5	157.1	171.2	184.7
East Madhya Pradesh Division.	112.7	115.7	128.1	137.8
South-West Madhya Pradesh Division.	155.8	170.0	190.2	211.2

These figures show that while there is a fall of about 22·8 per cent in the per capita cultivation in the North-West Madhya Pradesh Division there is a corresponding fall of 18·2 per cent in the East Madhya Pradesh Division and 26·2 per cent in the South-West Madhya Pradesh Division. In other words the pressure on agriculture is the heaviest in the South-West Madhya Pradesh Division and the North-West Madhya Pradesh Division comes next in order followed by the East Madhya Pradesh Division. The question of population growth and sustenance will be discussed in detail in Chapter IV but it might be mentioned here that the figures given above corroborate the movement pattern found in the three Natural Divisions.

The Exceptional Immigration into the Nagpur District

30. The case of the Nagpur district is exceptional in the South-West Madhya Pradesh Division in respect of migration as would be obvious from a perusal of columns 29 to 31 of Subsidiary Table 1.3 given in part I-B of the Census Report. The migration-*cum*-Registration error (which we will discuss in the next section) is uniformly negative in

all the districts of the South-West Madhya Pradesh Division during the last two decades except in the case of the Nagpur district indicating, as we will see later, the distinct tendency on the part of the people to move out. In the Nagpur district rapid industrialization has attracted the migrants. An analysis of the immigrants into the Nagpur district shows that the largest number is contributed by the adjoining districts of Wardha (13,082 males and 20,709 females), Bhandara (9,485 males and 15,263 females), Chhindwara (7,373 males and 9,279 females) and Chanda (4,336 males and 6,663 females). The four districts of Berar have contributed comparatively smaller number of migrants into the Nagpur district. The figures are as follows :—

Name of District (1)	Males (2)	Females (3)
Amravati ..	9,244	10,644
Yeotmal ..	3,000	3,376
Akola ..	1,955	3,342
Buldana ..	1,215	940

It is therefore clear that the out-ward movement from the Berar is more towards Bombay and Hyderabad than towards Nagpur, which receives migrants more freely from the areas East of Berar. It is also to be remembered that in the Nagpur district as many as 14,994 displaced persons have also settled.

Migration into the Backward Parts of the State

31. Bastar, Surguja, Chanda and Mandla are the most backward districts of the State and are very sparsely populated. There is considerable scope for immigration into these districts.

The Bastar District

32. This district has a mean density of about 61 persons to a square mile the lowest in the State although its area is the largest, being 15,091 square miles. Of the total population of about a million there are only 42,290 persons born in places other than those in the Bastar district. Amongst the immigrants 18,983 are from Madhya Pradesh itself and in fact most of these migrants from Madhya Pradesh are from the adjoining districts of Raipur (7,684), Durg (6,496), Chanda (1,299) and Bilaspur (850). From outside Madhya Pradesh the Bastar district has attracted migrants from some of the other States of India and from Pakistan. Orissa (16,024), Uttar Pradesh (1,013), Madras (1,865), Bihar (606), Vindhya Pradesh (532), Hyderabad (528) and Pakistan (769), have all sent out limited number of migrants to this backward district. The people from Pakistan are the displaced persons, who have settled here. It is interesting to notice that the largest number of migrants from outside the State are from Orissa. This migration, however, is not of a permanent type because out of 16,024 people of Orissa found in the Bastar district there were 11,419 males and 4,605 females and the large majority of these migrants (15,752) were enumerated in the rural areas indicating that it is merely an influx of labourers from Orissa engaged in the extensive forest extraction work in the Bastar district.

33. It is, therefore, clear that there is hardly any immigration into the Bastar district up to now and lack of communications is the main cause of the slow pace of immigration into the district. There are rich mineral deposits in the district and there are also possibilities of extending cultivation. The district is, therefore, bound to attract a large number of migrants as soon as communications are improved and medical facilities are made available in the interior.

The Surguja District

34. This is yet another very backward district of the State with a mean density of about 95 persons to a square mile, and having an area of 8,613 square miles. Out of the population of about 0·9 million there are only 51,598 immigrants enumerated in the Surguja district. About 1/4th of this number (13,024) are migrants from other districts of Madhya Pradesh, including Bilaspur (7,357), Raipur (1,416), Raigarh (714) and Durg (513). The movement from the above districts of Madhya Pradesh into Surguja appears to be of a permanent nature as the numbers of males and females were found to be practically equal.

35. Of the migrants from the other States found in the Surguja district Bihar has contributed 11,398 (5,264 males and 6,134 females), Uttar Pradesh 5,792 (3,291 males and 2,501 females), Orissa 3,506 (806 males and 2,700 females), Punjab 978 (754 males and 224 females) and Bengal 732 (468 males and 364 females). The casual nature of the migration from Bihar, Uttar Pradesh and Orissa is obvious from the preponderance of women amongst the migrants.

36. As in the case of the Bastar district immigration into the Surguja district is also of a negligible nature considering its vast area and possibilities of exploiting the rich coal and bauxite mines. This district has also extremely poor communications and although work had actually commenced recently on a railway project which was to pass through the rich coal fields, it had to be given up for financial reasons.

The Chanda District

37. The mean density of the district is 106 persons to a square mile and it has an area of 9,223 square miles. Out of the population of about a million there are 80,444 migrants, of whom 51,098 (20,770 males and 30,328 females) are from other districts of Madhya Pradesh. Most of this migration is also of a casual nature. The largest numbers of migrants have come to Chanda from the following districts:—

Name of the district (1)	Persons (2)	Males (3)	Females (4)
Yeotmal	13,564	5,095	8,469
Wardha	9,667	3,482	6,185
Bhandara ..	7,727	2,064	5,663
Nagpur	7,674	2,516	5,158
Buldana	2,483	2,309	174
Akola	2,475	2,241	234
Durg	2,425	746	1,679
Bastar	2,004	807	1,197
Amravati	1,125	520	605

38. Persons born in other States of India and enumerated in the Chanda district were 28,443 (11,002 males and 17,441 females). A significant number of migrants have come to the district from the following States :—

Name of the States (1)	Persons (2)	Males (3)	Females (4)
Hyderabad ..	23,724	8,534	15,190
Uttar Pradesh ..	1,185	506	679
Saurashtra ..	864	468	396
Rajasthan ..	605	345	260
Bombay	848	397	451
Pakistan	825	473	352
Madras	504	350	154

39. The figures of males and females amongst the migrants given above tend to show that while the migration from Hyderabad is clearly of the casual type, that from Madras, Rajasthan and Saurashtra is of the semi-permanent nature and that from Bombay and Uttar Pradesh and Pakistan is inclined to be of a permanent nature although the tendency towards casual migration from Bombay and Uttar Pradesh cannot be ruled out on account of the somewhat higher percentage of women amongst the migrants

The Mandla District

40. The mean density of the population of the district is 107 persons to a square mile. It has an area of 5,122 square miles and out of a population of about half a million there are 31,651 migrants of whom 19,920 (8,443 males and 11,477 females) are from the districts of Madhya Pradesh indicating clearly the casual type of migration. The largest number of these migrants from Madhya Pradesh are from the following districts:—

Name of the district (1)	Persons (2)	Males (3)	Females (4)
Chhindwara ..	7,419	3,134	4,285
Jabalpur	5,968	2,614	3,354
Balaghat	1,777	782	995
Bilaspur	1,754	362	1,392

41. The Mandla district has also attracted 8,641 migrants (1,668 males and 6,973 females) from Vindhya Pradesh and 752 (463 males and 289 females) from Uttar Pradesh.

42. It is interesting to find that in the Mandla district there are 228 immigrants from Assam. Of these 99 were males and 129 females. Obviously they represent some of the repatriated families with their children born in Assam. Subsidiary Table 1.11 given in Part I-B of the Report shows the number of persons recruited by the Assam Tea District Labour Association from the different districts of Madhya Pradesh for the last ten years. A perusal of the table will show that Mandla is one of those districts from which a comparatively large number of emigrants has gone to Assam. During the last ten years from 1941 up to 1950, 8,71 people were sent to Assam Tea gardens from the Mandla district.

Border Immigration

43. Madhya Pradesh adjoins as many as eight states of India as pointed out before. They are Madhya Bharat, Uttar Pradesh, Vindhya Pradesh, Bihar, Orissa, Madras, Hyderabad and Bombay. The border migration is, therefore, of considerable volume.

The Northern Boundary

44. The districts of Nimar, Hoshangabad, Sagar, Jabalpur, Mandla and Surguja are to the north of the State and adjoin the States of Bombay, Madhya Bharat, Bhopal, Vindhya Pradesh, Uttar Pradesh and Bihar. Subsidiary table 1.12 given in Part I-B of the Report shows the immigration from the

adjoining states into these districts to the north of the State, and a perusal of the table shows that there is a general preponderance of women amongst the immigrants from Vindhya Pradesh and Madhya Bharat pointing to the nature of 'marriage migration' involved in the case. The migration from Uttar Pradesh seems to be of a semi-permanent nature from the excess of males over females. Migration from Bombay into the Nimar and Hoshangabad districts appears to be of a permanent nature, while that into Sagar, Jabalpur and Mandla seems to be of a semi-permanent or permanent nature.

The South-West Boundary

45. The districts of Akola, Yeotmal, Buldana, Amravati and Chanda form the South-West boundary of the State and adjoin Bombay and Hyderabad. Subsidiary Table 1·13 given in part I-B of the Report shows the immigration into these districts from the two adjoining States. It is noticed that immigration from Hyderabad is clearly of a casual nature, being confined to the "marriage type". The immigration from Bombay on the other hand seems to be of a permanent nature from the male and female ratio, except in the case of the Buldana district where "marriage migration" is indicated.

The South-East Boundary

46. The districts of Bastar, Raipur and Raigarh form the South-East boundary of Madhya Pradesh. They adjoin the States of Hyderabad, Madras, Orissa and Bihar. The immigration into these districts from the adjoining States is shown in the subsidiary Table 1·14 given in Part I-B of the report. The migration from Madras, although it is not very large, is of a permanent or semi-permanent nature, while that from Orissa is of a purely temporary nature in the Bastar district as already indicated above. In the Raipur and Raigarh districts the immigration from Orissa is of a casual nature as is seen from the preponderance of females over males. The immigration from Bihar to the Raipur and Raigarh districts seems to be of a temporary nature as is clear from the male and female ratio.

The Shift towards the West

47. A study of Subsidiary Table 1·4 shows that within the State itself there is a distinct shift of population towards the West. The South-West Madhya Pradesh Division, although it contains one-third of the population of the State, has attracted double the number of migrants from the State as compared to the other Natural Divisions. The industrial districts of Nagpur, Wardha and Amravati have attracted the largest number of people from other parts of the State.

Daily Migration

48. This is a phenomenon, which is gaining importance gradually with urbanisation. These daily movements have considerable importance in handling difficult problems of traffic, transport and housing and as many of our towns are rapidly growing, it may soon become necessary to collect statistics about such movement during the census or otherwise by undertaking subsidiary sample enquiries. In big cities, like Nagpur and Jabalpur, people come to attend their work from distant places. Some rough idea of this type of daily movement might be had by considering the average daily passenger traffic by rail and road. During the year 1950-51 the Central Railway (the former G. I. P. Railway), alone moved an average daily number of 1,274 passengers between Nagpur and stations within twenty miles of it, while the Eastern Railway (the former B. N. R.) similarly moved 1,698 persons on the narrow gauge line. On the broad gauge on the other hand 1,875 persons travelled to and from Nagpur Station proper and 1,103 from and to Itwari (the city station) daily. The semi-Government Road Transport Companies, from whom figures could be secured, reported daily average movement of 950 persons for the same period and within the same distance from Nagpur. Figures for private services could not be secured. In other words, there is movement of some 7,000 persons daily to and from Nagpur, considering only the limited available figures of passenger traffic. Gradually as our industries develop, the population picture of an industrial or business centre during the day might be very much different from the residential picture of the population as presented by the usual census data and for numerous administrative purposes it might become necessary to take account of the working population in such a place as distinguished from the residential population.

49. Daily movement of people to and from Jabalpur is also becoming significant. The semi-Government Road Transport services alone handled an average daily passenger traffic of 1,754 persons during 1950-51 between Jabalpur and places within twenty miles of it. The narrow gauge Eastern Railway, similarly, moved about 221 persons daily, while the broad gauge Central Railways accounted for a daily movement of 1,139 persons to and from Jabalpur.

Net Migration

50. This is the difference between the immigration into the State and emigration from the State during the decade. In Appendix 'E' calculations are made to ascertain the net gain of

population during the decade 1921—30 and during the period 1931—50. It is found that during the decade 1921—30 the population of the State increased by 95,752 persons on account of the net gain due to migration. Similarly, during the period 1931—50 the population increased by 190,000 persons cn account of migration. It is not possible to get similar figures for the decade 1931—40 because figures for the migrants at the 1941 Census were not tabulated and are not available. Similarly, detailed calculations in respect of the net migration into the Natural Divisions or districts is not practicable for want of figures of emigrants.

Conclusion

51. It is, therefore, clear that in the matter of actual population growth of the State migration plays a very limited part; and we will now proceed to consider the question of births and deaths and the natural increase of the population.

SECTION V.—NATURAL INCREASE, BIRTHS AND DEATHS

1. Natural increase in the population is the excess of births over deaths. In this section we shall study the birth and death rates in the State and its different parts and also consider the question of their reliability and use. The extent to which famines and pestilence of the past have influenced these rates from time to time, and their effect on the growth of the population will also be reviewed with reference to the conclusions arrived at in the previous section on the problems of movement with a view to present as complete a picture as practicable of the population trends in the State.

Registration of Births and Deaths

2. The standard of vital statistics maintained in Madhya Pradesh has been fairly accurate in the old districts, but is not reliable in the case of the Integrated States. The standard in the South-West Madhya Pradesh Division is comparatively the best, followed by that in the North-West Madhya Pradesh Division and the East Madhya Pradesh Division. A full account of the registration system in force in the State very kindly given by the Director of Health Services, Madhya Pradesh, is included as an annexure to the note on vital statistics contained in Appendix "O".

The Birth Rate

3. Subsidiary Table 1.3 in Part I-B of the Report gives details in respect of the mean decennial birth rate as well as the growth rate in Madhya Pradesh, the Natural Divisions and the Districts. These rates for the State and the Natural Divisions and Sub-Divisions for the last three decades are given below in Table 17 :—

Table 17

The Birth and Growth Rates.

		Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattis-garh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1921—30	Birth rate	41·4	41·2	42·2	39·5	39·4	34·3	38·3	43·8
	Growth rate	11·9	9·1	6·5	13·4	13·3	13·5	12·7	12·3
1931—40	Birth rate	41·2	43·7	45·2	41·2	39·2	37·0	38·6	41·1
	Growth rate	9·8	9·0	9·4	8·3	12·7	12·2	14·1	5·7
1941—50	Birth rate	37·0	36·8	37·9	35·1	35·2	33·2	36·3	39·4
	Growth rate	7·9	6·2	6·9	5·1	9·4	9·0	10·4	7·0

4. It will be noticed that the figures for the State show a fall of 0·2 per cent in the birth rate in the first interval between 1921—30 and 1931—40 and a further fall of 4·2 per cent in the second interval between 1931—40 and 1941—50. In the case of the North-West Madhya Pradesh Division, there is a rise of 2·5 per cent in the first interval and a drop of 6·9 per cent in the second interval. In the East Madhya Pradesh Division, there is first a drop of 0·2 per cent and a further drop of 4·0 per cent, while in the South-West Madhya Pradesh Division, the birth rate shows a continuous fall. There is a drop of 2·7 per cent in the first interval and a further drop of 1·7 per cent during the second interval.

Contradictory Nature of Birth and Growth Rates

5. We have already described the growth rate in the State and the Natural Divisions in Section III above. A significant point to note at this stage is the contradictory character of the birth and growth rates in the South-West Madhya Pradesh Division. The growth rate, as we have seen, has fallen by 6·6 per cent in the first instance and has gone up by 1·3 per cent during the second interval; whereas the birth rate shows a continuous fall. In other words, while the fall in the birth rate in the first interval corroborates the fall in the growth rate,

it does not do so in the second interval. This unusual behaviour of the growth rate is due to the typical phenomenon of migration in the South-West Madhya Pradesh Division discussed in the previous section, where the emigration from the districts of Berar and the heavy immigration into Nagpur district have been described at length. The causes for the distinctive birth rate trend in this Natural Division will be explained presently.

6. In the North-West Madhya Pradesh Division, the growth rate in the first interval is practically steady in spite of the rise of 2·5 per cent in the birth rate. In the second interval, the growth rate shows a fall consistent with the fall in the birth rate. The contradictory behaviour of the birth and growth rate is distinctly seen if we examine these rates for the Nerbudda Valley and the Plateau Sub-Divisions as shown in Table 17 above. It will be noticed that in the Nerbudda Valley the birth and growth rates are consistent in both the intervals, but in the Plateau Sub-Division the contrast is distinct in the first interval when between 1921—30 and 1931—40 the birth rate increased from 39·5 to 41·2 but the growth rate came down from 13·4 to 8·3. This is clearly due to emigration and in fact a perusal of the corresponding birth and growth rates of the East Maratha Plain show how during this decade this Sub-Division has clearly attracted migrants when its birth-rate was practically steady being 38·3 during 1921—30 and 38·6 during 1931—40, while the corresponding growth rate went up from 12·7 to 14·1. The emigration from the Plateau districts during 1931—40 and the immigration into the districts of the East Maratha Plain is also clear from the negative nature of the migration-*cum*-registration error in the Plateau districts and its positive character in the East Maratha Plain districts as shown in column 30 of the Subsidiary Table 1·3 in Part I-B of the Report. (The problem of migration-*cum*-registration error will be dealt with fully later in this section). The manganese boom and the connected intensification of the mining activities in the East Maratha Plain obviously account for the local movement in these two adjoining Sub-Divisions.

7. In the East Madhya Pradesh Division, there is a fall in the growth rate in both the intervals and also a fall in the birth rate, although in the first interval the fall in the birth rate is only of the order of 0·2 per cent while the fall in the growth rate is of the order of 0·6 per cent. In the second interval, the fall in the birth rate is 4·0 per cent while that in the growth rate is 3·3 per cent.

Trend of Birth Rates in the Districts

8. A perusal of Subsidiary Table 1·3 mentioned above shows that in the North-West Madhya Pradesh Division every district, except Nimar, shows a rise in the birth rate during the first interval and a significant drop in the second interval. In the Nimar district, there is a drop in both the intervals and in this respect the Nimar district again behaves like the adjoining districts of Berar in the South-West Madhya Pradesh Division as pointed out before while considering the growth rate. In the districts of the South-West Madhya Pradesh Division, there is a uniform and continuous drop in the birth rates in the first as well as the second interval, except in the case of Akola and Yeotmal, where the birth rate is showing signs of going up a little during the second interval. The districts of Bhandara and Balaghat of the East Maratha Plain Sub-Division of the East Madhya Pradesh Division also practically follow the trend of the districts in the South-West Madhya Pradesh Division. The Chanda district, however, shows a rise in the birth rate during the first interval followed by a fall during the second interval. In the Chhattisgarh Plain Sub-Division, the three districts of Raipur, Bilaspur and Durg, for which fairly reliable vital statistics are available, also show the same trend as the districts of the South-West Madhya Pradesh Division in respect of the mean decennial birth rate. Amongst the districts of the South-West Madhya Pradesh Division, it is interesting to note that Nagpur and to some extent Amravati show a distinct continuing fall while Wardha is becoming steady and Akola and Yeotmal are showing a slight increase in the birth rate.

The Net Result of Changes in the Birth Rates

9. The above observations from Subsidiary Table 1·3 clearly show that there have been real movements in the birth rates, the net result of which in the State as a whole is a fairly steady birth rate in the first interval and a real drop, representing the fall of about 4·2 per cent in the second interval.

Causes of Variation in the Birth Rate

10. We will now proceed to study the causes of the typical behaviour of the birth rates and for this purpose we will review the position during the last five decades. It is found that there is a long continuing drop in the birth rates from the beginning of the century. The rates are given in Table 18 below:—

Table 18

The Mean Decennial Birth Rates in Madhya Pradesh

Decade (1)	The mean decennial birth rate (2)
1901-10	45·7
1911-20	45·5
1921-30	41·4
1931-40	41·2
1941-50	37·0

Effect of Famines and Pestilence on the Age Structure and the Birth Rate

11. The number of births taking place at a particular time in a particular community obviously depends upon the proportion of females of child-bearing age. Consequently, if this group of females happens to be depleted at a particular time, the birth rate would be low and similarly if it happens to be an inflated group, the birth rate would be high. Thus, for example, a famine usually affects the children and old people very much and, therefore, the relative proportion of the young people including women of child-bearing age is unduly increased in the population with the result that after the famine the birth rate goes up, but it gradually comes down as the depleted age-groups of young children reach the fertility period. It is, therefore, necessary for proper understanding of the behaviour of the birth rates to appreciate the history of the famines and epidemics in the State and their effect on the age-structure of the population. "The age-structure indicates the nature, not only of the present rates of fertility and mortality, but of the fertility schedules that have influenced the population for generations. The age-structure of a population is the living record of its biological history" * The history of the famines and scarcities from earliest times is briefly reviewed in Appendix "I" and here we shall confine ourselves to the effects of these calamities on the age-structure and the birth-rate.

The Famines of 1897 and 1900

12. The effects of the famines of 1897 and 1900 on the age distribution in the Central Provinces are analysed in the All-India Census Report of 1901. It shows that the mortality was heaviest on the population at the two extremes of life. The children and the old people were left depleted while the reproductive ages were least affected. The variation in the population in the different age-groups as ascertained at the Census of 1901 was, therefore, found to be as given in Table 19 below :—

Table 19

Percentage Variation of Population in the different age-groups at the 1901 Census.

	Age-groups				
	0—10	10—15	15—40	40—60	60 and over
(1)	(2)	(3)	(4)	(5)	(6)
Variation ..	—20	+1·3	+0·4	—3·5	—30

13. The above table clearly shows that the whole loss of population occurred amongst people who had passed the reproductive time of life or who had not yet reached it. The result was that recuperation was rapid and the birth rate was as high as 45·7, as pointed out in Table 18 above. During the next decade, when the process of recovery was in progress, the birth rate remained fairly steady and was 45·5.

14. At the Census of 1911, when the population had increased by about 17·9 per cent, the variation in population at the different age-periods was as given in Table 20 below :—

Table 20

Percentage variation in the different age-groups at the 1911 Census.

	Age-groups				
	0—10	10—15	15—40	40—60	60 and over
(1)	(2)	(3)	(4)	(5)	(6)
Variation ..	+33·5	—11.3	+15	+15	+42

The Great Influenza Epidemic

15. The loss in the age-group 10—15 in Table 20 above was the legacy of the famines and this age-group reached the reproduction period during the next decade when the State was again overwhelmed with the influenza epidemic of unprecedented virulence. It is necessary to appreciate fully the nature of this catastrophe as it is mainly responsible for the typical behaviour of the birth rates in the State as well as in the Natural Divisions during the last three decades. The following description of this epidemic is quoted from an official report on the subject in the Central Provinces and Berar Census Report for 1921 :

"A fulminating epidemic such as this one is altogether without parallel in the records of the Province. It appeared in two waves, the first of which occurred in July and was so mild that it does not appear to have penetrated into some of the districts at all, while in others it probably passed unnoticed and in only a few did it register its mark. The second wave, however, which started late in September struck the Province with lightning suddenness and violence, spreading rapidly and leaving behind it a melancholy wake of decimated villages and destitute orphans. Traces of the disease still exist (28th of January 1919) in some of the remoter parts.

"The total mortality attributable to influenza up to the 30th November is 790,820. Practically all this occurred in the two months of October and November, and it amounts to 56·83 per thousand of its population, taken as 13,916,308 according to the Census of 1911 or to 52·59 per thousand of the population deduced up to the 1st January 1918 as 16,037,257.

* Notestein and others, "The Future Population of Europe and the Soviet Union, 1944", page 109, (League of Nations, Geneva).

"A reference to previous heavy epidemic mortality in the Central Provinces and Berar shows that the highest on record is that for cholera in the famine year 1900. The figure is 80,144. The heaviest recorded mortality from all causes occurred in the previous famine year 1897, when 797,313 deaths were registered in the year. The influenza epidemic alone, which has not yet spent its force, has produced a calamity in two months which is practically equal to the total mortality for the whole of this most disastrous famine year.

"The total plague mortality since 1896, when the first cases occurred, up-to-date is 380,308, which affords an interesting comparison between the results of 22 years of plague and 2 months of influenza."

EFFECTS OF THE INFLUENZA EPIDEMIC

16. In the above paragraph, the magnitude and the virulence of the epidemic have been described. Its selective nature and the consequent abnormal distortion of the age structure are described in the Census Report of 1921 as follows :—

"The primary effect of the epidemic is the large increase in the death rate, which is discussed in Chapter I. Then follows the decreased birth rate due to miscarriages, decrease in the age period 15—40, increase in the number of widows, and the general lowering of the vitality of the population which is evident from the enhanced death rate at every age period in the year 1919. The deterioration in age constitution must be followed by an increased death rate owing to the large proportion of old persons. The effects of the low birth rate will of course be further felt 15 years afterwards, as fewer women of child-bearing age grow up from childhood. The only favourable feature is the comparative large number of survivors from 5—15 years of age".

THE PERIOD OF RECOVERY

17. After the last influenza epidemic, the State has been lucky and has not been visited by any serious famine or epidemic and during the last thirty years the population has been growing at rates already discussed in Section III above. These growth rates are governed by the birth rates to a considerable extent, which in turn are affected by the distortion in the age structure mentioned above.

THE AGE-STRUCTURE DURING THE LAST FIVE DECADES

18. We will now proceed to consider the disturbances in the age-structure from 1901 to 1950. Table 21 given below shows the percentage variation of population in the different age-groups during the last five decades for the adjusted territory of Madhya Pradesh and the Natural Divisions. This table is prepared from Subsidiary Table 1.15, giving the actual number of persons in each of the age-groups. Table 1·15 along with a fly-leaf explaining the method of preparing it will be found in Part I-B of the Report :—

Table 21

Percentage variation of population in the different age-groups at the last five censuses in Madhya Pradesh and the Natural Divisions.

		Age group						
		0—5	5—10	10—15	15—20	20—40	40—60	60 and over
1901—10	Madhya Pradesh	+53·3	+18·3	—11·1	+0·4	+18·0	+14·1	+40·9
	North-West Madhya Pradesh Division.	+33·4	+40·2	—9·0	—10·0	+19·4	+6·3	+45 6
	East Madhya Pradesh Division	+65·6	+12·5	—7·4	+10·6	+23·8	+24·0	+40·5
	South-West Madhya Pradesh Division.	+57·8	+9·1	—18·4	—2·4	+8·3	+9·3	+38·2
1911—20	Madhya Pradesh	—18·8	+17·2	+27·3	+0·4	—9·9	+2·9	+10·1
	North-West Madhya Pradesh Division.	—26·1	+7·8	+30·9	+6·7	—13·8	—0·2	+2·7
	East Madhya Pradesh Division	—16·0	+22·8	+24·0	—4·6	—7·5	+6·8	+15·7
	South-West Madhya Pradesh Division.	—15·9	+18·0	+29·0	+1·8	—9·5	+0·4	+8·0
1921—30	Madhya Pradesh	+37·5	—10·7	+8·5	+47·7	+18·0	+4·9	—17·5
	North-West Madhya Pradesh Division.	+41·2	—13·0	—2·8	+35·6	+16·1	+0·8	—21·9
	East Madhya Pradesh Division	+36·4	—12·5	+15·9	+53·4	+19·4	+8·3	—15·9
	South-West Madhya Pradesh Division.	+36·0	—5·0	+9·0	+52·5	+17·6	+3·6	—16·7
1931—40	Madhya Pradesh	—7·5	+21·6	+5·4	—0·3	+15·3	+15·2	+24·8
	North-West Madhya Pradesh Division.	—6·6	+20·1	+6·1	—3·2	+14·8	+12·5	+24·9
	East Madhya Pradesh Division	—6·2	+24·7	+4·5	—0·1	+19·5	+22·7	+32·5
	South-West Madhya Pradesh Division.	—10·8	+17·8	+6·2	+2·5	+8·7	+5·8	+13·8
1941—50	Madhya Pradesh	+11·6	+0·4	+14·2	+10·1	+1·5	+14·7	+28·8
	North-West Madhya Pradesh Division.	+9·0	—2·4	+12·7	+12·9	—3·2	+17·3	+36·0
	East Madhya Pradesh Division	+11·8	+3·5	+15·2	+10·9	+4·5	+13·9	+30·8
	South-West Madhya Pradesh Division.	+13·8	—2·7	+13·9	+6·1	+1·0	+13·4	+20·7

19. In considering the above table, it is to be remembered that in 1931 a smoothing formula was applied to the age returns, while no such formula has been made use of at the other Censuses. The figures for the 1941 Census were obtained from the 'Y' sample tables supplied by the Registrar-General, while those for the 1951 are based on the 10 per cent sample Age tables given in Part II-C of the Report. Prior to 1931, age 'O' was written in the case of infants aged less than 12 months and in the case of others, the completed number of years were noted as the age. In 1931, however, the instructions were, " Enter the number of years to the nearest birthday or the nearest age (in years) known. For infants less than six months enter'O' and for infants over six months enter 1." The instructions for recording the age during the 1941 Census were as follows, " Enter the age in years and months on the 1st day of March 1941 ; if precise date of birth is unknown state approximate age in years only. In the case of infants of less than one year old, write 'O' for years and give the number of months." Corresponding instructions at the 1951 Census were, " Write age on last birthday, that is the actual number of completed years. Write 'O' for infants below 1."

Fall in Birth Rate of State Explained with Reference to the History of Famines and Pestilence

20. A study of table 21 given above shows that during the decade 1921—30, the best fertility age-groups 30 to 35 (corresponding to 20—25 of 1911—20, or 10—15 of 1901—10 or 0—5 of 1891—1900) and 35 to 40 (corresponding to age group 25—30 of 1911—20, or 15—20 of 1901—10, or 5—10 of 1891—1900), as well as the late fertility age-group 40 to 45 (corresponding to age-group 30—35 of 1911—20, or 20—25 of 1901—10, or 10—15 of 1891—1900, or 0—5 of 1881—1890) were all those age-groups which were seriously depleted during the influenza epidemic as well as during the previous famines. These circumstances clearly explain the sharp fall in the birth rate from 45·5 in 1911—20 to 41·4 in 1921—30 as shown in Table 18 above. The fall might have been greater but for the better history of the age-groups of the early fertility period.

21. Similar study of Table 21 above shows that during 1931—40 the age-groups with history favourable to good birth rate were 25—30 and 30—35. The age group 35—40 had poor histroy, while the age-group 40—45 was definitely of the depleted nature with a very bad previous history. The net result of this age-structure was that the birth rate which was 41·4 in 1921—30 practically remained the same and was just reduced to 41·2 in 1931—40 (See Table 18 above).

22. During 1941—50, the main fertility period 25 to 35 was dominated by the highly depleted age-groups of the influenza epidemic and the birth rate was bound to fall very sharply, but it was to a certain extent counter-balanced by the age-groups at the two extremities of the fertility period. The age-group 35 to 45 had received good increments in the previous decades but it was at the end of the reproduction period. The age-group 15 to 25, on the other hand, was in the early fertility period and although it had received increments in the previous decades, the effect would not be very marked. These circumstances go a great way to explain the significant fall in the birth rate during the decade 1941—50 shown in Table 18, when it came down to 37 from 41·2 per cent in 1931—40.

Fall in Birth Rate of Natural Divisions Explained with Reference to the History of Famines and Pestilence

23. The behaviour of the birth-rate in the Natural Divisions can also be substantially explained with reference to the histroy of the famines and epidemics. The history of the influenza epidemic shows that the North-West Madhya Pradesh Division was affected most by the epidemic. Table 21 given above shows the percentage variation of population in the different age-groups during the five previous decades in the Natural Divisions.

24. The birth rate in the North-West Madhya Pradesh Division during the last three decades has been 41·2, 43·7 and 36·8, as shown in Subsidiary Table 1·3. In other words, there is an increase in the birth rate between 1921—30 and 1931—40 and a substantial fall during the period 1931—40 and 1941—50, as has already been pointed out above. A study of Table 21 would explain this typical behaviour of the birth rate. The rise in the birth rate during the period 1931—40 is explained by the comparatively higher increment of 30·9 per cent in the age-group 10—15 and also an increment of 6·7 per cent in the age-group 15—20 during the influenza epidemic decade 1911—20 as compared to the figures for the State as a whole given in Table 21 above. The steep fall during the second decade in the birth rate is, on the other hand, due to the fact that the highly affected age-groups 0—5 of the influenza epidemic decade 1911—20 was passing through the reproduction age during the period 1941—50. It is to be noted that this age-group in 1911—20 suffered a loss of 26·1 per cent in the North-West Madhya Pradesh Division compared to 18·8 per cent loss for the State as a whole.

25. The birth rates for the East Madhya Pradesh Division during the last three decades have been 39·4, 39·2 and 35·2, respectively. Here again, as in the case of the State as a whole, the birth-rate is almost steady during the first interval and shows a sharp fall during the second interval. A study of Table 21 above would show that the explanation given for the birth rate for Madhya Pradesh as a whole with regard to the influenza age-group passing through the reproduction period holds good in this case also, although it will be observed that the loss in the age-group 0—5 during the influenza epidemic in the East Madhya Pradesh Division was comparatively lower than that in the North-West Madhya Pradesh Division.

26. In the South-West Madhya Pradesh Division, the birth rates during the last three decades have been 43·8, 41·1 and 39·4. This Division thus behaves differently from the other two Natural Divisions inasmuch as there is a perceptible fall in the birth rate in the first as well as the second interval. Table 21 above shows that the famine histroy prior to 1911 had affected the South-West Madhya Pradesh Division most in the age-groups 5—10 and 10—15. In fact, in 1901—10 the age-group 10—15 was depleted by 18·4 per cent compared to 11·1 for the State as a whole, 9 per cent for the North-West Madhya Pradesh Division and 7·4 per cent for the East Madhya Pradesh Division. Again, the age-group 5—10 had only received an increment of 9·1 per cent as compared to 18·3 per cent for the State as a whole, 40·2 for the North-West Madhya Pradesh Division and 12·5 for the East Madhya Pradesh Division. These age-groups 5--10 and 10--15 of 1901—10 were passing through the mid-fertility period 35—40 and the late fertility period 40—45 during 1931—40 and this clearly accounts for the perceptible fall in the birth rate during the decade 1931—40. The fall in the birth rate during the second interval in the South-West Madhya Pradesh Division is associated with the influenza affected age-group 0—5 passing through the mid-fertility period as already explained above.

Fall in the Birth Rates Explained with Reference to the Number of Married Persons in the Population

27. The birth rate must naturally depend upon the proportion of married persons in the population at a given time. In Chapter VI, detailed explanation is given of how the number of married persons was affected by marriage legislation-the Sarda Act (Act No. XIX of 1929)-as well as by the influenza epidemic. The trend in the fall of the number of married women is significantly brought out in Subsidiary Table 6·7 given in Part I-B of the Report and discussed in Chapter VI, which shows that the number of married females per thousand of the total number of women in 1921 was 497 and on account of the marriage legislation it went up to 555 in the following decade, but was reduced to 506 in 1941 and to 495 in 1951. It is significant to note that the number of married females during 1941—50 was even lower than in 1921 and this is an important circumstance to be borne in mind in considering the drop in the birth rate during 1941—50. In Chapter VI it is further shown while discussing Subsidiary Table 6·8 that the proportion of married women within the fertility period of 15 to 44 years came down from 775 in 1941 to 763 in 1951, thus furnishing additional evidence to confirm the fall in the birth rate during 1941—50. The number of married women below 14 years of age also fell from 98 to 78 per thousand.

Effect of Death Rates Specific on the Birth Rates

28. The death rates specific for certain age-groups in Madhya Pradesh and the Natural Divisions for the decades 1931—40 and 1941—50 are given in Subsidiary Table 1·16 in Part I-B of the Report. It will be observed that the death rate has dropped considerably for the age-group 0—5 as well as for the age-group of 60 years and above, while there is a slight increase from 12·5 to 12·9 in the most fertile period 20 to 40. These circumstances have a direct bearing on the fall in the birth rate which is calculated per thousand persons of the population. It is obvious that when more people in the fertile age-groups die and the number of persons in the unproductive age-groups increase the calculated birth rate must fall.

Probable Trend of Birth Rate during the Decade 1951—60

29. The age distribution of the population at the 1951 and 1941 Censuses is given in Table 22 below:—

Table 22

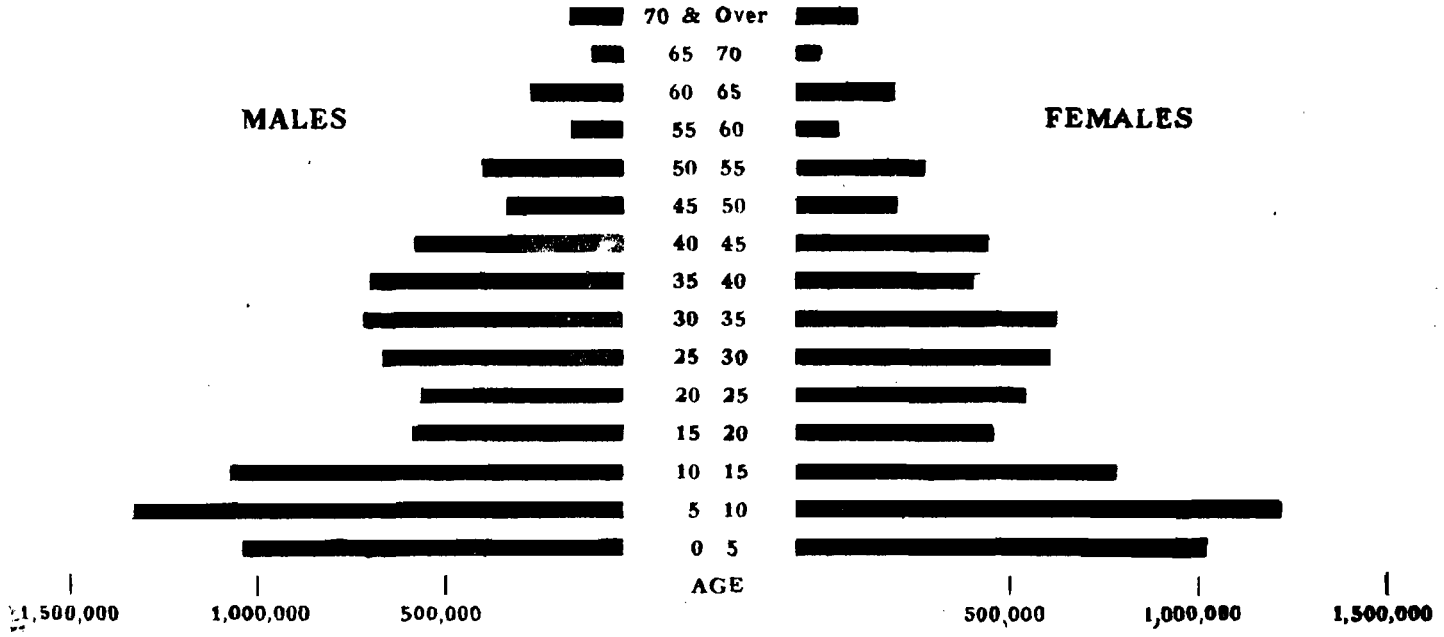
Age distribution of the population of Madhya Pradesh in 1951 and 1941.

Age-group	Number per 100 in each group in	
	1951	1941
Infants	3·4	2·4
Young children (1 to 4) ..	10·4	11·0
Boys and girls (5 to 14) ..	24·5	24·9
Young men and women (15 to 34).	32·4	34·3
Middle-aged persons (35 to 54).	21·1	19·6
Elderly persons (55 and over)	8·0	7·7

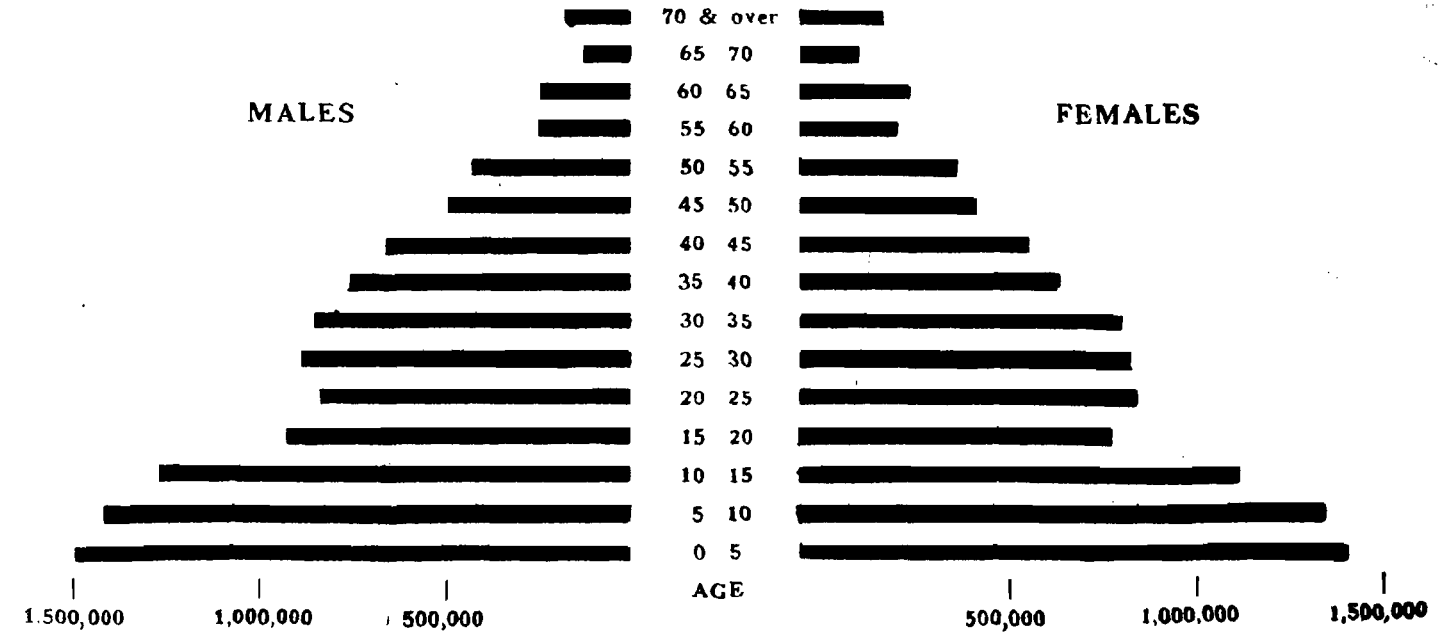
CHART I

Age Pyramids for Madhya Pradesh, for 1921 and 1951

1921



1951



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30. The above figures show that the combined percentage of young men and women and middle-aged persons has come down from 53·9 in 1941 to 53·5 in 1951. The fall amongst young men and women is significant being nearly 2 per cent. The indications for 1961 are that this percentage will further fall a little because the group of boys and girls, who will become young men and women during the next decade is already depleted by about 0·4 per cent. In other words, the percentage of people in the fertile age-group will further fall resulting in a fall in the birth rate.

31. The birth rate is also likely to be further damped on account of the increased percentage of elderly people and children. The effect of the rise in the number of elderly persons and children at a time when the people in the fertile age-groups is becoming less will be that the calculated birth rate per thousand of population will show a downward trend.

32. Table 21 given above also helps in studying the future trend of birth rate. The fertile age-group 15—45 of the decade 1951—60 can be divided into six quinquennial age-groups and their history can be traced back as shown in Table 23 below :—

Table 23

Fertile quinquennial age-groups of the decade 1951—60 *traced back to* 1911—20.

Age-groups for 1951-60	Corresponding age-groups for the decades			
	1941-50	1931-40	1921-30	1911-20
15—20 ..	5—10	..	..	..
20—25 ..	10—15	0—5	..	..
25—30 ..	15—20	5—10	..	..
30—35 ..	20—25	10—15	0—5	..
35—40 ..	25—30	15—20	5—10	..
40—45 ..	30—35	20—25	10—15	0—5
45—50 ..	35—40	25—30	15—20	5—10

33. The above table should be studied with table 21. The comparison shows that as a result of the previous history of famine and epidemic certain age-groups were depleted while others received increments as shown in Table 24 below :—

Table 24

History of the fertile quinquennial age-groups of the decade 1951—60.

Age-group	Percentage increase (+) or decrease (—) during past decades
15—20 ..	+0·4 (in 1941-50).
20—25 ..	—7·5 (in 1931-40).
25—30 ..	+21·6 (in 1931-40).
30—35 ..	+37·5 (in 1921-30).
35—40 ..	—10·7 (in 1921-30).
40—45 ..	—18·0 (in 1911-20).
45—50 ..	+17·2 (in 1911-20).

34. It is, therefore, seen that during 1951—60 the age-groups 20—25 and 35—45 will be the age-groups with bad previous history in which they were severely depleted. This is a good part of the fertility period and is bound to affect the birth rate adversely. The downward trend indicated by the previous history of the age-groups 20—25 and 35—45 will, however, be counter-balanced by the age-groups 30—35 and 25—30. Both these age-groups have a good history, when they received substantial increments. Similarly, the late fertility age-group 45—50 has also a good past history.

35. The net result of the analysis of the age-structure tends to show that the birth rate is likely to remain steady or might show slight variation during 1951—60. This conclusion is further confirmed from a perusal of the entries relating to the decade 1941—51 in Table 21, which shows the percentage variation of the population in age-group 20—40 during the decade 1941—51. It will be noticed that for Madhya Pradesh as a whole the entire age-group shows a percentage increment of only 1·5. In the North-West Madhya Pradesh Division it shows a depletion by 3·2 per cent. In the East Madhya Pradesh Division, there is an increment of 4·5 per cent, while in the South-West Madhya Pradesh Division there is an increment of 1 per cent. These figures tend to indicate that the downward trend in the birth rate in the North-West Madhya Pradesh Division is likely to continue during the next decade. Again, the birth rate in the East Madhya Pradesh Division may show some improvement while that in the South-West Madhya Pradesh Division is likely to be steady as in the State as a whole.

36. The age pyramids given in Chart I graphically show the age distribution in Madhya Pradesh in 1921 (soon after the influenza epidemic) and in 1951. The depletion and inflation of certain age-groups resulting from the epidemic and already referred to is clearly seen from the pyramid for 1921 while the pyramid for 1951 shows the present distribution which has a few typical points about it. The 15—20 years age-group of females is a depleted one and as it has entered the fertility period already it will have its effect in damping the birth rate to a certain extent as already pointed out during the next decade but the female age-groups below 15—20 are all inflated ones and they again confirm what has been stated above that after 1961 the birth rate may show an upward trend.

The Mean Age

37. The mean age of the population actually denotes the average age of the persons who were alive on the date of the Census. The simple formula by which this age is derived from the single year age

returns is to multiply each age by the total number of persons recorded in that age and then to divide the sum total by the total number of persons of all ages. The mean age thus arrived at for Madhya Pradesh at the 1951 Census is 24·06 years for males, 24·82 years for females and 24·43 years for all persons taken together. At the 1931 Census the mean age was calculated from the quinquennial age-groups with the help of a mathematical formula described in the Census Report. The mean ages at the different Censuses from 1891 have been as follows :—

MEAN AGE

Census of (1)	Males (2)	Females (3)
1891	24·04	24·02
1901	24·11	24·67
1911	24·18	24·48
1921	24·39	24·72
1931	23·65	23·77
1951	24·06	24·82

The mean age depends upon the proportion of the young and old people in the population. In 1921 the influenza epidemic affected the children most, thus unduly increasing the percentage of old people and consequently the mean age. In 1931 the old survivors of the epidemic died their natural deaths and the percentage of children increased with the result that the mean age went down. In 1951 when the influenza affected age-groups entered fertility the relative number of children again diminished and that of the old people increased showing a rise in the mean age. These facts are clear from a perusal of Table 25 given below which shows the percentage composition of the population at the different Censuses according to age-groups. It is derived from Subsidiary Table 1·18 given in Part I-B of the Report:—

Table 25

Percentage distribution of population by age-groups at the different Censuses from 1901.

Age-groups (1)	1901 (2)	1911 (3)	1921 (4)	1931 (5)	1941 (6)	1951 (7)
0—19	46·1	45·7	47·8	49·1	46·3	46·5
20—39	33·3	33·4	30·2	31·6	33·1	31·0
40—59	16·2	15·7	16·2	15·1	15·8	16·7
60 and over	4·4	5·2	5·8	4·2	4·8	5·7

THE DEATH RATES

38. Subsidiary Table 1·3 in Part I-B of the Report gives the death rates in the State and its different parts. Table 26 below gives these rates for Madhya Pradesh and the Natural Divisions and Sub-Divisions:—

Table 26

Mean Decennial Death Rates in Madhya Pradesh and the Natural Divisions and Sub-Divisions.

Decade (1)	Madhya Pradesh (2)	North-West Madhya Pradesh Division (3)	Nerbudda Valley (4)	Plateau (5)	East Madhya Pradesh Division (6)	Chhattis-garh Plain (7)	East Maratha Plain (8)	South-West Madhya Pradesh Division (9)
1921—30	31·8	32·5	35·1	28·3	29·8	25.6	28.1	33.3
1931—40	31·9	35·0	37·3	31·5	27·8	26·1	26·6	33·6
1941—50	30·3	31·5	33·0	29·0	28·1	26·2	28·2	32·1

39. It will be observed that the death rate for the State as a whole remained practically steady during the first interval but diminished by 1·6 per cent during the second interval.

REASONS FOR FALL IN THE DEATH RATE

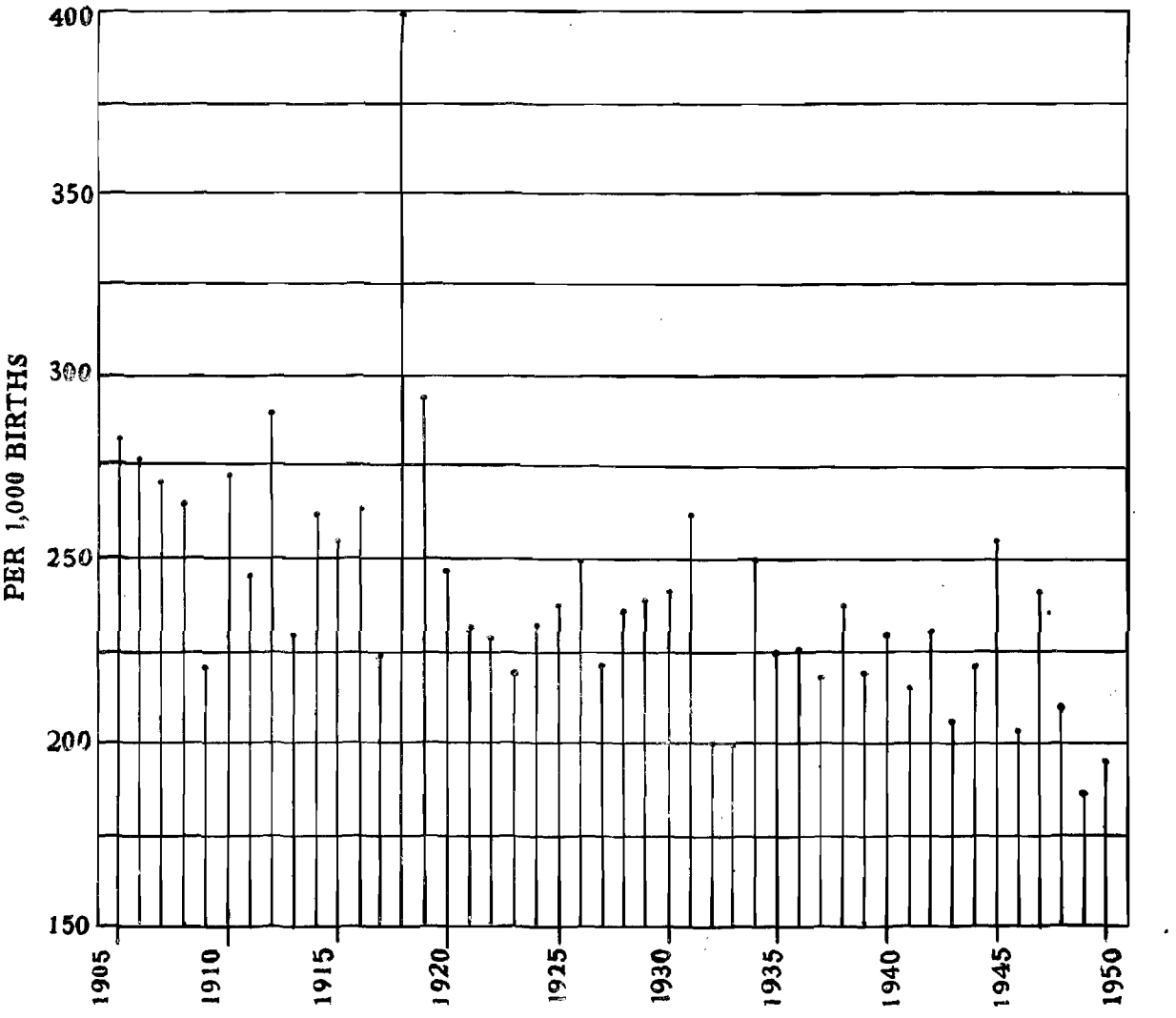
40. The main cause for this fall appears to be the reduction in infant mortality. We have already referred to the death rates specific given in Part I-B

CHART II

Infant Mortality Rates

Madhya Pradesh (excluding Integrated States).

1905 to 1950



[To Face Page 41]

of the Report while explaining the fall in the birth rate and we observed how the death rate has dropped considerably for the age-group 0-5 during the last decade. Table 27 given below shows the infant mortality in Madhya Pradesh during the last ten years :—

Table 27

Infant mortality in Madhya Pradesh from 1941 to 1950.

Year	Deaths	Proportion of infants, deaths below one year of age per 1,000 births	Urban and rural infant death rates in the State	
			Urban	Rural
(1)	(2)	(3)	(4)	(5)
1941	154,204	215·28	208·34	216·24
1942	155,285	232·31	227·71	232·96
1943	130,689	206·13	196·78	207·47
1944	145,037	221·38	203·07	223·94
1945	175,444	256·68	232·88	260·11
1946	131,359	202·74	176·04	206·62
1947	148,839	242·99	220·20	246·53
1948	124,028	209·74	192·28	212·48
1949	118,594	186·04	167·20	189·02
1950	118,556	196·07	161·75	201·69

41. It will be observed that during the last decade infant mortality in the State reached the alarming figure of 256·68 per thousand births in 1945, which was the most unhealthy year of the decade for the State as a whole. From 1948 onwards, however, the infant mortality rates have shown an encouraging downward trend.

42. That there is a real fall in infant mortality is corroborated from Subsidiary Table 6·9 (infants per 10,000 persons) given in Part I-B of the Report. This table shows that in every district the 1941 figures for infants are lower than those for 1951 as actually found at the two Censuses.

43. Chart II shows the variation in infant mortality from 1905. It shows clearly that although the rates have almost always been very high, there have been periods when declining tendencies have been noticed. In 1905, the infant mortality rate in the State was 284. By 1909, it came to almost 220, but suddenly jumped up to nearly 274 in 1910. Between 1910 and 1917, there have been fluctuations and in 1912 the rate was 292 and by 1917 it again dropped to about 225. In the influenza epidemic years of 1918-19 it touched the unprecedented figure on record of 399. The fall in the rate from 1918 up to 1925 was very noticeable when it came down to about 204. In 1926, it again jumped up to 252 and in 1931, it was as high as 266. Between 1932 and 1940, the mortality rates varied between 250 to 260.

44. We will refer to this chequered history of infant mortality when we consider the probable future trend of the death rate. Here it may be pointed out that the usual causes given in the Public Health Reports about the high infant mortality in the State are pre-maturity, mal-nutrition chiefly owing to want of mother's milk, diarrhoea, respiratory causes and fevers. Malaria is one of the principal causes of the infant mortality. It is well-known that the effect of malaria is to increase the death rate and to reduce the birth rate because it results in weakening of the health of the population.

HISTORY OF CRUDE DEATH RATES IN THE STATE

45. The estimated mean decennial death rates for the State as a whole during the last 50 years are given in Table 28 below :—

Table 28

The mean decennial death rates in Madhya Pradesh.

Decade	Mean decennial death rate
(1)	(2)
1901—10	33·1
1911—20	44·2
1921—30	31·8
1931—40	31·9
1941—50	30·3

46. Mortality due to wars, famines and pestilence of the past is referred to in Appendix "I", in which these calamities are briefly reviewed. The abnormal death rate in 1911—20 was due to the great influenza epidemic of 1918-19. A description of the epidemic and the unprecedented mortality connected with it has already been given. This was the last occasion when a major natural calamity took a very heavy toll of human lives in our State.

TREND OF DEATH RATES IN THE NATURAL DIVISIONS

47. Table 26 given above shows that compared to the figures of 1921—30 there is a fall in the death rate for each Natural Division. The North-West Madhya Pradesh Division as well as the South-West Madhya Pradesh Division shows a rise in the death rate during the first interval between 1921—30 and 1931—40 followed by a fall during the second interval

between 1931—40 and 1941—50. The East Madhya Pradesh Division, however, shows a fall during the first interval and a slight rise during the second interval. It is again to be noticed that the rise in the first interval in the North-West Madhya Pradesh Division is the highest being of the order of about 2·5 per cent, while in the case of the South-West Madhya Pradesh Division the rise is of only 0·3 per cent. The East Madhya Pradesh Division has, on the other hand, registered a fall of 2 per cent in the first interval.

48. The difference in the death rate during different intervals in the Natural Divisions is associated with the healthy and unhealthy intervals at different places. A perusal of the annual reports on Public Health shows that the increase of death rate during the decade 1931—40 in the North-West Madhya Pradesh Division is mainly due to deaths caused by fevers, respiratory diseases and "all other causes". During this decade in nine successive Annual Public Health Department Reports the Nimar district is shown to have accounted for a very high death rate due to the above causes. Hoshangabad district has similarly recorded high death rate in 1932, 1934, 1937, 1938 and 1939, while Sagar and Jabalpur have been mentioned as districts of high death rates in 1940, 1939 and 1937. Sagar is also mentioned in the Reports of 1932 and 1934 as having been unhealthy. Malaria has obviously been responsible for the high mortality in this Natural Division. A perusal of the figures given in Subsidiary Table 1·3 about the death rates of the individual districts in this Division shows that in every district the death rate has noticeably declined during the last decade. Another point of interest is that the death rate in the Plateau districts of Mandla, Betul and Chhindwara is comparatively lower than that in the other districts of the North-West Madhya Pradesh Division. One of the causes for this may be attributed to the defective registration and incomplete death statistics from these backward districts for reasons explained in the note on Vital Statistics in Appendix "O".

Causes of High Death Rates in the State

49. Amongst the diseases, which are responsible for heavy toll of human life in Madhya Pradesh, might be mentioned malaria and epidemic diseases including cholera, small-pox and plague. Tuberculosis is also a source of anxiety as the increased contact between the people of the villages and towns is apt to spread this disease. The total number of deaths from principal causes in Madhya Pradesh and the Natural Divisions during the last two decades is given in Subsidiary Table 1·17 in Part I-B of the Report.

Malaria

50. The heaviest mortality in Madhya Pradesh is due to malaria. The figures of deaths from malaria during the last 10 years derived from the Public Health Reports are given in Table 29 below:—

Table 29

Mortality from Malaria.

Year	Deaths from Malaria	Percentage of total mortality attributed to Malaria
(1)	(2)	(3)
1941 ..	269,253	50
1942 ..	285,573	53
1943 ..	254,109	54
1944 ..	264,607	51
1945 ..	309,245	57
1946 ..	247,007	52
1947 ..	305,583	51
1948 ..	258,466	50
1949 ..	235,337	49
1950 ..	233,135	50

Apart from the heavy mortality caused by the disease it considerably reduces the resisting power of the popu lation to other diseases and is indirectly responsible probably for a much larger percentage of deaths than the reported figures.

51. In the North-West Madhya Pradesh Division as well as in most of the integrated States and other backward districts of the State the incidence of malaria is extremely high. Up to the year 1946 the only steps taken to control this disease consisted in distributing quinine in extremely inadequate quantities and after 1946 some steps were taken to introduce modern methods of controlling malaria by using insecticides like D. D. T. and more potent preventive drugs like Paludrine. In Appendix "F" a note prepared by the Director of Health Services, Madhya Pradesh, on the review of the anti-malaria work done in the State during the last ten years is reproduced. It will be seen that between 1946 and 1951, 11 anti-malaria units were organized and in the very limited area in which these units functioned the hospital attendance dropped by 60 to 75 per cent within a few years.

52. In the adjoining Bombay State more extensive and exemplary work has been done to control malaria. The Hon'ble Dr. M. D. D. Gilder, Minister for Health to the Government of Bombay, has pointed out how "Experience with D. D. T.

during the war completely revolutionised the picture and opened up the field for the control of Malaria in rural areas..... The activities of the Bombay Malaria Organisation, which, starting from scratch, a few years ago has now (in 1950) a budget of nearly Rs. 2,700,000 and serves a population of 9,000,000. It is the intention of the Government of Bombay that this service at no distant date be extended to the whole State.* In concluding his book on malaria and its control in Bombay State, Vishwanathan says, "During 1949 it is estimated that about half a million cases of Malaria have been saved in the State of Bombay at a total cost of about 18 lakhs of rupees. Never before has it been possible to demonstrate that the prevention of disease is a worthwhile measure even from monetary considerations."†

53. The limited amount of anti-malaria work done in Madhya Pradesh from 1946 to 1951 has created a very keen demand amongst the villagers of the adjoining tracts and the Director of Public Health has pointed out in his note referred to above how people from villages outside the control areas are getting impatient and want them to be included in the scheme.

54. The Public Health problem of rural areas in the State is really difficult and from time to time recommendations have been made to have a separate District Health Officer in each district in addition to the Civil Surgeons to organise and supervise intensive Public Health work but unfortunately for financial reasons these recommendations could not be implemented. In the Annual Review of Health conditions in Central Provinces and Berar for 1945, the Director of Public Health says, "Ample evidence was furnished during the year of the unsatisfactory arrangement whereby the Civil Surgeons in charge of Districts are also responsible for Public Health measures. These officers are in most cases burdened with their clinical hospital work and have neither the time, nor the inclination, to attend to preventive medicine. It is intended that separate District Health Officers with Public Health qualifications should be appointed for each district in the new financial year."

55. In his report on the Aboriginal Problem in the Central Provinces and Berar, the late Sir W. V. Grigson, I.C.S., Aboriginal Tribes Enquiry Officer, said in 1944, "Nothing could have been more fatal than in pursuit of economy and retrenchment to abolish separate civil surgeoncies in aboriginal districts such as Mandla and Balaghat which really need not only a separate Civil Surgeon but an equally qualified District Health Officer."‡

56. In his note on "the Health Problem of the Aboriginal Tribes," Colonel Hance says, "The health problem of the aboriginal tribes may be summed up in two words : Medical Relief."§ Proceeding further he points out that malaria is the greatest problem in the State and adds, "to this disease alone is attributable the heavy infant and child mortality". Colonel Hance strongly recommended measures against mosquitoes in the larval stage and attack with insecticides upon the adult carrying mosquito in the houses and cattle-sheds of the villages. The anti-malaria work, started after 1946, aimed at waging a war against malaria on both these fronts with the latest scientific weapons, and although for want of sufficient funds, the scheme has not yet been well implemented, the limited measures taken have considerably reduced human suffering in the limited areas in which it has been put into operation.

57. The Chief Conservator of Forests, Madhya Pradesh, gives in a note¶ a graphic description of how anti-malaria operations practically converted a "death trap" into a healthy forest colony in the Raipur district and how efficiency in forest administration greatly improved.

58. There is, therefore, little doubt that with public opinion crystallizing in the matter, resources will be found in perhaps no distant future to effectively tackle this great health problem of the State and as soon as extensive anti-malaria work is undertaken under proper supervision, there is little doubt that the present high death rate of the State will considerably come down. Madhya Pradesh has the additional advantage of having the network of Janapada Sabhas and Gram Panchayats in the malaria infested parts of the State and they could probably organize anti-malaria squads of their own with the help of the Public Health Department.

59. In fact, the experimental work already done, the results achieved, and the keen demand created amongst the village people makes it reasonable

*"Malaria and its Control in Bombay State" by D. K. Viswanathan ; Foreword by the Honourable Dr. M. D. D. Gilder, pp. 1-2 (Chitrashala Press, Poo a 2).

†"Malaria and its Control in Bombay State" by D. K. Viswanathan, p. 263, *ibid.*

‡The Aboriginal Problem in the Central Provinces and Berar, by W. V. Grigson, p. 304 (Nagpur, Government Printing, Central Provinces and Berar, 1944).

§Note on the Health Problems of the Aboriginal Tribes by Col. J. B. Hance, C.I.E., O.B.E., M.D., M.A., B.Ch. (Camb.), F.R.C.S. (Edin.), L.R.C.P., V.H.S., I.M.S., reproduced in Aboriginal Problem in the Central Provinces by W. V. Grigson, pp. 304—307, *ibid.*

¶Annual Report of the Public Health Department in the Central Provinces and Berar, 1946.

to think that anti-malaria work would take rapid strides if encouragement is forthcoming from the State.

Control of Epidemics

60. The Director of Health Services, Madhya Pradesh, has summarised the developments made during the last ten years in fighting the epidemic diseases in the State as follows :—

"Summer cholera and winter small-pox health-weeks for mass inoculations and vaccination, especially of river side and road side villages, have been introduced since the year 1945-46. The Epidemic Diseases Act, 1882, has been amended. Under this Act, Cholera and Emergency Plague Regulations have been framed. Sanitary Inspectors of most of the Municipal Committees and Assistant Health Officers of this Department have been trained in plague control measures to combat the plague epidemic and to advise the local bodies in the matter. Two officers were also deputed for training at Bombay in Plague Control measures. Instructions with regard to prompt reporting of epidemic diseases have been issued by the State Government. In order to take immediate action to control epidemics, reporting system has been modified. The Public Health Act has been framed and provision made to reimburse the expenditure incurred by the local bodies according to the percentages fixed by the Government."

61. The Central Provinces and Berar Public Health Act, 1949, (No. XXXVI of 1949) is a comprehensive legislation intended to improve the Public Health of the State. The Act declares 23 principal diseases as infectious and 22 of them as notifiable ones. Stringent provisions have been included to prevent the spread of these diseases. With adequate Public Health staff in each district to implement the provisions of the law, mortality from epidemic diseases in the State could be reduced permanently with ease.

62. Cholera, plague and small-pox are the principal epidemic diseases, which account for a large number of deaths in the areas in which they appear from time to time.

63. Table 30 given below shows the number of deaths from cholera in the State for the last ten years, as also the statistics for anti-cholera measures. The figures relate to the old districts of the Central Provinces and Berar, excluding the Integrated States :—

Table 30

Mortality from Cholera and connected statistics

Year	No. of deaths due to cholera	Death rate	No. of anti-cholera inoculations	No. of wells disinfected
(1)	(2)	(3)	(4)	(5)
1941 ..	14,161	0·84	1,036,289	43,139
1942 ..	21,177	1·25	1,456,882	38,773
1943 ..	1,467	0·09	431,054	31,635
1944 ..	9,374	0·54	1,008,174	26,908
1945 ..	53,377	3·07	2,570,981	..
1946 ..	2,973	0·17	1,925,783	23,777
1947 ..	6,168	0·35	1,604,111	..
1948 ..	10,343	0·58	1,948,445	22,022
1949 ..	3,206	0·18	1,261,165	59,526
1950 ..	4,595	0·25	1,683,634	58,427

64. In his Annual Review of Health conditions in 1945, which proved to be a record year for cholera epidemic, the Director of Public Health remarked, "It will be appreciated that the prevention of cholera is a difficult and very large problem in the Central Provinces. In fact, *under existing conditions*, it is largely providence that limits the disaster which befell the Province last year and which will prevent its occurrence in future unless the recommendations made can be carried out. These may be summarised as follows in order of priority—(*a*) Education ; (*b*) Improvement of water-supplies ; (*c*) mass prophylactic inoculations in selected villages ; (*d*) mobility of staff by improvement of roads and provision of transport ; (*e*) the provision of facilities for isolation and treatment and of adequate ambulance services."

65. In spite of financial difficulties, the Public Health Department has tried to improve matters by inoculating large number of people year after year and also by disinfecting the wells to a certain extent, as would be seen from the figures given in Table 30 above. Fairs and cholera have been long associated together and many epidemics in the State have started from the fairs held either within or without the State. In Madhya Pradesh, fairs are held at about 360 different places within the State during a year. The peak daily attendance at these fairs varies from 500 to 100,000. Due to poor sanitation, the fairs prove to be local centres of outbreaks of cholera and dysentery epidemics and the Public Health Department has taken particular precautions to reduce the risk by trying to provide protected water-supply and resorting to mass inoculations.

66. Apart from the arrangements made at the fairs to provide protected water-supply, attempts are also being made to improve the water-supply position in the rural as well as the urban areas generally. The new department of Public Health Engineering has been made responsible for undertaking water-supply and drainage schemes of the different towns in the State at the cost of the Municipalities concerned. Up to 1949, fourteen Municipalities had deposited a sum of Rs. 1,82,400 for survey and investigation of their water-supply scheme. They included the Municipalities of Nagpur, Raipur, Amravati, Akola, Bilaspur, Jabalpur, Sagar, Damoh, Yeotmal, Chanda, Durg, Wani, Warora and Khamgaon. Surveys and investigations were completed in respect of six towns and first stage estimates were also submitted to the Municipal Authorities. The first stage of the Kanhan water-supply scheme for the Nagpur City has also been put into operation, while the protected water-supply system for Raipur has been completed.

67. In the rural areas, the Janapada Sabhas are given advice by the Public Health Engineering Department in improving their water-supply and during the year 1949 the State Government sanctioned a grant of Rs. 2,15,400 to the Janapada Sabhas for construction of about 166 new wells and for repairing 44 old wells.

68. There is no doubt that water-supply position in the urban areas will improve considerably if the schemes in hand are duly completed and if the Public Health Engineering Department gets necessary funds to proceed with their activities. On account of financial stringency, the original grant of Rs. 15 lakhs made in 1949 for improvement of water-supply in rural areas was curtailed to Rs. 4 lakhs. The progress in the rural areas is bound to be slow on account of similar difficulties and the vastness of the problem unless it is given high priority in the development plans.

69. Although the problem of controlling cholera in the State is beset with numerous difficulties and, as pointed out already, much depends at present on "Providence", yet the progress made, though limited, is significant inasmuch as it has indicated the lines on which this important problem needs to be tackled systematically and if the matter receives the attention it deserves from the people and the State, the element of chance in controlling the disease could be reduced to a minimum.

SMALL-POX

70. Next to cholera, small-pox has been responsible for a fairly large number of deaths during the last decade. While cholera has been very sporadic in character, small-pox mortality has been more or less uniform from year to year as would be seen from Table 31 given below :—

Table 31

Mortality from Small-pox and connected statistics.

Year	Deaths	Dath rate	Primary vacci-nations	Revacci-nations
(1)	(2)	(3)	(4)	(5)
1941 ..	2,746	0·16	517,862	206,191
1942 ..	1,210	0·07	503,116	186,289
1943 ..	1,396	0·08	498,760	203,318
1944 ..	3,877	0·22	504,768	468,549
1945 ..	8,441	0·49	503,076	924,409
1946 ..	4,565	0·26	490,523	917,705
1947 ..	2,255	0·13	468,422	655,444
1948 ..	3,421	0·19	513,684	781,167
1949 ..	1,747	0·10	498,273	507,936
1950 ..	4,614	0·26	541,590	640,115

71. In the unhealthy year 1945, in which there were 53,377 deaths from cholera, there were 8,441 deaths from small-pox. The figures after 1945 show a gradual and consistent fall in the death rate of small-pox. Commenting upon the ease with which small-pox can be controlled, Kingsley Davis remarks, "A disease such as small-pox is easier to control in a country like India than most other diseases. The act of vaccination is quite simple, it costs little per person, it can be accomplished on a mass basis with an exceedingly small medical staff, and it lasts for about ten years and is partially effective throughout life. This means, then, that no slow campaign of popular education, no costly govermental action, no systematic campaign of community sanitation, and no thorough-going reorientation of outlook or change of habits is necessary. In other words, small-pox control is agreeably easy in colonial and non-industrial areas where the control of many other diseases is difficult if not impossible."* If, therefore, our Public Health and District authorities undertake mass vaccination drives, we should be able to eliminate small-pox for good, as has been done in many other countries.

PLAGUE

72. Plague seems to have lost its original spectacular virulence and power to spread much earlier than other epidemic disease. Table 32 given below shows that at the beginning of the last decade, mortality from plague was fairly low and it reached the minimum figure of 144 in 1943. After a slight increase during the next two years, it was again 189 in 1946 ; but from 1947 onwards the mortality

*"The Population of India and Pakistan" by Kingsley Davis, p. 47, *ibid.*

has been increasing perceptibly in spite of comparatively large number of anti-plague inoculations performed as will be obvious from Table 32 below :—

Table 32

Mortality from Plague and connected statistics.

Year	Deaths	Death rate	Anti-plague inoculations
(1)	(2)	(3)	(4)
1941 ..	761	0·05	32,134
1942 ..	129	0·01	5,440
1943 ..	144	0·01	21,915
1944 ..	910	0·05	78,126
1945 ..	575	0·03	Not available
1946 ..	189	0·02	27,052
1947 ..	2,902	0·17	802,213
1948 ..	2,860	0·16	644,732
1949 ..	3,475	0·19	445,845
1950 ..	5,568	0·31	629,892

73. It is true that after the initial severity, plague subsided more or less without any notable Public Health work having been done. Medical opinion is divided about the causes of rapid decline of plague in India. Some believe that we do not know the cause and that it cannot be said that the disease would not flare up again. Others think that the most important reason is the evolution of a new race of rats immune to the malady.*

74. The increasing plague mortality figures for the last four years in Madhya Pradesh give cause for anxiety and bring into prominence the pertinent remarks contained in the Annual Review of Health Conditions in the Central Provinces and Berar, 1945, by the Director of Public Health, who observed, "The measures which are in force in the Central Provinces to prevent plague are most unsatisfactory". The necessity of intensifying preventive measures cannot be over-emphasised. Plague can be effectively controlled with the proper use of modern insecticides for disinfecting houses and godowns and by undertaking a drive for the destruction of rats, construction of rat-proof grain godowns and intensive anti-plague inoculations. Again when necessary if evacuation and isolation are insisted upon, the epidemic is effectively localised and subsides soon. The Public Health Report for Madhya Pradesh for the year 1949 shows that anti-plague training work is receiving the attention of the Department and if the problem is tackled seriously there is little doubt that plague mortality would be considerably reduced.

Epidemic and Travelling Dispensaries

75. The scheme of providing one Assistant Health Officer for every tahsil has been in force for the whole decade. On account of shortage of medical personnel, however, only 77 tahsils out of 116 could be equipped with Epidemic Dispensaries up to 1950. It is of interest to point out that during the year 1950, Health Officers on epidemic duty visited 7,606 villages and treated 64,586 patients and delivered 8,966 lectures on health subjects. Unfortunately the Public Health Department of Madhya Pradesh is provided with only one mechanised travelling dispensary and even this did not function during 1950 as the van "was completely worn out."

Tuberculosis

76. On account of difficulties of diagonosis the figures of deaths from tuberculosis are not reliable. Many such deaths are believed to be wrongly registered. The Health Survey and Development Committee, therefore, remarked, "It is not possible to estimate with any reasonable degree of accuracy the incidence of tuberculosis infection and of disease in the country as a whole or in different parts of it. There is reason to believe that the incidence is higher in urban than in rural areas and that, in both type of areas, infection is spreading and active cases of tuberculosis are increasing. The growth of towns and cities, the development of transport facilities and industrialisation are contributory factors to this increase and there is, therefore, the possibility that their adverse effect may be even more pronounced in the coming years."†

77. The available figures of deaths and death rates in respect of tuberculosis during 1950 show the death rate of pulmonary tuberculosis to be about 0·06. Commenting on the total number of reported deaths of 7,428 from all tubercular diseases, the Director of Public Health remarked in his annual review of Health Services for 1945, "In the conditions prevailing today, particularly in cities, it is safe to assume that deaths were high and that they are included among the many thousands shown under "Fevers", "Respiratory Diseases" and "Other causes".

78. Rapid urbanization is taking place in many of the districts of the State as will be pointed out in Chapter III. A perusal of Main Table A-IV in Part II-A of the Report will also show how the towns are developing fast. There has also been

*"The Population of India and Pakistan" by Kingsley Davis, page 45, *ibid.*

†Report of the Health Survey and Development Committee, Vol. 1, p. 102 (Government of India Press, Calcutta, 1946).

a large increase in road transport which will be discussed in Chapter V. These developments bring increasing numbers of village people into contact with the infected urban areas resulting in the easy infection of rural areas inhabited by people with no acquired immunity and possessing little power of resistance on account of their extremely low standard of living. Lt.-Col. W. H. Crichton has, therefore, rightly observed in the annual review referred to above that, "The prevention of tuberculosis is however, a very much larger matter and is in effect nothing short of the improvement of education, environmental hygiene, housing, nutrition and the economic standard of the people all of which are the concern not only of the Public Health but also of many other Departments."

79. There is at present one Tuberculosis Sanitorium at Pendra road in the Bilaspur district with 190 beds and four Tuberculosis Clinics at Nagpur, Jabalpur, Raipur and Amravati. The number of patients attending these clinics during 1950 was reported to be 35,622. Commenting on the inadequate provision for treatment of tuberculosis the Health Department and Survey Committee observe :—

> "In relation to the vast problem that tuberculosis constitutes in this country the existing provision for the treatment of such patients is altogether inadequate. A wide expansion of institutional provision and of other anti-tuberculosis activities will be necessary if the disease is to be brought under proper control."*

80. The B. C. G. vaccination drive is recently started in the State and its sustained use might go a great way in immunizing the people against tuberculosis.

New Diseases

81. Influenza and plague came to us from abroad along with the foreigners and wiped out a part of the population from time to time before we acquired any immunity against them. There are other deadly diseases which have not yet infested our country. "Yellow fever for instance, despite its presence in Africa and other parts of the world, has never visited the Indian sub-continent; yet the conditions for its spread are ideal if the virus should ever be brought there, the mosquito which carries the virus being indigenous and widespread in the region."† Our increasing contacts with foreign countries might expose us to such dangers unless we are alert and take advantage of the latest methods of preventing such diseases.

The Vital Resources of the People

82. Apart from the threats of the new or dorment epidemics which will continue to hover over our people till our public health and welfare services are made really efficient, we have also to face death on the food front. Gyanchand points out, "Our people are in a continual process of liquidation. Their vital resources are low. They have to draw upon them for their every day normal existence, and when a contingency arises—and such contingencies must be numerous under the conditions prevailing in India—which require the use of reserve powers, they cannot hold their own."‡ In view of the increasing difficulties in the matter of food supplies associated with the increase in the population and fall in per capita production (discussed in Chapter IV), the situation has deteriorated further in acquiring adequate physical resistance to face famine or disease. If, therefore, the food situation were to get out of control on account of political or economic dislocation or due to the worsening of the international situation affecting our food imports and plans, mass starvation would be inevitable. In short, when the people are living on sub-nutritional and barely enough diet resulting in low vitality, if any calamity, be it an epidemic or a famine, whether natural or man-made, were to befall them, it would perhaps surpass the worst scourge of the past and would leave behind a trail of sorrow and suffering never known before.

The Future Death

83. Having discussed the causes of our present high rates of mortality and having observed the limited ground covered by our Public Health measures, we find that we have to depend at present almost completely on Providence to save our masses in the villages from the jaws of death and we cannot justifiably attach much weight to the recent slight fall in the death rates, which, as we have seen, is mainly associated with the fall of uncertain duration in the infant mortality and is mainly confined to the urban population which is only 13 per cent of the total population. Taking into consideration however, the gradual improvement in medical facilities and the attempts made towards better control of epidemic diseases and the general progress of medical science resulting in the discovery of new

*Report of the Health Survey and Development Committee, *ibid.*
†Sir John Megaw, "Public Health. The Great Diseases of India", quoted in "Population of India and Pakistan" by Kingsley Davis, p. 42.
‡Gyan Chand, "India's Teaming Millions", p. 130. George Allen and Unwin).

drugs and also bearing in mind the general desire to improve medical facilities in the villages, we may expect that the downward trend of the death rate may continue during the next decade if no unusual calamity befalls us.

The Natural Increase and the Migration-cum-Registration Error

84. Up to now we have considered births and deaths separately. We will now proceed to consider their combined effect to ascertain the natural increase of population which is the difference between births and deaths during a particular decade. It is well known that actual births exceed registered births and actual deaths exceed registered deaths and, therefore, if we try to compute the natural increase from the registered births and deaths an element of error is bound to creep in. This is called the registration error. The natural increase can, however, be ascertained if we know the Census growth and the net migration during the inter-censual period, because the Census growth, which is the difference between the Census population at the beginning and end of the decade, is obviously composed of the excess of actual births over actual deaths (the natural increase) *plus* the net migration. Or, in other words, this growth is composed of the excess of registered births over registered deaths *plus* the component representing the net migration and the registration error.

85. In Section IV on 'Movement', we have considered the question of net migration into the State during the periods 1921—30 and 1931—50 and we found that the net migration into the State during these decades has been approximately 95,752 and 190,000 respectively. We will proceed to determine the registration error presently, but before we proceed to do so, we will ascertain the natural increase during the above two periods by subtracting the net migration from the corresponding Census growth of population.

		1931—50	1921—30
I.	Census population at the beginning of the period.	17,791,896	15,796,282
II.	Census population at the end of the period.	21,247,533	17,791,896
III.	Growth of population during the period.	3,455,637	1,995,614
IV.	Increase (+)/Decrease (—) due to migration.	+190,000	+95,752
V.	Natural increase during the period.	3,265,637	1,899,862

Significance of the Natural Increase

86. The figures given above show that excluding migration, the population of the State has increased by about 1·899 millions during the ten years 1921—30. In other words, the percentage increase of the population in 1931 over the mean population of the decade was about 11·3, or about 1·13 per cent per annum. During the period 1931—50, however, the actual increase of the population is of the order of 3·266 millions showing that the population has increased by 16·7 per cent over the mean population of the period 1931—50. Or, in other words, the annual increase has slowed down to 0·84 per cent. The reason for this slowing down of the natural increase is obviously due to the fall in the birth-rate which is associated with the previous history of famines and epidemics in the State, as has been fully discussed above.

The Registration Error

87. The problem of determining the registration error is beset with difficulties. For reasons given in Appendix "O", the registration system in the integrated States is deemed to be defective and the vital statistics of these areas are unreliable and cannot be made use of for any useful calculations. Reasonably reliable vital statistics figures are, however, available for the old districts of Madhya Pradesh, excluding the integrated States. Here again, there have been certain transfers of territory during the last three decades and we have to depend upon the figures of births and deaths adjusted on a *pro rata* basis. The second difficulty is about ascertaining the net migration for the area for which reliable vital statistics are available. The net migration figures arrived at in Section IV above are based on calculations for the State as a whole on the basis of figures of the previous censuses available in the previous Census Reports. Figures of emigration are not available for units smaller than the State including the integrated States. For purposes of rough estimation, however, we may adopt proportionate figure of net migration for the old districts of Madhya Pradesh for which reliable vital statistics are available.

88. For reasons given above, Subsidiary Table 1·3 contains two sets of population figures. The first set contained in columns (2) to (4) gives the mean population of the entire State as constituted in 1951, while the second set contained in columns (5) to (7) gives the mean population of the decade for area under registration of births and deaths. As has been explained in the fly-leaf to the table, the figures in columns (5) to (7) for Madhya Pradesh

and the Natural Divisions refer to the mean population of only the old districts of Madhya Pradesh excluding the integrated States and as adjusted at the 1951 Census. Similarly, the figures of registered births given in columns (14) to (16) and registered deaths given in columns (20) to (22) refer to the adjusted births and deaths respectively in the adjusted territory, of which the mean population is given in columns (5) to (7).

GROWTH-RATE IN THE STATE COMPARED WITH THE GROWTH-RATE IN THE AREA UNDER REGISTRATION

89. It is interesting to compare the growth-rate of the State as a whole during the last three decades with the growth-rate in the area under registration :—

—	1921—30	1931—40	1941—50
Growth-rate of the State ..	11·9	9·8	7·9
Growth-rate of area under registration.	10·9	9·3	7·2

90. The differences in the above rates of growth shown by the State Census population and the population of the area under registration are due mainly to the differential rates of growth of population in the integrated States, which have now merged into Madhya Pradesh. For instance, during 1921—30, the integrated States, which accounted for nearly one-eighth of the combined State, recorded a population growth-rate of 20 per cent. Some of this high growth-rate is, as already pointed out, due to improvement in enumeration and partly due to causes connected with migration and fertility. These differences indicate that as reliable vital statistics are available only for the area under registration, an analysis of population growth might be confined to this area and as pointed out above, the net migration might be approximately calculated on proportionate basis from the figures already arrived at in Section IV.

THE GROWTH OF POPULATION IN THE AREA UNDER REGISTRATION

91. The growth of population may be split up into its two components—

(i) net gain or loss due to migration, and

(ii) natural increase due to the excess of births over deaths.

According to the registered births and deaths, this excess was of the order of 1·397 millions in 1921—30, representing the increase of 9·6 per cent of the relevant mean population. The corresponding increase in 1931—40 was 9·3 per cent and in 1941—50 it was 6·7 per cent. If the registration records were correct, the balance of the growth rate of registration population over the recorded natural increase would be *plus* 1·3 in 1921—30, 0·0 in 1931—40 and *plus* 0·5 in 1941—50. These figures would represent the rate of increase in population due to migration alone.

92. From the data presented below it is seen that the available information on migration is not equal to this balance. It is, therefore, reasonable to conclude that the balance includes an element due to under-registration of vital events and that the last mentioned set of percentages really indicates what may be called the "migration-*cum*-registration error" during the three decades. It is composed of what we have described above as the "registration error" and a component representing the net migration.

93. As pointed out before, figures of net migration in the State for the periods 1931—50 and 1921—30 have been arrived at in Section IV above, where the details of the calculations have been referred to. It is pointed out there that as the figures of migration for the periods 1931—40 and 1941—50 are not available separately, the net migration for the period 1931—50 and for the decade 1921—30 only have been calculated.

94. The Census growth-rate of the population of the area under registration during 1931—50 was 16·4 and the corresponding rate of natural increase was 15·8 giving the migration-*cum*-registration error of 0·6 per cent. Again, as we have seen above, the Census growth-rate of population of the area under registration during 1921—30 was 10·9 and the corresponding rate of natural increase was 9·6 as given in Subsidiary Table 1·3. Therefore, the migration-*cum*-registration error during 1921—30 was 1·3.

95. On the basis of the net migration figures of 190,000 and 95,752 for the State as a whole for the periods 1931—50 and 1921—30, respectively, arrived at in Section IV above, we find that the proportionate figures for the area under registration come to approximately 150,756 and 75,776 for the two periods, respectively. By relating these approximate inter-censal gains due to migration to the mean population of the periods 1931—50 and 1921—30 we find that the net gain due to migration comes to 0·9 per cent during 1931—50 and 0·5 per cent during 1921—30. It, therefore, appears that during 1931—50, a decrease of 0·3 per cent of the mean population and that during 1921—30 an increase of 0·8 of the mean population is still unaccounted for. It will be interesting to see what this signifies in terms of under-registration of vital events of births and deaths.

96. An analysis based on the actual figures of population, registered births and deaths adjusted for the relevant territory and available figures of migration has been made below for the two periods 1931—50 and 1921—30 :—

—	1931—50	1921—30
I. Increase in registration area population.	2,741,883	1,579,300
II. Less migration gain	150,756	75,776
III. Natural increase based on census data.	2,591,127	1,503,524
IV. Excess of actually registered births over deaths.	2,652,099	1,396,632
V. Difference of III and IV ..	−62,177	106,892
VI. Difference as a percentage of natural increase.	—2	+7

97. The significance of the percentage shown against item VI in the above paragraph may now be considered. As against the expected natural increase derived from the census data, the registration natural increase was deficient by 7 per cent in 1921—30. There are omissions in the registration of births as well as deaths and, as is generally believed, omissions in the registration of births are more than those in the case of deaths. The registration error referred to here represents the absolute excess of omissions in births over those in deaths. If the deficiency in the registration of births and deaths be the same, it would indicate that the percentage of under-registration of vital events was of the order of 7 per cent. If, however, the percentage omission in births is higher than that in deaths, the figure of 7 per cent would indicate the lower limit for the deficiency in the registration of births. In practice, the percentages of omission in births and deaths are not very different and, therefore, it would appear safe to conclude that during 1921—30 the deficiency in the registration of vital events was of the order of 7 per cent.

98. As regards the interpretation of the negative deficiency during 1931—50, it may be stated that the proportionate figure of net migration adopted for the period is of a doubtful nature and a reasonable conclusion from the analysis seems to be that during the period 1931—50 the excess of registered births over registered deaths in Madhya Pradesh is not very materially different from the excess of actual births over actual deaths.

The Migration-cum-Registration error for the Natural Divisions

99. It is not possible to give a detailed analysis of the migration-*cum*-registration error in the case of the Natural Divisions or districts as has been done above in the case of the State for the simple reason that the figures required for such analysis are not available. In fact, emigration figures are not known for units smaller than the State, but on the basis of the analysis of the migration-*cum*-registration error for the State as a whole, some idea could be had of the extent to which registration error may be supposed to exist in the Natural Divisions and this might enable us to estimate the approximate volume of migration into the particular area and to compare it with the known facts about such migration. Even for this limited purpose, the figures have to be used with the utmost caution because the registration error would not be uniform in the different Natural Divisions.

Significance of Negative Migration-cum-Registration Error as Given in Subsidiary Table

100. A perusal of Subsidiary Table 1.3 given in Part I-B of the Report shows that in the South-West Madhya Pradesh Division during the decades 1931—40 and 1941—50 the migration-*cum*-registration error is of a negative character. In all the districts of this Division, except Nagpur, the figures indicate the negative error. In the Nagpur district, there is heavy immigration on account of the industrial developments and the circumstances are, therefore, different as already explained. The negative error in the other districts indicates emigration from these districts and, as we have already discussed (in Section IV—Movement) above, there is a distinct movement from the South-West Madhya Pradesh Division into the adjoining States of Bombay and Hyderabad.

101. In the North-West Madhya Pradesh Division also, the characteristics about the negative character of the migration-*cum*-registration error are noticeable in certain districts in Subsidiary Table 1.3 and we have already referred to the movement of population indicated by these figures. The typical case of the Hoshangabad district deserves being mentioned again. In all the three decades, the migration-*cum*-registration error is negative and we have already shown how there is a distinct outward movement from the district. Migration from the Hoshangabad district has taken place, as pointed out, not only into the several districts of Madhya Pradesh itself but also perhaps into the nearby States of Bombay, Madhya Bharat and Uttar Pradesh, where substantial number of emigrants from Madhya Pradesh have been enumerated, as is clear from a perusal of Subsidiary Table 1.5 as well as from the discussion given above in Section IV—Movement.

SECTION VI.—LIVELIHOOD PATTERN

1. During the 1951 Census, great emphasis was laid on ascertaining the economic status and means of livelihood of the people in accordance with the Indian Census Economic Classification Scheme, 1951, prepared by the Registrar-General and reproduced in full in Part II-B (Economic Tables) of the Census Report as pointed out before.

Importance of Definitions of Terms Used

2. The Scheme has several new features and although terms, such as "Cultivators of land wholly or mainly owned", "Cultivators of land wholly or mainly unowned", "Non-cultivating owners of land and agricultural rent receivers", "Self-supporting persons", "Earning dependants", etc., mentioned in the Scheme, are of very common use, they have specific meaning attached to them and unless this is very carefully understood, there is every likelihood of drawing very erroneous conclusion by trying to compare the 1951 Census Economic Data with figures of other economic enquiries made in the country. With a view to clearing these points even at the stage of enumeration, exhaustive instructions were issued to the Enumerators and four interesting articles specially written in simple language for the benefit of the general public, explaining the Census Economic Enquiry, were contributed by Shri V. S. Krishnan, Deputy Secretary to the Government of Madhya Pradesh in the Publicity Department, and they were published in the local languages and in English in all the important papers of the State. Appendix 'U' and the Annexures thereto contain the entire Census Questionnaire with the instructions issued to the Enumerators. The definitions of the terms used, as well as the practical difficulties encountered in putting across the questions, are fully described there. The articles are reproduced in Appendix 'P'. These two Appendices should be carefully gone through after studying the original Census Economic Classification Scheme given in Part II-B of the Report and before making any use of the figures collected at the Census and discussed in this Report. It will be noticed that the difficulties encountered in putting across the economic questions were overcome by—

(*a*) dissemination of the true doctrines, and

(*b*) the removal of objections by giving State-wide publicity to the Census Questions and their meaning and by intensive training of the staff.

Accuracy of Economic Data

3. For purposes of ensuring accuracy of the answers obtained from the people, precautions were taken at all stages. The more important of them are summarised below :—

(*a*) Intensive training was given to the Supervisors and Enumerators and every Census Officer did his best to see that the Enumerators in his charge were clear in their minds about the scope of the questions, the method of asking them and of recording the replies.

(*b*) The Economic questions were all included in the National Registers of Citizens which were first written by the Supervisors who were the Patwaris in the rural areas and municipal or Government servants in the urban tracts. These registers were checked for nearly six weeks by the Superior District Officers before the Census began, and during the Census the Enumerators had the advantage of referring to these registers prepared by the more experienced and permanent public servants. The Supervisors as well as the Enumerators were people having intimate knowledge of the locality in which they were appointed.

(*c*) All available means of educating the people and making them familiar with the questions and their object were availed of :—

(i) Press conferences were addressed by the Home Minister of Madhya Pradesh and the Registrar-General himself.

(ii) Popular articles on the Census Economic Enquiry were published in all newspapers of the State in Hindi, Marathi and English.

(iii) Talks were given in public meetings and on the Radio and these were again published in the newspapers in the different languages.

(iv) A special booklet on the duties of citizens was issued with particular emphasis on the economic enquiry and copies were widely distributed throughout the State in English, as well as in the local languages and the contents were also published in the newspapers.

(v) All officers in charge of Census work made it a point to lay particular stress on the Census Economic Enquiry while explaining the importance of the Census to the people during their tours.

(*d*) An intensive checking drive was organized in each district with the help of the officers of all departments of the State Government and the replies recorded were checked by all touring officers. At no other previous Census were special census tours allowed to be undertaken by officers of different departments to the extent permitted at the 1951 Census on account of the importance attached to the Economic Enquiry and the supreme need of verifying the data collected at spot.

(*e*) During my extensive tours I made it a point to lay great emphasis on the economic questions and when the National Registers of Citizens and the enumeration slips were being filled in, I made it a special point to check a certain percentage of entries in respect of the economic questions and it was a matter of great satisfaction that the actual number of material errors were negligible. Answers to question No. 10 were almost invariably written at length and left little scope for any misunderstanding or misclassification about the principal means of livelihood. Even with regard to question No. 9 (1) I did not find any significant percentage of mistakes and in the vast majority of cases the answers actually recorded were found to be correct. The efforts made by the Enumerators to get the true answers were no doubt strenuous in the case of illiterate joint families. The secondary means of livelihood were as carefully recorded in actual practice as answers to question No. 10. The percentage of mistakes in respect of answers to question No. 9 (2) was comparatively more but as most of these were noticed in respect of agriculturists they had little significance as the agriculturists were not classified on the basis of this part of the Census question.

(*f*) With a view to minimise errors of classification at the stage of sorting of slips detailed instructions were given to the sorters.

These instructions which are based on the Indian Census Economic Classification Scheme mentioned above are reproduced in Appendix 'Q'. It may be mentioned that during the sorting of the slips in the tabulation offices it was found that answers to questions Nos. 9, 10 and 11 were very carefully written and exhaustive details were given where necessary.

4. The actual economic information collected at the Census, therefore, gives a good and reliable picture of the condition of the people of the State. The Main Tables prepared from the data collected are contained in Part II-B of the Report, while the Subsidiary Tables are contained in Part I-B. In this Section we shall review Subsidiary Table 1·8 (Livelihood pattern of the general population).

The Livelihood Classes

5. The eight livelihood classes into which the people of the State are divided according to the Classification Scheme, mentioned above, and which will be referred to frequently hereafter, are as follows :—

Agricultural Classes

I.—Cultivators of land wholly or mainly owned ; and their dependants.

II.—Cultivators of land wholly or mainly unowned ; and their dependants.

III.—Cultivating labourers ; and their dependants.

IV.—Non-cultivating owners of land ; agricultural rent receivers ; and their dependants.

Non-Agricultural Classes

Persons (including dependants) who derive their principal mean of livelihood from—

V.—Production other than cultivation.

VI.—Commerce.

VII.—Transport.

VIII.—Other services and miscellaneous sources.

Distribution of Population According to Livelihood Classes

6. Subsidiary Table 1.8 gives the distribution of 10,000 persons of general population amongst the eight livelihood classes mentioned above. A perusal of the table shows that in Madhya Pradesh 76 per cent of the people belong to the agricultural classes, and 24 per cent to the non-agricultural classes. Amongst the four agricultural classes, the owner cultivators represent the largest number. In fact, about 49·5 per cent of the population of the State is shown to belong to Class I, while about 20·4 per cent belongs to the category of agricultural labourers. The non-cultivating owners of land and cultivators of unowned land constitute hardly 1.6 and 4.5 per cent of the population. It is to be remembered that ownership of agricultural land for purposes of Census includes such tenures as those of "Raiyats" in Raiyatwari villages and "Occupancy tenants" in Malguzari or other villages. The test of ownership is existence of a right which should be heritable, but may or may not be transferable. Therefore, all tenants, who hold such tenancy and who cultivate the land, would be regarded as owners of the land.

Position of Malguzars and Zamindars

7. It is on account of this definition of ownership of land that we find a large number of people under Livelihood Class I and comparatively few under Class IV. The Malguzars and Zamindars really owned estates and not the lands in the estates. Lands in the estates were always owned by the innumerable people of Livelihood Class I. The income of the Zamindars and Malguzars consisted of statutory rents paid by the people of Livelihood Class I, who were really owners of the land. The Land Reforms Legislation and the abolition of Malguzaris and Zamindaris will, therefore, hardly affect the livelihood pattern of the population as given in Subsidiary Table 1·8 except that persons belonging to Livelihood Class IV will further dwindle down.

The Non-Agricultural Classes

8. Of the 24 per cent of the people of non-agricultural classes in the State, 10·6 per cent belong to Livelihood Class V (Production other than cultivation) and of the balance 7·5 per cent belong to the Miscellaneous category in Class VIII, while about 1.5 per cent belong to the Livelihood Class VII (Transport) and about 4.4 per cent to the Livelihood Class VI (Commerce). It is to be remembered that Livelihood Class V also includes people deriving their principal means of livelihood from such industries as stock raising, rearing of small animals and insects, plantation industries (such as orange, banana and other plantations), forestry and woodcutting, hunting and fishing, which are included in Division "O" of the Industries and Services Classification explained in Part II-B of the Report. In other words, these industries akin to and associated with agricultural activities are also included in Livelihood Class V along with the numerous other industries of Divisions 0 to 4. Details of distribution of the people engaged in the industries under these Divisions will be found in Subsidiary Tables 5·8 to 5·12 and are discussed in Chapter V.

Low Percentage of People under Transport

9. The comparatively small number of people engaged in Livelihood Class VII (Transport) also deserves attention. It is to be noted that under the Indian Census Economic Classification Scheme, mentioned above, all railway employees are not classified under Transport. The scheme visualises classification of individuals and not the establishments in which they are employed. Therefore, railway employees, who are employed on manufacture, assembly and repairs of railway equipment and those employed on construction works are shown under Livelihood Classes V and VIII, respectively, and all other railway employees are classified under Livelihood Class VII (Transport).

The Livelihood Pattern of the General Population in the Three Natural Divisions

10. Cultivators of owned land belonging to Livelihood Class I are to be found in the largest number in the East Madhya Pradesh Division, where the percentage is as high as 62·8, while their number is the lowest in the South-West Madhya Pradesh Division, where it is about 28·1. In the North-West Madhya Pradesh Division the percentage is 46·5. In the case of the cultivating labourers the position is entirely different. The South-West Madhya Pradesh Division has the highest percentage (30·7) and the East Madhya Pradesh Division the lowest (16·4). The North-West Madhya Pradesh Division has 17·4 per cent of cultivating labourers.

High Percentage of Agricultural Labourers in the South-West Madhya Pradesh Division

11. The preponderance of the people belonging to Agricultural Class III in the South-West Madhya Pradesh Division can be traced from the past. Table 33 given below is prepared from the available Census figures from 1901. As there was no tabulation for occupations in 1941, the figures for the Census of 1941 are not available. The table gives the percentage of field labourers and farm servants including non-earning dependants to the adjusted population for the years 1901 to 1921 and 1951. Adjustment of area in respect of the old Chhattisgarh States and the Sambalpur territory of the Raipur district, which has been transferred to Orissa, has been made in the East Madhya Pradesh Division for preparing the table. Other minor adjustments have not been taken into account. The figures for 1931 are not given in the table because the entire population was not classified at this Census and non-earning dependants in each livelihood class are not available.

Table 33

Percentage of field labourers and farm servants in the total population.

Natural Division and State	Farm servants and field labourers			
	1901	1911	1921	1951
(1)	(2)	(3)	(4)	(5)
Madhya Pradesh	26·2	27·6	26·9	20·4
North-West Madhya Pradesh Division.	21·7	25·8	25·7	17·4
East Madhya Pradesh Division	21·8	17·4	21·1	16·4
South-West Madhya Pradesh Division.	46·8	39·7	37·9	30·7

12. The above figures clearly show that the percentage of agricultural labourers and farm servants has always been high in the South-West Madhya Pradesh Division and the reasons will be presently examined by us. It will also be observed that the percentage of people of Livelihood Class III has distinctly fallen. In 1931, the percentage of earners and working dependants of the agricultural labour class to the total population was 20·8 in Madhya Pradesh. Similar percentage for the self-supporting persons and earning dependants only at the 1951 Census was 13·74, showing a fall of about 7 per cent. In comparing the figures of the previous Censuses with those of 1951, the circumstances about the change of enumeration procedure referred to in Section IV should be borne in mind, because prior to 1941 the casual labourers coming from outside the State for harvesting operations were all enumerated if they happened to be present at the particular place on the Census night. During the 1951 Census, such people were not enumerated unless they were away from their houses for more than twenty days. The effect of the change is most noticeable in the figures given in the above table in the case of the North-West Madhya Pradesh Division, where the wheat-harvesting gangs are a notable feature of the tract. In paragraph 26 below, we will discuss the fluctuations of the percentage of population amongst the agricultural livelihood classes, where we will notice how the percentage of cultivators has increased while that of the labourers has come down.

Reasons for the Large Number of Agricultural Labourers in the South-West Madhya Pradesh Division

13. Cotton cultivation including picking of cotton requires a large labour force, and this mainly accounts for the typical livelihood pattern in the cotton-growing area.

14. A perusal of Subsidiary Table 4·1, in which statistics for distribution of 1,000 agricultural holdings by the size of holdings is summarised, will show that the number of holdings of over 10 acres is the largest in the South-West Madhya Pradesh Division, while it is the smallest in the East Madhya Pradesh Division. On the other hand, holdings below 3 acres are the largest in the East Madhya Pradesh Division and the smallest in the South-West Madhya Pradesh Division. The point of interest at present, in referring to this table is to note the fact that in the South-West Madhya Pradesh Division, on account of the large size of the agricultural holdings, the number of people of Agricultural Class III is bound to be high. Similarly, with the smaller holdings in the East Madhya Pradesh Division we have the largest number of owner-cultivators with comparatively small number of cultivating labourers. The question of distribution of holdings will be discussed in detail in Chapter IV.

Distribution by Livelihood Classes in Natural Divisions Further Considered

15. The figures given in Subsidiary Table 1·8 also show that in the East Madhya Pradesh Division, which mainly consists of the districts of Chhattisgarh Plains, nearly 83·5 per cent of the people depend mainly on agriculture, while in the North-West Madhya Pradesh Division the proportion is about 70·3. In the South-West Madhya Pradesh Division, which contains the main industrial areas of the State, the proportion is only 68 and about 32 per cent depend upon industrial and other activities. It is also interesting to note that the actual percentage of people in Livelihood Class V—Production (other than cultivation) (which includes all industries) is practically the same in the North-West as well as in the South-West Madhya Pradesh Division. Industries connected with mining and quarrying and the Ordnance Factory, etc., in the Jabalpur and Chhindwara area obviously account for the fairly large number of people belonging to the Livelihood Class V in the North-West Madhya Pradesh Division. The textile industry and the Miscellaneous industries in Berar and the districts of Nagpur and Wardha account for the industrial population in the South-West Madhya Pradesh Division.

Miscellaneous Sources

16. The largest percentage of people belonging to Livelihood Class VIII—Other Services—Miscellaneous Sources is to be found in the South-West Madhya Pradesh Division. This livelihood class contains the members of all the public services, legal profession, health and educational institutions, domestic, religious, charitable, welfare, construction and utility services, etc. The industrial area of Nagpur with the State capital and the seat of University and the High Court, therefore, naturally contains the largest percentage of the people belonging to this livelihood class compared to the other two Divisions.

Commerce

17. Commercial activity is also most prominent in the South-West Madhya Pradesh Division, while in the East Madhya Pradesh Division it is at the lowest level as is seen from the percentage of figures of people belonging to the Livelihood Class VI—Commerce. In the North-West

Madhya Pradesh Division also, people of the commercial class are comparable in percentage to those in the South-West Madhya Pradesh Division. Commenting on the relatively large percentage of commercial people in the Nerbudda Valley, the Census Superintendent of the 1931 Census has made the following observations: "The numbers employed in trade in the Nerbudda Valley are also relatively larger than they are in other parts. This is only to be expected in a division where Brahmans, Kayasthas, Banias and other well-educated castes are definitely concentrated."

Transport

18. People belonging to the Livelihood Class VII—Transport are noticed in the largest number in the North-West Madhya Pradesh Division, the percentage being 2·13. In the South-West Madhya Pradesh Division, it is 1·98, while in the East Madhya Pradesh Division, it is 0·83. The significant percentage in the North-West Madhya Pradesh Division is natural when it is remembered that this Division contains some large railway settlements, such as Itarsi, Jabalpur, Nainpur, Katni, Chhindwara and Amla as well as two cantonments. The South-West Madhya Pradesh Division with its industrial and motor transport activities comes next to the North-West Madhya Pradesh Division in Livelihood Class VII—Transport. In this Division also, there is the important railway settlement at Nagpur. In the East Madhya Pradesh Division, apart from the limited motor and railway facilities the vast rural areas have their bullock-carts, buffalo-carts, tonga, pack-animals and even transport by head and shoulder loads.

Cultivators of Unowned Land

19. While going through the Subsidiary Table 1·8, the Jabalpur district in the North-West Madhya Pradesh Division, the Yeotmal district in the South-West Madhya Pradesh Division and the Raipur, Bilaspur and Durg districts in the East Madhya Pradesh Division attract particular attention as the number of cultivators of unowned land belonging to Livelihood Class II is found to be abnormal in these cases. In Yeotmal, it is exceptionally high being 13·48, while in Jabalpur and the three Chhattisgarh districts it is abnormally low varying between 1·0 and 1·93. The average for the North-West Madhya Pradesh Division is 4·4, that for the South-West Madhya Pradesh Division 6·9 and that for the East Madhya Pradesh Division it is 3·15.

20. The low figures in the Chhattisgarh Plains and the comparatively higher figures in other parts particularly in the South-West Madhya Pradesh Division reflect, to a certain extent, the effect of the fragmentation of holdings and extremely poor standard of living, which prevails in the Chhattisgarh, where we have the largest percentage of owner-cultivators. In the South-West Madhya Pradesh Division we have the more well-to-do cultivators who lease out some of their land to others. The typically low figure of cultivators of unowned land in the Jabalpur district of the North-West Madhya Pradesh Division might be compared with the relative figure of the Nagpur district with reference to the figures of the other districts of the South-West Madhya Pradesh Division and it will be noticed that these industrial districts have much greater percentage of people in the non-agricultural categories.

Comparison of Economic Data Collected at Different Censuses

21. The principal change involved in the 1951 classification of economic activities as compared to the 1931 Census is the setting up of a comprehensive economic classification of the people as a whole and not merely of those who are engaged in gainful occupation. Commenting on the inadequate Census classification in the past, Chandrasekhar says, "There are no reliable or complete statistics available regarding the classification of the total population according to occupations. The 1941 Census has omitted such a classification, while the 1931 Census gives classification only for persons following occupations (*i.e.*, earners *plus* working dependants *plus* those following callings as subsidiary occupations). The rest of the population which is numerically larger representing mainly non-working dependants, remain unclassified, and there is no way of classifying them in terms of their occupation except by inference, on the precarious assumption that the proportion of non-working dependants to workers is constant throughout."* The 1951 classification removes this defect.

22. In 1931, statistics were collected for "earners" and "working dependants". The percentage of the earners was 42, that of working dependants 10·8 and the deduced percentage of non-working dependants was 47·2. During the 1951 Census, the total of the figures for self-supporting persons, which correspond to the "earners" of 1931, comes to 30·3 per cent, while that of the earning dependants is 25·4 and that of the non-earning

*S. Chandrasekhar, "India's Population—Fact and Policy", page 79 (Indian Institute for Population Studies, Annamalai University, Chidambaram).

dependants is 44·3. The total percentage for self-supporting persons and earning dependants comes to 55·7 in 1951, while in 1931 it was 52·8. Thus, although the over-all picture of self-supporting persons and earning dependants has not changed much, the separate figures differ appreciably. This is obviously due to the confusion about correctly recording the "earners" and "earning dependants" as pointed out in the 1931 Census Report.

23. Detailed comparison of the occupational figures of the 1931 Census with those of the 1951 data is not practicable on account of the change in the method of classification already referred to. Tentative comparison on the basis of approximate livelihood classification is, however, made in Subsidiary Table 5·6 in Part I-B of the Report. In table 34 given below, a comparison is made between the percentage of self-supporting persons and earning dependants to the total number of all self-supporting persons and earning dependants in the entire population at the 1931 and 1951 Censuses because the figures of non-earning dependants are not available for the 1931 Census. For the 1921 and the 1951 Censuses, however, full details for the entire population are available and in the last two columns of the table the percentage of the actual population belonging to the different livelihood classes is also given.

24. The figures in columns (3) and (5) of Table 34 given below also show how far the assumption is justified that the percentage of workers in a livelihood class represents the percentage of the whole population belonging to the particular class. It will be noticed that the difference, though small, is significant:—

Table 34

Comparison of Livelihood Classification at different Censuses.

Livelihood class	Percentage of self-supporting persons and earning dependants to the total number of all self-supporting and earning dependants in the State		Actual percentage of population depending on different livelihood classes	
	1931	1951	1921	1951
(1)	(2)	(3)	(4)	(5)
I to IV. Agricultural classes (all agricultural classes).	77·7	80·4	74·0	76
Non-Agricultural classes (persons who derive their principal means of livelihood from)—				
V. Production (other than cultivation).	10·4	9·6	12·7	10·6
VI. Commerce	3·9	3·0	4·5	4·4
VII. Transport	0·6	1·0	1·1	1·5
VIII. Other services and Miscellaneous sources.	7·4	6·0	7·7	7·5

25. A comparison of the figures in columns (2) and (3) of Table 34 shows that the proportion of bread-winners has increased in the agricultural classes and shows a slight fall in Livelihood Class V. This is mainly due to the fact that the earning dependants amongst the agriculturists were better enumerated this time perhaps because the reasons associated with "prestige" in refusing to admit the work done by members of families at the previous Census were not effective to the same extent now due to the change in the social outlook. The comparative figures in Table 34 tend to show clearly that the industries in our State have not continued to absorb our increasing population even to the extent of the proportion which existed in 1921 and 1931 and that the pressure on agriculture is increasing. The fall in the percentage of bread-winners as well as the population in Livelihood Class VIII also attracts attention. That miscellaneous sources of livelihood have also failed to absorb proportionate share of the increasing population seems to be clear.

Fluctuations in the Agricultural Livelihood Classes

26. At the 1921 Census 45·8 per cent of the total population belonged to the class of cultivators corresponding to Livelihood Classes I and II of the 1951 Census, while the corresponding percentage now is 53·97. Similarly, the "rent receivers" of 1921 constituted 1·2 per cent of the total population compared to 1·6 per cent in Livelihood Class IV of 1951. As pointed out in paragraph 11 above the percentage of farm servants and field labourers in 1921 was about 27 compared to 20·4 at the 1951 Census. Similar comparison with the data of the 1931 Census is not practicable as the entire population was not classified at that Census as already pointed out, and as mentioned before we can only compare the percentage of 13·74 of the self-supporting persons and earning dependants taken together to the total population of 1951 with similar percentage of 20·8 of the principal earners and working dependants of the 1931. Census as given in Subsidiary Table 5·6 in Part-I-B of the Report. The percentage of self-supporting persons and earning dependants of livelihood Classes I and II of the 1951 Census to the total population, which comes to 30, can also be compared with the corresponding percentage of 20 during the 1931 Census. If we compare similar percentages for Class I and Class II separately we find that the percentages for 1931 and 1951 for Class I are 19·17 and 27.51, respectively, and for Class II they are 0·82 and 2·65, respectively. Similarly, the percentage of 0·32 of the principal earners and working dependants of the rent receiver class of

1931 to the total population may be compared with the corresponding percentage of 0·87 for livelihood Class IV of the 1951 Census. The significant point to be noted in these comparisons is that while the over-all percentage of agricultural classes to the total population has hardly changed, there is significant reduction in the percentage of agricultural labourers and similar increase amongst the cultivators of classes I and II. The probable reason for the increase in the number of cultivators is associated with the Land Reforms legislation, which aimed at recognising the actual tiller of the soil as the real cultivator. The question of the difficulties of the agricultural labourers and their slender income is discussed in Chapter IV, Section VI, where the economic classification of the agricultural labouring classes is dealt with. It may be interesting to refer to that discussion also, as it might throw light on other probable causes for the fall in the percentage of the agricultural labourers.

Livelihood Pattern of Madhya Pradesh Compared with Other States of India

27. Table 35 below gives comparative statistics for Madhya Pradesh and some of the other States of India with regard to the livelihood pattern of the general population according to the 1951 Census :—

Table 35

Livelihood Pattern of Madhya Pradesh and some of the other States of India.

Name of State	Percentage of population mainly dependant on agriculture	Percentage of population dependant on: Production (other than cultivation)	Commerce	Transport	Other services and miscellaneous sources
(1)	(2)	(3)	(4)	(5)	(6)
Madhya Pradesh..	76·00	10·60	4·39	1·47	7·54
Bombay	61·46	13·76	7·61	2·23	14·94
Orissa	79·29	6·33	2·90	0·53	10·95

Table 35—*cont.*

Name of State	Percentage of population mainly dependant on agriculture	Percentage of population dependant on: Production (other than cultivation)	Commerce	Transport	Other services and miscellaneous sources
(1)	(2)	(3)	(4)	(5)	(6)
Bihar	86·05	3·94	3·40	0·72	5·89
Uttar Pradesh ..	74·19	8·38	5·03	1·36	11·04
Madras	64·9	12·4	6·7	1·7	14·3
Assam	73·34	14·68	3·90	1·28	6·80
Punjab	64·52	7·32	9·14	1·05	17·97
Pepsu	72·55	7·31	7·65	3·98	8·51
Delhi	9·87	17·32	22·71	5·46	44·64
Bilaspur	90·72	4·39	1·73	0·24	2·92
Himachal Pradesh	92·97	2·38	1·61	0·41	2·63
Hyderabad ..	68·16	13·54	5·12	1·30	11·88
Rajasthan ..	70·87	8·88	6·58	0·94	12·73
Vindhya Pradesh	87·13	4·59	2·80	0·43	5·05

28. The figures show that Madhya Pradesh is amongst the first few states of India in which over 75 per cent of the people belong to the agricultural classes. That this is so inspite of the enormous mineral resources of the State is a significant circumstance, which has considerable importance, when it is remembered that "this over-crowding in agriculture, besides creating occupational unbalance and involving a tremendous waste of human labour, has led to the continuous sub-division and fragmentation of holdings which is perhaps the greatest single defect in our agriculture."* We will consider the question of the distribution of holdings and the economic condition of the agricultural classes in Chapter IV.

*"Indian Agriculture and its Problems" by A. N. Agrawal (Delhi : Ranjit Printers, 1951).

SECTION VII.—CONCLUDING REMARKS

General Distribution and Density

1. In this Chapter we have reviewed the distribution and growth of the general population in the State and have noticed that the distribution is comparatively most uniform in the South-West Madhya Pradesh Division, which has also the highest density of 231 persons to a square mile, while it is most uneven in the East Madhya Pradesh Division, which has the density of 149 persons to a square mile. This Division contains some of the most backward and undeveloped tracts of the State with vast forest and untapped mineral resources. The distribution in the North-West Madhya Pradesh Division is fairly even in the fertile Nerbudda Valley, but is not so in the backward Plateau Sub-Division. The mean density of the Division is 146 persons to a square mile.

The Growth Rate

2. We have noticed that the growth in the State has shown a fall during the last three decades. The three factors, on which the rate depends, are migration, births and deaths. The net gain in the population of the State on account of migration during the decade 1921—30 was about 95,752 persons, while during the period 1931—50 the corresponding gain was 190,000 including 112,771 displaced persons. The effect of net migration on the growth of population of the State as a whole is thus very limited. Disturbances in the death rate during the decades have also been slight and the fall in the growth rate is essentially due to the temporary fall in the birth rate which is associated with the occurrence of natural calamities in the past, resulting in a violent distortion of the age-structure, as a result of which certain age-groups were badly depleted and their passing through the fertility period in the subsequent decades has brought about the fall in the birth rate.

Trend of Future Birth Rate

3. On the basis of the analysis of age-structure and the percentage of married persons, etc., discussed (in Section V) above we have come to the conclusion that the birth rate in the State as a whole is likely to be steady during the next ten years after which it would rise resulting in a rapid growth of the population unless the normal trends are otherwise disturbed. Amongst the Natural Divisions the birth rate in the North-West Madhya Pradesh Division will probably show further fall during the next decade, while that in the East Madhya Pradesh Division might increase a little and that in the South-West Madhya Pradesh Division might remain steady as in the case of the State as a whole.

Factors likely to affect the trend of future birth rates

Family Planning

4. The religious obstacles to a birth-control policy are not regarded as serious in India. S. Chandrasekhar says, "In India apart from the general rural conservatism of the masses that offers resistance to any reform, there is no organized resistance to birth-control either by the Government or the church as in some countries. Nor are the Indian religions opposed to planned families."*

5. Apart from religious beliefs and conservative ideas, there is considerable amount of divergence of opinion on questions of birth-control in the country. While Dr. C. Chandrasekaran, Director, United Nations Office of Population Studies, believes that it is too late in the day for little minds to waste time discussing the pros and cons of the desirability of conception control as great minds have deliberated on the question thread-bare long ago and have given a verdict in its favour, unfortunately the view does not find favour with many. Thus, for example, in the Diwali Special Number of the "Nagpur Times", an article appeared under the heading "Vinoba's Indictment of Five-Year Plan", describing an interview between the Secretary of the Planning Commission and Shri Vinoba Bhave at Paunar in Madhya Pradesh.—

"Shri Patil.—Should we not refer to the rising population of India in our report?

Shri Vinoba.—Don't you know what General Petain, the Commander-in-Chief of France said? He said, "We lost the war for fewer children". In Russia we find that those who produce the maximum number of children are held in high esteem. Rewards are given to those who produce the highest number of children. A drive to decrease the population of our country would, therefore, prove suicidal to the defence of the country. Family planning should come as a natural result of better life."† It may be noted that the density of population in U. S. S. R. is 23 persons to a square mile as compared to 281 in India.

* India's Population—Fact and Policy, by S. Chandrasekhar, page 129 (Indian Institute for Population Studies, Chidambaram).
† The "Nagpur Times"—Diwali Special Number, 1951 (Nav Samaj Press, Nagpur).

6. In the same article, another relevant passage occurs, " In respect of family planning you say, 'Produce less children'. I ask, who are you to tell people to do so ? Are you our servants or masters ? Your duty is to feed us. I do not think the population of India is inordinately high. For instance, the proportion of population in Japan is no less than what it is here. But there the land is bearing the burden of population four times greater proportionately than in India. Do you know what section of the people would be affected by your propaganda for birth-control ? It is the rural population among whom birth rate is higher and needs to be decreased. The birth rate is higher in the rural areas, because of miserable social conditions. The way out is not birth-control, but a new and better way of life. I would not interfere with the growing birth rate directly. But I would insist on an improved way of life which would automatically operate as a check for inordinate growth of population."* The problem of birth-control propaganda and its effects on the urban population is discussed in Chapter III.

7. Mahatma Gandhi's views on the subject were as follows: There can be no two opinions about the neessity of birth-control. But the only method handed down from ages past is self-control or Brahmacharya. It is an infallible sovereign remedy doing good to those who practise it. The union is meant not for pleasure but for bringing forth progeny. And union is criminal when the desire for progeny is absent."

8. That over-growing population is a sign of grave danger is emphasised by many scholars. Thus, it was predicted long before the second world war that the over-growing population in Japan was a sign of catastrophe. "Population authorities predicted the future aggressors years before the Second World War. Japan was the future aggressor named by Harold Cox in 1923 and by Dublin in 1926, five years before the Manchurian incident. Thomson wrote in 1929 that Italy is in much the same situation as Japan that the population problem is urgent and likely to lead to war. He and other population authorities named all three of the aggressors Japan, Italy and Germany".† Again where the over growing nation is weak and war is ruled out abject poverty is another curse which brings untold miseries and we need hardly repeat the horrible tales in this connection. In other words where the population problem becomes urgent and is not attended to with vision and foresight, sorrow and suffering in one form or the other must inevitably follow.

9. Commenting on the alarming population growth in India S. Chandrasekhar says, " Some students of Indian demography have been greatly impressed by the alarming rate of increase, for India is apparently adding the population of a Spain or a Poland, or an England every decade."‡ Proceeding further he remarks, "It must be confessed that the growth of population is dragging the present admittedly low standard of living steadily and rapidly downward."§

10. The Planning Commission set up by the Indian National Congress made the following recommendation in one of their resolutions, " In the interest of social economy, family happiness and national planning, family planning and limitation of children are essential and the State should adopt a policy to encourage these. It is desirable to lay stress as well as to spread knowledge on cheap and safe methods of birth-control. Birth-control clinics should be established and other necessary measures taken in this behalf and to prevent the advertisement of harmful methods."

11. In the Draft Outline of their report, the Indian Planning Commission have said, " On the whole, it is evident that unless steps are taken deliberately to reduce the birth rate, the upward trend of population will continue ; since improvement in medical facilities, and better control of epidemics, together with the measures taken to provide a certain minimum of food for the poorer sections of the community should help to lower the death rate further." ||

12. It will, therefore, be seen that even with scholarly opinion in the country in favour of family planning progress in that direction is bound to be slow, because even after being convinced of its necessity there are people who after Mahatma Gandhi object to the artificial means of birth-control and advocate moral restraint pointing out that birth-control practiced on a mass scale would lead to licentious immorality and promiscuous sex relations which will attain such proportions that the law will be forced to descend violently to prevent deterioration of National moral standards. There are however other people who point out instances of even ***Rishies*** of yore who

* The "Nagpur Times"—Diwali Special Number, 1951 (Nav Samaj Press, Nagpur).

† Population Pressure War and Poverty by H. R. Hinmman and W. I. Battin, Jr. pages 9-10 (Arthur W. Cross, Inc. New York, Newgersy, 1916).

‡ S. Chandrasekhar, India's Population—Fact and Policy, page 22 (Indian Institute for Population Studies, Annama University, Chidambaram).

§ S. Chandrasekhar, India's Population—Fact and Policy, *Ibid*, page 6.

|| The First Five-Year Plan—A Draft Outline, page 206, Government of India Planning Commission, July 1951.

failed to practice moral restraint and they argue that to offer this as a method of birth-control to an average man is not to understand the frailties of human nature and further that unless a realistic attitude is taken by the leaders and the Government of the country with regard to family planning, the overgrowing population will bring about serious consequences. It would be of interest to mention here that even in Western Countries fertility responded much less quickly to modernization, as is pointed out by Notestin, who says, "The reasons why fertility failed to decline with mortality are clear enough in general terms... (societies) having to face the heavy mortality characteristic of the premodern era, must have high fertility to survive. Their religious doctrines, moral codes, laws, education, community customs, marriage habits and family organisations are all focused towards maintaining high fertility. These change only gradually and in response to the strongest stimulation."*

13. Pointing out how through voluntary restriction of family the birth rate came down in Western Countries the Population Commission of the United Nations make the following observations in their report, "The evidence reviewed points to the conclusion that the decline of fertility in Western Countries has been due primarily to voluntary restriction of family size and not to any impairment of the physiological capacity to reproduce. The motives are only imperfectly known. Among authors who have considered the question there seems to be general agreement that the desire for smaller families stems from deep changes in the structure of society, in the attitudes of the people, and in their modes of life, which changes were closely linked with the development of the competitive and capitalistic industrial economy and with the rising standard of material welfare. Among the specific changes mentioned in this connection are the growing emphasis on the individual at the expense of the family and the Church ; the development of popular education and of science, and acceptance of the idea that men can master his destiny ; the emancipation of women and their employment outside the home ; the transformation of children from an economic asset to a burden, often accompanied by personal inconvenience for the parents ; the multiplication of wants, the growing feeling of insecurity, and the development of competitive urges to improve one's status in the community, to accumulate capital, and to provide a large inheritance for one's children, all of which conflicted economically with the desire for a large family ; the decline of mortality which reduced the number of births necessary to assure a given number of surviving children in the family.".†

14. The circumstances under which the revoluntionary nature of limited families was brought about in the Western Countries are also described by the Royal Commission on Population in Great Britain as follows, "The decay of small scale family handicrafts and the rise of large scale industry and factory organisation ; the loss of security and growth of competitive individualism, the relative decline in agriculture and rise in importance of industry and commerce, and the associated shift of population from rural to urban areas ; the growing prestige of science which disturbed traditional religious beliefs ; the development of popular education ; higher standards of living ; the growth of humanitarianism ; and the emancipation of women."‡ These economic, social and cultural forces which are gradually making themselves felt in our country will take time to gather momentum. While considering the question of the fall in the average family size in Great Britain the Commission further observe, "The process, however, which has been slow in the recent past, does not seem likely to be any faster in future. Indeed it may well be slower. The minority who do not control the size of their families include many persons who have objections to birth control on religious grounds. It also includes considerable numbers who are in some degree subnormal in intelligence, foresight or sense of responsibility, and who, therefore, are not readily susceptible to the ordinary considerations that make for control of family size."§ While it is the minority in Britain which does not control the size of the family, it is the majority in our country which does not do so not perhaps due to any real conscious objection, except in the case of a few, but for want of adequate facilities and lack of knowledge on the subject and failure to appreciate the urgency of the problem.

15. The typical cottage agriculture of ours in which women and children join in income earning activities is another factor which is likely to delay progress in family planning. Similarly, our cottage industries plans will also assist in maintaining the present economic and social structure of the villages which encourages larger families. Consequently, while the urban and industrial areas are likely to respond early to the family planning schemes, the rural areas are bound to be slow in this respect with their mass illiteracy as another hurdle for them to cross.

* Notestin, Frank W. "Population—The Longview" quoted in the United Nations Economic and Social Council Studies on Relationship between population trends and Economic and Social Factors, paragraph 318 (E/CN. 9/55).

† United Nations Economic and Social Council (Population Commission 5th Session). Findings of studies on the relationships between population trends and Economic and Social Factors. (E/CN.9/55/Add. 2nd May 1950), paragraph 10.

‡ Report of Royal Commission on Population, page 38 (London: His Majesty's Stationery Office).

§ *Ibid*, page 76.

Effect of Industrialization on the Future Birth Rate

16. The industrial development of the State which is merely a matter of time, will be a very dominating factor in the growth of population affecting both the birth as well as the death rates. Industrial expansion brings about a very rapid rate of population growth followed by a declining rate until stability is reached. In fact there are economists who are of the opinion that once "we achieve some sizable economic progress the Indian Population is likely to assume manageable proportions".* On the analogy of the effects of Industrial revolution in the other countries, they feel that "economic progress has itself after a time-lag a tendency to slow down the rate of increase".† The question whether such a comparison is justified now in the case of India is yet another problem because we will be having our industrial progress under two adverse circumstances—

(*a*) we are now at a very late stage in history when other highly industrialised nations have captured most of the markets and when even they are not sure of their future export trade. The Royal Commission on population in England remarks "experience does not suggest that it is likely to be easy for us in future to find steady purchasers for a greatly increased volume of British exports..... . Great practical importance may, therefore, attach to the consideration that every increment in numbers will increase much more than proportionately the imports, and consequently the exports, needed to maintain a given standard of life. For it may well prove that the difficulty of finding and holding export markets would increase progressively with the dimensions of the export trade we have to do in order to balance our accounts".‡ Apart from the difficulties of markets for our exports, there are serious obstacles in developing our industries as is aptly pointed out by Gorwala, who says, "At present, the total factory strength in the country is 3 millions. It is sometimes held that for one new man in industry, three can find occupation in services. Now merely to double the existing factory population in the next ten years would mean tripling existing industrial equipment, for new design equipment needs a much smaller labour force and most Indian factories carry some surplus labour. If indeed this increase could be brought about within the time stated and it must be remembered that even physically, it is a tremendous task, 12 million people at the most would be absorbed in industry and service as against an increase of 49 million in the same period. The cost too must be counted. It has been estimated that a capital investment in industry of Rs. 14,000 per worker is not in present circumstances too large. The absorption of three million extra workers in ten years means provision of Rs. 4,200 crores. It will be seen that the problems of the absorption of even a small portion of the increase of population are of such dimensions that the most strenuous efforts seem unlikely to produce satisfactory results."§

(*b*) The second handicap for us is even more serious. When the Europeans increased rapidly during the Industrial Revolution, the growth was made possible mainly because America and Oceania were virgin soils which were being brought under the plough and exploited, giving cheap food to them and providing space for the over-flowing population, as has been explained in the comparative study of the growth rates discussed in Section III above, where we have pointed out the fallacy of comparing the European growth with ours. (See pages 14—15). In our case the situation is entirely different. Not only have we no empty America or Oceania in which to spread out or to meet our food requirements, but our own food resources are being rapidly out-stripped by our population during the last three decades as we will see in detail in Chapter IV. That industrialisation will bring about a millennium in India is, therefore, an extremely doubtful proposition.

17. In other words, the hope of rapid increase in the standard of living as a result of industrial developments and consequent automatic reduction in fertility might not be fulfilled. On the other hand, the fast growth rate would damp all efforts to improve the economic status of the people and, therefore, it might be wise to take a more comprehensive view of the problem and to plan for population control side by side with the industrial and agricultural developments.

The Future Death Rate

18. We have considered in detail the Public Health activities and the attempts to fight death and we have seen that the progress so far made is extremely modest. Certain activities recently started in connection with malaria control and improvement of water-supply are however, likely, to reduce the death rate further, particularly when it is remembered

* Indian Population by D. G. Karve in introduction by C. N. Vakil of School of Economics and Sociology, University of Bombay, page IV (College of Commerce, Poona, The National Information and Publications, Ltd).
† *Ibid*, page iv.
‡ Report of the Royal Commission on Population, page 108 (London: His Majesty's Stationery Office).
§ A. D. Gorwala, Retd. I.C.S., "Food and Population"—Speech delivered at the First All-India Conference on Family Planning, 1951 (Report of the First All-India Conference on Family Planning, Bombay, Associated Advertisers and Printers, Limited).

that malaria alone is responsible for about 50 per cent of the deaths in the State and is one of the principal causes of the extremely high infant mortality also. During the decade under review the infant mortality in Madhya Pradesh had reached the alarming figure of about 257 deaths per thousand births in the year 1945—a rate which is amongst the highest in the world. Cholera, which is a water-borne disease, has also been responsible for wiping out quite a number of people from time to time and the measures, which are now being taken to provide protected water-supply at the numerous fairs in the State by the new Public Health Engineering Department, might remove the principal source of this epidemic which frequently starts from these places.

19. Plague is also, as we have seen, a preventable disease but unfortunately the increasing mortality during the last few years causes anxiety. With the developments in modern methods of plague-control, however, there is little likelihood of the epidemic assuming its original virulent form.

20. The problems of food, internal security and inter-national developments are also to be borne in mind while we are considering the question of the future death rate. The State is, no doubt, a surplus area from the point of view of food supply during normal years. It is also true that severe famines, internal disorders and wars of the past have receded from our memories and indeed they should remain things of the past if the inter-national situation were not to deteriorate and the country were to continue to get food help from outside till self-sufficiency is reached and if strong and stable Government continues to ensure proper distribution of food within the country and again if the rains do not persistently fail. But if any of these premises cease to hold good, the repercussions might be serious and our death rate might go up steeply as pointed out in paragraph 82 of section V above.

21. The uncertainty of our fight against death, therefore, needs serious thought. As Kingsley Davis remarks,"the picture is dark but with a potential silver lining. The present toll is high, but medical research is going forward, improvements are being made here and there, and almost miraculous remedies are already known. One has the feeling that mortality in the region can be reduced much more than it has been *if* certain things are done. The real question is whether or not the "if" will come true.....It should be possible to find a short-cut, to take the very latest scientific inventions——DDT, BCG vaccine, antibiotic drugs, converted rice, deep-freeze storage, hundreds of others—and apply them directly to the Indian population. Such wholesale application of the latest scientific achievements would produce the sharpest decline in mortality the world has ever known. Nevertheless, the *if* is still persistently present."*

22. The net result of our examination of the circumstances likely to affect the death rate tends to show that while we are at present practically at the mercy of Providence to save us from the jaws of death there are encouraging circumstances at least from the point of view of medical relief which tend to show that if no serious calamity befalls us during the next decade the death rate is likely to show a further fall.

Economically Desirable Population

23. The economic concept of optimum population is that taking into consideration the total economic resources of a country the population should be such as would enable the people to enjoy the highest possible standard of life. Discussing the problem of economic production and growth of population Kingsley Davis remarks, " Numerous writers have pointed out that if economic production can advance faster than population can grow, over-population need not occur. This is absolutely true. But the conclusion that we can concentrate on economic development and ignore population does not follow in the least. Since the two variables in question affect each other, economic production cannot permanently be advanced in the face of an ever-increasing population. There must come a point when further population increase in a finite world will bring curtailment of per capita production. Quite apart, then, from the feasibility and possibility of economic reforms in a given country, there is the additional consideration that any kind of economic system has its optimum population, beyond which numbers cannot rise without penalty ". †

24. The penalty visualised in the above enumeration of the economic and demographic law may not be new to us. The horrors of epidemics and famines of the past are proverbial in our country, though the destruction by war has been a thing of the remote past as briefly pointed out in Appendix 'I'.

25. The chief considerations relevant to the trend of population economically desirable are summarised by Britain's Royal Commission on Population as follows :—

Disadvantages of Growing Numbers

(1) the amount of land available per head of the population diminishes as numbers in any country increase ;

* The Population of India and Pakistan by Kingsley Davis, 1951, page 61 (Princeton University Press).
† The Population of India and Pakistan by Kingsley Davis, 1951 (Princeton University Press), page 205.

(2) the growing numbers have to be supplied with capital equipment of every sort (house room, public utilities, industrial plant, etc.) and productive resources have to be devoted to this purpose which might otherwise be used to raise standards.

Counterbalancing Advantages

On the other hand increasing numbers—

(1) facilitate an increase in the scale of production and supply a stimulus to technical improvement;
(2) if due to high birth rate, are associated with a low average age of the population;
(3) make the economic system more flexible and may thus make it easier to avoid a waste of productive resources through obstinate mass unemployment;
(4) tend to increase nation's inter-national influence and so in various ways to strengthen its economic position.

The practical importance attaching to these different considerations depends on the surrounding circumstances and may vary greatly from one country to another, and from one period to another. This is specially true of the first main disadvantage of increasing numbers, *viz.*, the decline in the amount of land available per head of population. In some circumstances, as in those of many oriental and west Indian communities, this disadvantage may be so great, after the population has reached a certian density, as to be decisive by itself."*

IMPLICATIONS OF GROWING POPULATION

26. Our own Planning Commission have considered the implications of the rapidly increasing population of India and its weakening effect on the economy of the nation. They have indicated their approach to the problem as follows: "In planning for a progressive improvement in living standards, the implications of this rapid growth of population need carefully to be considered. While it may be difficult to say what the optimum level of population for India should be and while it would also be wrong to under rate the potentialities of modern science and technique to augment the productive capacity of the country, it is clear that, *under present conditions, an increase in manpower "resources" does not strengthen the economy but, in fact, weakens it.* The population problem is complex and it has several aspects, economic and social. It is necesary in the present context only to stress the fact that unless measures are initiated at this stage to bring down the birth rate and thereby to reduce the rate of population growth, a continuously increasing amount of effort on the part of the community will be used up only in maintaining existing standards of consumption. With all the effort that the First Five-Year Plan will represent, it will be possible barely to restore by 1955-56 the pre-war standards of consumption in regard to essentials like food and clothing. Increasing pressure of population on natural resources (which must inevitably be limited) retards economic progress and limits seriously the rate of extension of social services, so essential to civilised existence. A population policy is, therefore, essential to planning."†

27. Gorwala analyses the food resources of the country and their inadequacy to meet the requirements of the rapidly increasing population even after taking into consideration "the total foodgrains estimated to be produced when all the irrigation projects under construction in India are working at full capacity" and draws attention to the abnormally high percentage of people who earn their living from the land and after pointing out the practical difficulties of absorbing even a small portion of the increase of population in industries as already mentioned he says, "while, therefore, all possible steps towards the betterment of conditions must obviously be taken and every effort directed in a proper planned manner to utilise existing resources and obtain additional resources for increasing production and raising standards, there can be no doubt that the real solution lies in attacking what may be termed the demand side. The increase must be stemmed. Since we as civilised beings possessing a social conscience can no longer look forward with complacence to the Malthusian checks of famine, pestilence and war, this attack can only take the shape of an informed, planned and determined campaign to persuade and assist the people to reduce births. The size of the problem and the quickness of its onset are apparent from the figures in the preceding paragraphs. To have even a reasonable chance of success, action must be right, prompt and on a wide enough scale. The time for palliatives is past. So too for long writing of minutes on files, discussions at Secretariat levels, prolonged consultations in cabinet, trimming this way and that to meet every puff of prejudiced opinion or ill-informed criticism. If the dam is not built sufficiently quickly and sufficiently high, delayed and minor efforts will be just waste. It must be clearly realised that there can be no progress unless the population can be held stable at about the present figure. If it can, every improvement will increase the standard of living surely though perhaps slowly. If on the other hand, it cannot, there is no answer but a steady sliding down into the pit."‡

* Report of the Royal Commission on Population, pages 101—102; (London: His Majesty's Stationery Office, 1949).
† The First Five-Year Plan—A Draft Outline, page 16 (Government of India Planning Commission, July 1951).
‡ A. D. Gorwala, Retired I.C.S., "Food and Population"—Speech delivered at the First All-India Conference on Family planning, 1951. *Ibid.*

EMIGRATION AND THE POPULATION PROBLEM

28. Emigration as a solution of our problem of rising population can hardly be considered. The plight of our people who have already migrated to less populated parts of the world and the problems of "colour bar" and immigration laws are all well-known. Radhakamal Mukerjee refers to the "vast arid areas in North America which are now settled only by cattlemen (and which) can be brought under plough and harrow if Chinese and Indian immigration is encouraged on a reasonable scale."* Commenting upon the economic and social contract created by the immigration policy Mukerjee says in strong terms, "Thus there is brought about a tremendous disbalance of population and resources in the basin of the Pacific, in one part of which millions live on 3 to 5 acres holdings and go on sub-nutritional and sub-physiological standards; while in another, tractors, sheep and cattle luxuriate on the open spaces and men's artificially bolstered-up standard of living is protected by Government tarrifs, subsidies and bans on foreign immigration. Such an economic and social contract is entirely incompatible with world peace. Only a balanced globe can be a happy and peaceful globe."†

29. While Mukerjee complains of the terrific congestion such as that evident from the fact that un-partitioned India with a population equal to about 1/5th of that of the world was cramped in a space equal to about 1/30th of the habitable area of the globe. Borrie from Australia draws attention to the Australian slogan, "We must Populate or Perish". Explaining the general attitude he says, "The reason for this interpretation of the population problem is not hard to find. Australia has been threatened with invasion, an invasion, moreover, by one of those Asiatic races whom Australia has persistently excluded, for economic if not for racial reasons. Indeed the threat of invasion by the Japanese in 1941-42 strengthened the belief of many that Australia must continue to exclude the Asiatic peoples; and they argue, the obvious way to justify this 'White Australia Policy' to the world is to show that Australian resources can and will be fully developed by white people."‡ This anxiety to populate as fast as possible can be well appreciated when it is remembered that in 1949 the estimated density of population in Australia was of one man per square Killo-Meter (About 2·6 persons per square mile excluding the "full blooded aborigines" and about 2·65 per square mile including them) as against Japan's density of 223 persons per square Killo-Meter (or about 577 per square mile) and India's density of 109 persons per square Killo-Meter (or about 282 persons per square mile on the estimated population of 1949).§ The density of population in India according to the 1951 Census is 281 persons to a square mile.

30. Carr-Saunders points out how there are few gaps in the "ring fence" erected by the Europeans to exclude non-Europeans from the large open territories occupied by them and says, "The conclusion to which this evidence points is clear. If non-Europeans and specially Asiatics had not been kept out of the United States and the British Dominions, they would have entered in very large numbers. By this time the population of the western sea-board of North America would have been largely Asiatic. It seems that Europeans only established themselves in sufficient numbers beyond the Rocky Mountains just in time to be able to secure exclusive possession of this desirable region for themselves." ‖

31. It is, therefore, clear that emigration as a non-catastrophic solution of our population problem may be ruled out. Again in the back-ground of the rapidly increasing world population this remedy can hardly provide a permanent solution of our great problem of the enormous and the recent continuous growth in our numbers.

CONCLUSIONS

32. From the discussion given above and the comparative statistics contained in the previous sections, it would appear that although the population in Madhya Pradesh is not growing as fast as in some of the other States of India and although the density of population is also at present lower than in some of the other States (though it is higher than that in some of the civilised countries), the need of our being alert in respect of the population problem was never so real as it is now when the State as well as the country as a whole are on the threshold of extensive industrial and all round developments and when the population position not only in our sub-continent but in Asia as a whole calls for close attention.

33. It may be interesting to point out that widespread practice of family limitation began in England towards the latter part of the nineteenth

* Radha Kamal Mukerjee, Races, Lands and Food, Ps. 29—30 (New York : Dryden Press, 1946).
† Radha Kamal Mukerjee, Race, Lands and Food, p. 39, *ibid.*
‡ W. D. Borrie, Population Trends and Policies, p. xiii (Austrasian Publishing Co., Sydney, 1946).
§ United Nations Demographic Year-Book, 1949-50, ps. 77 and 81.
‖ "World Population" by A. M. Carr-Saunders, p. 190 (Claradon Press, Oxford, 1937).

century when the population of Great Britain had increased 2½ times in 70 years and was still growing very fast*—a condition somewhat similar to that prevailing in our State at present. The standard of living, which the European families achieved during the Industrial Revolution when they had the opportunity of growing fast, is being defended by them now by their levelled off growth. In our own towns and cities, our urban intelligentia is, no doubt, becoming conscious of the advantages of limited families. Our middle-classes and lower middle-classes have probably commenced to attempt to limit their families for sheer economic reasons with a view to maintain, if not to improve, their standard of life. In other words, the same process, which overtook first the middle-classes and then the working classes of the European countries, has, presumably, commenced in our country and it will gather strength in course of time. The only point, however, is that whether the movement will be fast enough to make a difference to the situation ? Parhaps not. Considering the appalling ignorance of our people on vital population problems, their prejudices and beliefs at the present moment, we would be optimistic in believing that the chances in favour of a non-catastrophic solution of the grave problem are 30 per cent, while those in favour of a catastrophic solution are, perhaps, 70 per cent unless on a governmental scale we make a supreme effort to take the people into confidence and convince them that the population problem is real and that it has cropped up in our own life time and has to be faced and solved by us if we wish to save our country from otherwise inevitable sorrow and suffering. The obvious way to do so is to resort to deliberate family planning schemes and also to make an all-out effort to increase our food and industrial production.

*Report of the Royal Commission on Population, page 35 (London, His Majesty's Stationery Office, 1949).

CHAPTER II

Rural Population

SECTION I.—PRELIMINARY REMARKS

Utility of Rural and Urban Statistics

1. Census statistics of the rural and urban population have a variety of uses. They are of considerable help in studying the economic conditions, social and political changes, and demographic trends as indicated by rates of population growth, family characteristics, mobility of population, age structure, size and composition of the economically active population and the like. Their utility in comparing the conditions and characteristics of urban and rural people in the matter of births, deaths, sex composition, sanitation, levels of living, etc., for economic planning and development of social welfare work can hardly be overstressed.

2. Discussing the contrast between the Rural and Urban life and the necessity of separate classification, S. Chandrasekhar remarks, "Rural life and urban life present sharp contrast all over the world and the contrast is perhaps sharpest in India. A rural population is predominantly agricultural in its occupation, has a low density per square mile and enjoys a high social and cultural stability arising out of cultural and ethnic continuity and homogeneity. All the traditional mores of a culture are strongly preserved in a rural society, promoting conservatism which offers the most resistance to reform and innovation. For these reasons detailed classification of the population on the basis of residential characteristics becomes necessary in any demographic analysis".*

Definition of "Rural" and "Urban" Areas

3. The definition of "Rural" and "Urban" areas present a real difficulty as is pointed out in the United Nations Demographic Year Book. "One of the most difficult problems in presenting internationally comparable demographic data is that involved in obtaining urban and rural classification of the population. The designation of areas as urban or rural is so closely bound up with historical, political, cultural and administrative considerations that the process of developing uniform definitions and procedures moves very slowly".† A convenient way of presenting rural and urban statistics for comparison purposes is, therefore, to show the distribution of population in clusters or agglomerations, classified by the size of the agglomerations. This method was, however, not practicable at the Census on account of administrative difficulties and, therefore, the administrative unit represented by a revenue village and approximating to the concept of an agglomeration had to be adopted in Madhya Pradesh and for purposes of the Census the village was defined as "the area demarcated as a *mauza* for revenue purposes" and which was not treated as a town or a city. Hamlets included in the area of a *mauza* were not treated as separate villages. The *mauza* or village was thus theoreitically an administrative unit rather than a geographical entity although in actual practice this made little difference as we will presently see.

Rural Historical Background

4. The history of the *mauza* in the state is summarised as follows in the Provincial Banking Enquiry Committee Report:—

"Unlike other countries, in India and in the Central Provinces the farmstead is practically unknown. For certain historical reasons the individual cultivator does not live on his farm. The

* S. Chandrasekhar, "India's Population—Facts and Policy", page 45 (Indian Institute for Population Studies, Chidambaram).
† United Nations Demographic Year Book 1948, page 18.

population of the village is concentrated in one common residential site, known as the *abadi* in the Central Provinces and the *gaothan* in Berar. The site is usually near the water-supply but on land sufficiently high to avoid the monsoon floods. Before the granting of rights in land in the settlements of the Sixties the individual cultivator was usually a tenant-at-will. In pre-British days the local patel, the predecessor of the malguzar, was little more than a revenue collector liable to change from year to year. He was responsible for paying the land revenue of the village, and distributed land for cultivation among the villagers on his own terms. Cultivators often changed their lands from year to year, and cultivation in those days was in many parts of the province largely on a communal basis. Without any assured rights in any particular portion of land, it was clearly unlikely that an individual cultivator would build a residence upon the land which he happened at the time to be cultivating. Before the establishment of the Pax Britannica there was also little security of person or of property, and the residents of the village preferred to live together in one place for self-defence. In many villages the remains of old forts still exist; throughout Berar we find the village *garhi*— the ruins of an old mud fort—where the local headman resided, and within which villagers collected together for safety on the occasion of the recurring ravages of Pindaris and free-booters. The old custom has outlived its necessity, and at subsequent settlements the *abadi* site or area in which houses may be constructed, is now separately marked out, defined and recorded. Each tenant and agricultural labourer is entitled to receive from the malguzar a free site for a house inside that area, and here too the non-agriculturists reside in arrangement with the malguzar.

"The abadi or village site is often congested, and when a village site is completely filled, or where for social reason any class such as an untouchable caste is required to live apart, small hamlets are sometimes formed, which may be situated at some distance from the main abadi".*

5. The above description of the village or the "Revenue Mauza" given twenty years ago holds good even now. In fact there is no general movement of any noticeable character yet on the part of the individual villagers to go and reside on the land they till and although in the definition of the village as adopted at the Census the concept of separate habitations is not strictly maintained, for all practical purposes the village actually represents the population living together and, therefore, the Census figures on the whole give a good idea of the distribution of population by size of habitations.

Definition of Town

6. The urban population questions will be discussed in the next chapter, but it is necessary to give the definition of town as adopted at the Census at this stage to appreciate how some of the small places are not treated as villages. The definition of the town was elastic, based on the nature of the urban classification made at the previous Censuses. All municipal areas were regarded as towns irrespective of their size and in addition some other places which had urban characteristics were also treated as towns. Only Nagpur and Jabalpur were treated as cities as at previous Censuses. Both of them have a population of over 100,000. Amravati Municipal area with a population of 87,099 and Amravati Camp Municipal area with a population of 15,707 have been treated as separate towns, as in 1941.

Reference to Statistics

7. Statistics about the total number of villages, towns and cities in the different Natural Divisions, and districts will be found in Table A-I (Area, houses and population) given in Part II-A of this Report. Table A-III in the same part contains the classification of the towns and villages by population. The classification adopted in the table recognises the following groups of population:—

(*a*) less than 500 ;
(*b*) 500—1,000 ;
(*c*) 1,000—2,000 ;
(*d*) 2,000—5,000 ;
(*e*) 5,000—10,000 ;
(*f*) 10,000—20,000 ;
(*g*) 20,000—50,000 ;
(*h*) 50,000—100,000 ; and
(*i*) above 100,000 .

This classification is practically in confirmity with the recommendations of the United Nations Population Commission but at the time of making comparisons with the figures of other places the definition of the village and town as given above should be borne in mind. Thus, for example, the population shown as residing in villages of 2,000—5,000 persons may really be the population of *mauzas* containing some hamlets or separately identifiable agglomerations or clusters of population of less than 500 persons each, although such cases may not be many. For the same reason the number of the *mauzas* as given in the table would be somewhat less than the number of geographically separate units of habitations.

*Report of the Central Provinces Provincial Banking Enquiry Committee, pages 33 and 34.

Although on the whole differences of this type might not be very significant in view of the actual conditions of villages already described, it would be desirable to bear the circumstances in mind while comparing the figures of different countries.

8. The following five Subsidiary tables given in Part I-B of the report are reviewed in this chapter:—

2·1—Distribution of population between villages

2·2—Variation and density of rural population;

2·3—Mean decennial growth rates during three decades of rural population;

2·4—Livelihood pattern of rural population; and

2·5—Immigration into rural areas.

Subsidiary Table 2·1 corresponds to some of the columns of Subsidiary Table I (Distribution of the population between towns and villages) at the end of Chapter II of the Census Report of 1931.

Subsidiary Tables 2·2 to 2·5 are new tables and no corresponding Subsidiary Tables were prepared in 1931.

9. Similarities and differences between the 1951 and 1931 main Census tables are explained in Appendix 'D' in which the letter of the Registrar-General on the subject of "Census Tabulation-Forms and Procedure" is reproduced.

10. Certain detailed statistics for every village will be found in the corresponding District Census Hand-Book of each district, including the area, number of houses and households, total population with break-up for males and females, household and literate population with similar break-up, and classification of the population by sex into the eight livelihood classes. The consolidated rural figures for each Main Table for each Census tract would also be found in the District Census Hand-Book.

11. In the different volumes of Part II of the Census Report, rural and urban statistics will be found separately in the case of the more important tables.

SECTION II.—GENERAL DISTRIBUTION AND DISTRIBUTION AMONGST VILLAGES CLASSIFIED BY SIZE OF RURAL POPULATION

1. About eighty-seven per cent of the population of Madhya Pradesh lives in the villages. The actual distribution of population is summarised in Table 36 below:—

Table 36

Distribution of Rural and Urban Population in Madhya Pradesh

(1)	Persons (2)	Males (3)	Females (4)
Total ..	.. 21,247,533	10,662,812	10,584,721
Rural ..	.. 18,370,194	9,167,850	9,202,344
Urban ..	.. 2,877,339	1,494,962	1,382,377

Details of the distribution of rural and urban population in the districts and tahsils of Madhya Pradesh will be found in Table 'E' (Summary figures by districts and tahsils) in Part II-A of this report.

Number of Villages and Average Population

2. The large rural population of about 18·37 million souls is distributed in 48,444 villages giving an average population of about 379 persons per village. In 1941, the territory, which is now Madhya Pradesh, had 48,184 villages and the average population per village was 407. The average population per village at the previous Census as given in the Census Report of 1931 was 333 in 1931 and 306 in 1921.

Distribution of Population by Size of Villages

3. For purposes of convenience, villages with a population of 2,000 or more are termed 'large villages'; those with a population of between 500 to 2,000 'medium villages' and those with a population of less than 500 persons 'small villages'. A perusal of Subsidiary Table 2·1 (Distribution of population between villages) given in Part I-B of the report shows that the largest number of people (47·6 per cent) reside in medium sized villages, while only about 9·4 per cent live in large villages and about 43 per cent in small villages. A significant point to be noticed in Subsidiary Table 2·1 is that about 1·5 per cent of the population of the State lives in villages with populations of over 5,000. Normally, places with populations of over 5,000 are regarded as towns, but these villages have not been so treated on account of their distinct rural characteristics. It is interesting to observe that the concentration of these very large villages is to be found in the South-West Madhya Pradesh Division, which is the most developed part of the State. Subsidiary Table 2·6 given in Part I-B of the report gives a complete list of all the villages in Madhya Pradesh with a population of over 5,000, along with the analysis of the distribution of the population in each village according to the eight livelihood classes. From a study of this table, it is noticed that in all there are 45 such villages in the State, and in 19 out of them the percentage of non-agricultural classes is greater than that of the agricultural classes.

4. Subsidiary Table 2.7 and the notes thereon, given in Part I-B of the report, contain a detailed description of the 19 villages. It will be found that although some of these very large villages represent border-line cases which could as well have been treated as urban areas, most of them have distinct rural characteristics and are really only overgrown villages. The total population of these 19 villages comes to 116,159 and if the classification of villages and towns were to be made on the basis of the livelihood pattern of the population, we would be required to subtract this population from the total rural population of 18,370,194 and would be required to add it to the total urban population of the State, which is 2,877,339. The corresponding analysis on livelihood pattern in respect of places with a population of less than 5,000 and treated as towns would be considered in the next chapter, but it may be mentioned here that about 2 per cent of the population of Madhya Pradesh is shown in Subsidiary Table 3.1 to be residing in towns with populations of under 5,000 and it is found that there are three towns in which the agricultural classes outnumber the non-agricultural classes. The population of these three towns comes to 10,918. If, therefore, the rural and urban division were to be made on the basis of the livelihood classification, as mentioned above, in respect of places having populations of over 5,000 persons and treated as villages and of those with a population of less than 5,000 and treated as towns, the urban population of the State would be increased by 105,241. In other words, the total urban population of the State would be 2,982,580 instead of 2,877,339. This means that the Madhya Pradesh picture of urbanisation would give the ratio of 14:86 instead of 13:87 as found on the basis of the declared towns.

Comparison of Rural and Urban Characteristics in Other States

5. The highest percentage of rural population is to be found in the states of Orissa and Himachal Pradesh, where 96 per cent of the population is classified as rural compared to 87 per cent in Madhya Pradesh. Table 37 given below shows the percentage of rural and urban population in India and the different states:—

Table 37

Percentage of rural and urban population in Madhya Pradesh and other States of India.

State	Rural percentage	Urban percentage	State	Rural percentage	Urban percentage
(1)	(2)	(3)	(1)	(2)	(3)
Madhya Pradesh.	87	13	West Bengal	75	25
India ..	83	17	Hyderabad ..	81	19
Assam ..	95	5	Madhya Bharat.	82	18
			Mysore ..	76	24
Bihar ..	93	7	Rajasthan ..	83	17
Bombay ..	69	31	Saurashtra ..	66	34
Madras ..	80	20	Travancore-Cochin.	84	16
Orissa ..	96	4			
Punjab ..	81	19	Himachal Pradesh.	96	4
Uttar Pradesh	86	14			

Among the most urbanised States of India are Saurashtra, Bombay, West Bengal, Mysore and Madras, where the percentage of the population who are urban is above 20. Madhya Pradesh is more rural than the average for India.

The Pace of Urbanization

6. The following table gives the approximate rural urban ratio for Madhya Pradesh from 1881 to date as ascertained at successive Censuses:—

Table 38

Percentage of rural and urban population in Madhya Pradesh from 1881.*

Year	Percentage of population	
	Urban	Rural
(1)	(2)	(3)
1881	7.0	93.0
1891	7.2	92.8
1901	9.0	91.0
1911	7.6	92.4
1921	9.0	91.0
1931	9.8	90.2
1941	10.8	89.2
1951	13.5	86.5

The rural/urban ratio for India as a whole in 1881 was 90.6 : 9.4. These figures might be compared with those given by Chandrasekhar and reproduced below, showing the pace of urbanization in some of the other countries of the world:—

Table 39

Percentage of rural and urban population in certain countries of the world†

Country	Year	Latest year		1880	
		Rural	Urban	Rural	Urban
(1)	(2)	(3)	(4)	(5)	(6)
United States ..	1940	43·5	56·5	70·5	29·5
Russia	1926	83·4	16·6	86·5	13·5
Sweden	1935	67·7	32·3	84·9	15·1
Japan	1925	35·5	64·5	..	..
Germany ..	1933	43·5	56·3	70·9	29·1
Italy	1936	29·3	70·7	46·2	53·8
France	1936	53·1	46·9	65·2	34·8
England and Wales	1930	22·7	77·3	32·1	67·9
Canada	1930	58·3	41·7	84·1	15·9
Austria	1934	54·9	45·1	80·2	19·8

7. If the pace of urbanization is an index of economic progress, the above figures confirm this theory and show how the pace of urbanization in our State and country is as slow as our economic progress has been. Pointing out that the Soviet Far East (which is more comparable with India) has made rapid strides in urbanization from 1880, (when the percentage of urban population was 13.5) to 1939 (when it had increased to 32.2 per cent), Chandrasekhar says, "Today Russia like India, is a country with predominantly rural population, but unlike India she has made great progress, not only in bringing the usual urban conveniences to the rural population, but in actually urbanizing the countryside, in the better sense of the term".§

8. Describing the urbanization in Japan, Ryoichi says, "In 1893, a year before the Sino-Japanese War, the rural population comprised 84.03 per cent of the total population. The urban population included 15.97 per cent, of which 5.98 per cent lived in cities of over 100,000. By 1925 the percentage of the rural population had dropped to 63.41 and the urban population had increased to 36.59. Further, 40 per cent of the urban population were inhabitants of great cities of over 100,000."‡ In 1948, Japan's urbanization reached the percentage of 49.1 and the rural percentage came down to 50.9 while in Madhya Pradesh the rural percentage in 1951 was 87 and the urban percentage was 13—a condition comparable to that of Japan in 1893.

* Figures for 1881 to 1931 are adopted from the C. P. and Berar Census Report for 1931, Part I, page 80. Those for 1941 are taken from the Census Table 1-Area, Houses and Population.

† S. Chandrasekhar, "India's Population—Fact and Policy", page 47 (*ibid*).

§ S. Chandrasekhar, "India's Population—Fact and Policy", page 48 (Chidambaram, Annamalai University).

‡ Ryoichi Ishli—'Population Pressure and Economic Life in Japan' (London P. S. King and Son, Ltd. 1937), page 71.

9. It is interesting to observe that while the total population of Madhya Pradesh increased by 7.78 millions from 1901 to 1951, the rural areas absorbed about 6.20 millions or 79.7 per cent of the increase in contrast to the urban areas which absorbed the remaining 1.58 millions only or 20.3 per cent of the increase. Moreover, the greater portion (14.5 per cent) of the total urban gain of 20.3 per cent was added during the last two decades, namely, 1931—41 (6 per cent) and 1941—51 (8.5 per cent).

Distribution of Rural Population in the Natural Divisions

10. A study of Subsidiary Table 2.1 in Part I-B of the report further shows that in the North-West, as well as in the East Madhya Pradesh Divisions only about 7.6 per cent of the population lives in large villages, while in the South-West Madhya Pradesh Division the corresponding percentage is 15.8. In the Chhattisgarh Plain Sub-Division, the smallest percentage (5.6) of the people reside in large villages. This distribution of population in the State by size of villages in the Natural Divisions is consistent with the general development in the different parts. The South-West Madhya Pradesh Division is, as we have seen, the most developed part of the State, while the East Madhya Pradesh Division is the most backward.

Typical Distribution of Population in the Bilaspur District

11. The Bilaspur district of the Chhattisgarh Plain shows abnormal features inasmuch as about 11 per cent of the rural population of this district lives in large villages as against 5.6 per cent in the Chhattisgarh Plain as a whole. Again, a perusal of Subsidiary Table 1.1 shows that in the Bilaspur district only 34.4 per cent of the general population resides in high density areas. Thus, this district presents a picture in which the percentage of people who live in large villages is high although the overall percentage of the people in high density tahsils is by no means very large. This would apparently mean that these big villages are scattered all over the district, but the real explanation is that the district is a non-homogeneous tract with heavy concentration of population and large villages in the rich rice producing areas of Janjgir, Bilaspur and Mungeli tahsils and with sparsely populated forest tracts in the Katghora tahsil adjoining the backward Surguja district.

Distribution of Population in the Amravati District

12. The Amravati district in the South-West Madhya Pradesh Division, again, represents characteristics apparently similar to those of the Bilaspur district mentioned above. 23.2 per cent of the rural population in the Amravati district lives in large villages compared to the average of 15.8 per cent for the South-West Madhya Pradesh Division. In the Amravati district, however, the percentage of people living in high density areas is also significant as will be seen from a perusal of Subsidiary Table 1.1. The percentage of people residing in Tahsils with density between 300 to 450 persons per square mile is 47.9. This is consistent with the fact that the large villages in this district are to be found all over the district, except in the small Melghat Taluq which is sparsely populated.

The Density of Rural Population

13. The density of the rural population of Madhya Pradesh is 146 persons to a square mile compared to the overall density of 163. Here again, the South-West Madhya Pradesh Division is the most densely populated area with rural density of 172 persons per square mile compared to 147 for the East Madhya Pradesh Division and 129 for the North-West Madhya Pradesh Division.

High Density Rural Areas in the East Madhya Pradesh Division

14. A perusal of Subsidiary Table 2.2 in Part I-B of the Report shows that comparatively high rural density districts are to be found in the East Madhya Pradesh Division. Amongst them, Bhandara (271), Raigarh (219), Durg (214) and Bilaspur (214) attract attention when their density figures are compared to the mean rural density of 146 for the State as a whole. The Raigarh district contains, as already mentioned before, some of the very thickly populated tahsils with high rural densities. They are Sakti (500), Kharsia (371), Raigarh (330) and Sarangarh (397). (The figures in brackets indicate the rural density of population). These tahsils have some of the best rice cultivation in the State and along with the Janjgir tahsil (429) of the Bilaspur district and the Saraipali-Basna tract of the Mahasamund tahsil of the Raipur district, they constitute the richest rice-producing area of Madhya Pradesh.

15. In the Durg district, the small Khamariya tahsil is wellknown for its rich wheat cultivation and is the most thickly populated tahsil in the whole State, as already mentioned b fore, having a density of 2,396 persons to a square mile. The rural density of some of the other tahsils of the Durg district is also high. Amongst these may be mentioned Durg (281), Rajnandgaon (266), Dongargarh (218), Kawardha (226) and Chhuikhadan (223). These are all first class rice-producing areas of the Chhattisgarh Plain.

16. In the Bhandara district, there are the rich rice producing tahsils of Gondia (360) and Bhandara (297) with high rural density of population. The manganese mining and the 'Bidi' industry in the rural areas of the Bhandara district are also responsible for the high density figures.

Uniform Rural Density Areas

17. The South-West Madhya Pradesh Division has a remarkably uniform rural density in the different districts, except in the case of Yeotmal, which has certain sparsely populated forest areas. Similarly, in the Nerbudda Valley, the rural density in the districts is fairly uniform, except in the case of Jabalpur where it is high on account of the industrial activities which will be considered in detail in Chapter V. The Nimar district has the lowest density in the Nerbudda Valley, being as low as 95 persons to a square mile as against the average of 139 for the Valley. This is partly due to the unhealthy conditions in the rural areas of this district and sparsely populated forest tracts. It may be interesting to point out that the Nimar district has been mentioned as an unhealthy area in nine out of ten Public Health Reports of the decade 1941-50. Malaria is reported to be the principal disease responsible for the unhealthy climate.

18. The density of the rural population in the plateau districts of Mandla (106), Betul (107) and Chhindwara (129) is also fairly uniform. These are amongst the sparsely populated areas of the State with vast undeveloped tracts comparable to those in some of the integrated States of the East Madhya Pradesh Division.

19. In this Section, we have considered the general distribution of the population in the rural areas of the State along with the density of population. We will now proceed to consider the growth of the rural population in the State and its different parts.

SECTION III.—GROWTH OF RURAL POPULATION

1. The main considerations in respect of the growth of population connected with the history of famine and pestilence in the State given in the privious Chapter in respect of the general population apply in the case of the rural population also. There is, however, an additional important circumstance in the case of the growth of the rural population, which is connected with the problem of urbanization. The drift towards the urban areas from the rural areas is significant in several parts of the State and this has a direct effect on the growth rate of the rural population. It is, therefore, essential to consider the growth rate of the general, rural and urban population side by side as given in Table 40 below for Madhya Pradesh :—

Table 40

Mean decennial growth rates for general, rural and urban population of Madhya Pradesh.

	Mean decennial growth rates		
	1941—50	1931—40	1921—30
General population.	7·9	9·8	11·9
Rural population	4·4	7·8	9·7
Urban population	24·8	20·0	20·4

2. It will be noticed that the fall in the growth rate of the rural population during the first interval from 1921—30 to 1931—40 in the case of the general and rural population is practically of the same nature. During this interval the growth rate of the urban population showed a slight fall of 0·4 per cent. During the next interval, however, the disturbances in the growth-rate are of a different nature for the rural population as compared to that of the general population and part of the explanation is immediately furnished by perusal of the urban growth. It is clear that the movement from rural to urban areas has resulted in a steeper fall in the rural population during this interval as compared with the fall in the growth rate of the general population. As we have noticed in the previous section the pace of urbanization in the State has been fastest during the last decade. A perusal of main Table A-IV (towns classified by population with variations since 1901) given in part II-A of the Report will clearly show how most of the towns of the State have increased very considerably in population during the past decade. This abnormal urban growth, which has affected the growth rate of the rural areas, is as we shall see in the next Chapter associated with the development of industrial and commercial activities in the State.

The Growth Rates of the Rural Population in the Natural Divisions

3. The mean decennial growth rate of the rural population as given in Subsidiary Table 2·3 in part I-B of the Report shows that the trend of these rates are roughly of the same pattern as those for the general population except that the disturbance on account of the migration from the rural areas into the urban areas has slightly altered the picture in some places. Table 41 given below shows the mean decennial growth rates of the general, rural and urban population in Madhya Pradesh and the Natural Divisions and Sub-Divisions :—

Table 41

The mean decennial growth rates of general, rural and urban population in Madhya Pradesh and the Natural Divisions and Sub-Divisions.

Years		Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East-Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1921-30	Growth rate—General population.	11·9	9·1	6·5	13·4	13·3	13·5	12·7	12·3
	Growth rate—Rural population	9·7	8·1	4·6	13·2	10·8	10·1	12·1	10·0
	Growth rate—Urban population	20·4	17·7	17·8	17·3	19·3	16·6	22·4	22·1
1931-40	Growth rate—General population.	9·8	9·0	9·4	8·3	12·7	12·2	14·1	5·7
	Growth rate—Rural population	7·9	7·4	7·2	7·7	12·1	11·0	13·8	2·3
	Growth rate—Urban population	20·0	21·7	21·7	21·4	21·0	23·2	18·6	18·9
1941-50	Growth rate—General population.	7·9	6·2	6·9	5·1	9·4	9·0	10·4	7·0
	Growth rate—Rural population	4·4	3·0	2·2	4·1	7·4	6·1	9·3	1·3
	Growth rate—Urban population	24·8	25·9	26·5	22·9	23·1	21·8	24·5	24·7

THE NORTH-WEST MADHYA PRADESH DIVISION

4. A perusal of Table 41 given above shows that the growth rate of the rural population in the Nerbudda Valley and the Plateau Sub-Divisions of the North-West Madhya Pradesh Division indicate the same characteristics as are seen in the case of the general population. In the Nerbudda Valley the rural growth rate has increased between 1921—30 and 1931—40 by 2·6 per cent and in the second interval between 1931—40 to 1941—50 it has fallen by 5 per cent. The corresponding rise and fall in the mean decennial growth rate of the general population in the Nerbudda Valley is 2·9 and 2·5 per cent respectively. In other words the fall in the mean decennial growth rate of the general population in the Nerbudda Valley during the second interval is very much less than the corresponding fall in the case of the rural population. This is again due to the migration from the rural into urban areas. In fact a study of Table 41 given above will show the mean decennial growth rate of the urban population in the Nerbudda Valley has gone up from 17·8 in 1921—30 to 21·7 in 1931—40 and 26·5 in 1941—50.

5. In the Plateau Sub-Division the growth rate of the general population has been consistently falling. The fall in the mean decennial growth rate of the general population during the two intervals is 5·1 and 3·2 per cent respectively, while the corresponding fall in the case of the rural population is 5·5 and 3·6 per cent. It is interesting to notice that while the growth in the urban population of the Plateau Sub-Division during the first interval is comparable to the growth of the urban population of the Nerbudda Valley during the same period, it is not so during the second interval. In fact during the second interval the mean decennial growth rate of the urban population in the Plateau Sub-Division increased by only 1·5 per cent as compared to 4·8 per cent in the case of the Nerbudda Valley, which contains the rapidly growing city of Jabalpur and the other towns of the districts in the Valley.

THE EAST MADHYA PRADESH DIVISION

6. A perusal of the Table 41 given above shows that in the Chhattisgarh Plain Sub-Division of the East Madhya Pradesh Division the mean decennial growth rate of the general population came down from 13·5 to 12·2 per cent between 1921—30 and 1931—40, whereas the rate for the rural population increased from 10·1 to 11·0 per cent. This typical behaviour of the growth rate clearly shows the movement towards the towns as will be seen from Table 41 which shows that the mean decennial growth rate of the urban population in the Chhattisgarh Plain increased from 16·6 in 1921—30 to 23·2 per cent in 1931—40. During the second interval between 1931—40 and 1941—50 the growth rate of both the rural as well as the urban population in the Chhattisgarh Plain shows a fall. In the case of the rural population the fall is of the order of 4·9 per cent, while in the case of the urban population it is 1·4 per cent.

7. In the case of the East Maratha Plain Sub-Division the mean decennial growth rate of the rural population has increased from 12·1 to 13·8 during the interval between 1921—30 and 1931—40. As we have seen in the previous Chapter this is due to immigration from the Plateau districts into the East Maratha Plain on account of the development of the mining industry. The mean decennial growth rate of the urban population of the East Maratha Plain has shown a fall of about 3·8 per cent between 1921—30 and 1931—40, while it has shown an increase of 5·9 per cent between 1931—40 and 1941—50. This is due to the fact that three villages—Ballarpur, Waraseoni and Tirodi were declared towns, and also because during the last decade 1941—50 Gondia town in the Bhandara district has increased in population by nearly 80·5 per cent, while Balaghat and Waraseoni towns in Balaghat district have also shown an increase of 41·9 and 44·6 per cent respectively during the same period.

THE SOUTH-WEST MADHYA PRADESH DIVISION

8. The fall in the mean decennial growth rate of the rural population of the South-West Madhya Pradesh Division is of considerable significance as it further clarifies the apparently contradictory character of the birth and growth rates of the general population in this Natural Division as explained in the previous Chapter. The figures of the decade 1941—50 given in Table 41 above clearly indicate that the rise in the growth rate of the general population during this decade is entirely due to the growth of the urban areas and immigration from outside, particularly into the district of Nagpur as has already been mentioned above. The rural population has shown a fall in the birth rate in 1941—50 as in 1931—40 and is consistent with the fall in the birth rate as given in Subsidiary Table 2·3. The growth of the urban population in the South-West Madhya Pradesh Division is again associated with the rapid growth of the town of this Natural Division and that of the city of Nagpur during the last decade as well as with the inclusion of certain places as towns and their removal from this category at particular Censuses. We will discuss this question further in the next Chapter when we consider in detail the growth of the urban population.

SECTION IV.—MOVEMENT

IMMIGRATION

1. The question of migration in general has already been discussed in the previous Chapter. Subsidiary Table 2·5 given in part I-B of the report shows that of the total rural population of 18,370,194 in the State, as many as 17,153,309 were recorded during the Census as having been born in the district of enumeration. The percentage comes to 93·38. It will, therefore, be seen that practically all the people of the villages pass their life in places where they are born. It is also interesting to note that from amongst 842,201 people born in districts of the State other than the districts of enumeration, as many as 644,489 (or 76·52 per cent) were born in the districts of the same Natural Division. There were only 316,957 persons born in adjacent States of India and 28,497 people born in other parts of the country, who were enumerated in the rural parts of Madhya Pradesh. The percentage of people born in India outside Madhya Pradesh and enumerated in the rural parts of the State, therefore, comes to 1·88 only.

2. People from Pakistan, including the displaced persons and others, who were enumerated in the rural areas of Madhya Pradesh, numbered 28,272 (16,935 males and 11,337 females). Only 958 persons (648 males and 310 females) from other territories beyond India were enumerated in the rural parts of the State. The table below summarises the above discussion and shows how immigration is of very little significance in the village life of the State :—

Table 42

Percentage of immigrants in Madhya Pradesh based on birth place data.

Percentage of persons enumerated in the Rural parts of Madhya Pradesh and born in						
					Beyond India	
District of enumeration	Other districts of the same Natural Division	Other parts of the State	Adjacent States	Other parts of India	Pakistan	Other territories
(1)	(2)	(3)	(4)	(5)	(6)	(7)
93·38	3·50	1·08	1·72	0·16	0·15	0·01

IMMIGRATION INTO THE NATURAL DIVISIONS

3. The immigration picture in the Natural Divisions also does not indicate any considerable inflow of migrants as will be seen from table below, which gives the total figures as well as the percentage in italics :—

Table 43

Immigrants, actual number and percentage by Natural Divisions based on birth place data.

Name and Code No. of Natural Divisions	Persons born in						
						Beyond India	
	District of enumeration	Other districts of same Natural Division	Other parts of the State	Adjacent States	Other parts of India	Pakistan	Other territories
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3·24 North-West Madhya Pradesh Division	4,386,316 *(94·37)*	97,613 *(2·10)*	46,068 *(0·99)*	98,377 *(2·12)*	6,542 *(0·14)*	12,627 *(0·27)*	374 *(0·01)*
3·32 East Madhya Pradesh Division	9,067,573 *(94·30)*	296,315 *(3·08)*	86,514 *(0·90)*	141,563 *(1·47)*	12,828 *(0·13)*	11,390 *(0·12)*	333 *(0·00)*
3·41 South-West Madhya Pradesh Division	3,699,420 *(90·10)*	250,561 *(6·10)*	65,130 *(1·59)*	77,017 *(1·88)*	9,127 *(0·22)*	4,255 *(0·10)*	251 *(0·01)*

4. It will be seen that it is in the East Madhya Pradesh Division that the largest number of immigrants in the rural areas from outside Madhya Pradesh and from the rest of India have been enumerated although their percentage to the total population of the Division is the least (1·6). The total number of these immigrants in the East Madhya Pradesh Division is 154,391. In the North-West Madhya Pradesh Division, their number is 104,919 although the percentage to the total population is the highest (2·26). In the South-West Madhya Pradesh Division their number is the least being only 86,144 but the percentage to the total population is 2·10.

5. Subsidiary Table 2·8 in part I-B of the report, gives the percentage of males and females in each category of the rural immigrants. It is observed that there is a clear preponderance of females over males amongst the migrants from the districts of the same Natural Division, other parts of the State and adjacent States, indicating how the immigration tends to be of the casual type. The male-female ratio for migrants from the other parts of India is roughly equal showing the permanent nature of the migration. People born in the district of enumeration show a practically equal male-female ratio in the East Madhya Pradesh Division, but a low percentage of women is indicated in the case of the North-West and South-West Madhya Pradesh Divisions.

6. The largest number of people born in Pakistan and enumerated in the State were found in the North-West Madhya Pradesh Division, and this is due to the fact that the largest number of displaced persons have settled there. They number 12,627 (6,959 males and 5,668 females). In the East Madhya Pradesh Division, their number is 11,390 (7,633 males and 3,757 females); while in the South-West Madhya Pradesh Division only 4,255 (2,343 males and 1,912 females) were enumerated. It is interesting to observe that in the East Madhya Pradesh Division, as well as in the South-West Madhya Pradesh Division, the sex ratio of the people born in Pakistan suggests from the preponderance of males over females that the families have not yet fully settled in these rural areas.

7. Out of 958 persons of foreign birth (other than those born in Pakistan), enumerated in the State, 374 persons (253 males and 121 females) were enumerated in the North-West Madhya Pradesh Division, 333 (238 males and 95 females) in the East Madhya Pradesh Division and 251 (157 males and 94 females) in the South-West Madhya Pradesh Division. Here again, the sex ratio indicates the temporary nature of these migrants.

Emigration from the Rural Areas

8. In the previous section on the growth of population, we have referred to the movement of the people from the rural to the urban areas of the State. Subsidiary Table 3·8 (*immigration into urban area*) shows the migrants into the urban areas from districts other than the district of birth. Unfortunately, no statistics have been collected to show the volume of migration from the rural areas of a district into the urban areas and we can only have a rough idea of the movement from the comparative rate of growth of the general, rural and urban population as indicated briefly in the previous section.

9. The industrialisation of the State and the growth of cities and towns is bound to encourage emigration from the villages into the urban areas. On the other hand, the affinity of the villager to his home has a historic background and has been a damping factor in his economic development. In their report on labour conditions in India, the Royal Commission remarked in 1931 as follows :—

> "In our opinion the chief cause (of the retention of the village connection) is to be found in the fact that the driving force in migration comes almost entirely from one end of the channel, *i.e.*, the village end. The industrial recruit is not prompted by the lure of the city life or by any great ambition. The city, as such has no attraction for him and, when he leaves the village, he has seldom an ambition beyond that of securing the necessities of life. Few industrial workers would remain in industry if they could secure sufficient food and clothing in the village. They are pushed, not pulled, to the city.
>
> "A contributory cause is the joint family system, which by linking the emigrant to the village and even to its soil, serves to keep connections alive in many cases. Moreover, the comparative scarcity of employment for women and children in factories encourages the practice of leaving the family in the village, where their maintenance is more simple and less costly. In the perennial factories as a whole more than three quarters of the workers are males over 15 years; and the children form a small proportion of the remainder. On the other hand the village offers at least intermittent work for every one, even for small children. Further, where migration has resulted less from the lack of land than from the precarious character of its yield, there are obvious economic advantages in retaining interests in it. Even where relatives have not been left in the village, the ties of generations are strong. To a large extent Indian life is a community life

and the more individualistic existence inseparable from a city is strange and unattractive to the villager.

"Finally, an important cause of the desire of the factory workers to maintain village connections is to be found in the environment in which they must live while in factories. We deal with this later and merely observe here that no one who is familiar both with village conditions and with the factory areas can be surprised that so few workers are ready to establish in the latter a permanent home. We do not desire to suggest that the village is always, or even generally, an idyllic place ; but the average factory worker, contrasting the scenes in which he has to live with his memories of his native place, must welcome every opportunity of returning there and must cherish constantly the hope that, sooner or later, he can leave the city finally behind."

10. Analysing the causes of the villager's preference to rural life Kingsley Davis says, "The ryot's traditions, associations and habits are all rural in character . . . . . The rapidly developing industrial city in this part of the world has recapitualated all of the evils through which the industrial city elsewhere has passed. Housing conditions, working conditions, recreational facilities, and sanitary conveniences have all been incredibly bad, and food has been bad and unwholesome . . . . The development of industrial cities in India, under conditions of economy in an extremely competitive world, has produced some of the worst urban conditions ever known."

11. It is probable that with the spread of education and increasing facilities of communication and improvement in housing conditions and labour welfare work the intrinsic difficulties visualised above might be reduced. It may be mentioned that the growth of trade unionism has been a notable feature of the decade. The total membership of the Trade Unions in 1950 is reported to be 58,745 as against 17,261 in 1941. The Trade Union Movement is being put on a sound footing with Government sympathy and labour welfare work is given increasing importance. A note very kindly prepared by Shri P. K. Sen, Labour Commissioner to the Government of Madhya Pradesh, on the labour conditions in the State during the decade is given in Appendix "G" and it will be noticed that conditions are fast changing. Again the marked reduction in *per capita* cultivation in the State during the last three decades which is discussed in Chapter IV is another strong stimulus for movement from the villages into the towns. In fact, economic necessity will disrupt stay-at-home habits and migration of a permanent nature from the villages into, the towns will increase. Activities aimed at providing urban facilities to the village people in their homes might be forces working in the opposite direction to a certain extent but they will probably be insufficient to prevent the rapidly growing population from seeking employment in urban industries unless the rural areas are themselves extensively industrialised by developing the vast natural resources of the State or if cottage industries are introduced all over with suitable organizations to market the produce.

Emigration from the Rural Areas of the Natural Divisions

12. A comparison of the migration-*cum*-registration error, as given in the Subsidiary Tables 1·3, 2·3 and 3·3, is of considerable interest. It is noticed that in the case of the urban population the migration-*cum* registration error is throughout positive, while in the case of the rural areas it is of a negative character in most of the districts and also in the State as a whole and particularly in the South-West Madhya Pradesh Division. In the East Madhya Pradesh Division the error shows a positive character even in the rural areas. These figures of negative error clearly indicate the trend of migration from the rural areas into the urban areas as the registration error is not significient. In the East Madhya Pradesh Division, however, there is not only migration from the rural to the urban areas, but also immigration from the adjoining States and we have noticed above how this is of a significient character compared to similar movements in other Natural Divisions. It will be further noticed that the positive error is the largest in the rural areas of the East Madhya Pradesh Division during the decade 1921—30, when for economic and other reasons considerable immigration took place into these parts.

13. On examining Subsidiary Table 2·3 it is further observed that the largest negative migration-*cum*-registration error is to be found in the rural area of the South-West Madhya Pradesh Division where it is as high as −5·3 in 1941—50 and in the Wardha district it is the highest being −8·5. The corresponding positive error for Wardha in the urban population comes to +8·4, while for the South-West Madhya Pradesh Division as a whole the urban population shows a positive error of 14·9. The largest magnet attracting migrants into the urban areas in the South-West Madhya Pradesh Division is the district of Nagpur, where the positive error is of the order of 25 per cent. The heavy immigration into this district is obviously connected with its industrial development.

14. In the North-West Madhya Pradesh Division, the Betul district shows the largest negative migration-*cum*-registration error in the rural population in Subsidiary Table 2·3, where it is as high as

per cent during 1941—50. The corresponding error in the urban areas of the district as given in Subsidiary Table 3·3 for the same decade is again the highest in the Division, being +30·9. A perusal of the development of the Betul and Multai towns as given in main Table A-IV (towns classified by population with variations since 1901) shows how these towns have developed, particularly during the last decade. The figures are given below for convenience of reference :—

Table 44

Growth of Betul and Multai towns.

Year	Population	
	Betul	Multai
(1)	(2)	(3)
1901	5,566	3,339
1911	7,454	3,807
1921	6,954	4,059
1931	9,614	4,706
1941	11,841	5,196
1951	15,563	11,767

EMIGRATION INTO OTHER STATES

15. The general question of emigration from the State to other States in India has been discussed in the previous Chapter. No figures are available to show the extent of this emigration from the rural areas of the State, but from the general considerations given in the previous Chapter it is clear that such movement has taken place from the South-West Madhya Pradesh Division into the adjoining Bombay and Hyderabad States and also from parts of the North-West Madhya Pradesh Division into the adjoining States of Bombay and Madhya Bharat.

SECTION V.—NATURAL INCREASE, BIRTHS AND DEATHS

The Birth Rates

1. The mean decennial birth rates of the rural population of Madhya Pradesh differ little from those for the general population discussed in the previous Chapter, as is seen from the following table :—

Table 45

Mean decennial birth rates of the rural population in Madhya Pradesh

Decade	Mean decennial birth rate	
	Rural	General
(1)	(2)	(3)
1921—30	41.5	41.4
1931—40	41.2	41.2
1941—50	37.3	37.0

2. The reasons already given for the fall in the birth rate of the general population are applicable to the fall noticed in the case of the rural population and need not be repeated.

Birth Rates in the Natural Divisions

3. Subsidiary Table 2·3 given in Part I-B of the Report gives the analysis of the birth rates during the last three decades in the Natural Divisions of different districts of the State. Here again, the trends observed in the case of the general population are noticed in the case of the rural population also. The figures for the Natural Divisions are summarised below :—

Table 46

Mean decennial birth rates of the rural population in the Natural Divisions.

Name of Divisions	Mean decennial birth rate					
	1921-30		1931-40		1941-50	
	Rural	General	Rural	General	Rural	General
(1)	(2)	(3)	(4)	(5)	(6)	(7)
North-West Madhya Pradesh Division	41·3	41·2	43·9	43·7	37·3	36·8
East Madhya Pradesh Division	39·6	39·4	39·2	39·2	35·4	35·2
South-West Madhya Pradesh Division	44·3	43·8	41·0	41·1	40·3	39·4

4. In the South-West Madhya Pradesh Division, the district which has shown the sharpest fall in the birth rate in the rural areas is Nagpur. The birth rate of this district in 1921—30 was 44.4, in 1931—40 it was 42.6 and in 1941—50 it has come down to 37.8. A probable cause for this unusual fall in this district of the Natural Division is associated with the heavy immigration already discussed.

5. In the Chhattisgarh Plain of the East Madhya Pradesh Division, no figures are available for the rural areas of the integrated States and the estimate of the birth rate has to be based on the figures of the adjoining districts of Raipur, Bilaspur and Durg. The vital statistics for the Integrated States are, as we have seen in the previous Chapter, unreliable. There are in fact serious physical obstacles in the way of the vital statistics organisation including those connected with topography, extreme distances, lack of communications and almost universal illiteracy. Again, these factors and extreme poverty are circumstances which encourage unplanned families. In this connection, Chandrasekhar remarks :

"The very low level of living, the absence of a prolonged period of education or training, the existing social attitudes that encourage a large family,....., and above all, the psychological reason that encourages every man to look to his wife and the sex intimacy as the only relaxation and recreation in an otherwise dull, drab and unexciting life of relentless struggle to make both ends meet—all these are contributing factors. Economic instability makes one resigned and fatalistic; thought for the morrow and contemplation of the grim prospect of a large family are brushed aside. The thought that one cannot be worse off than one already is, banishes all ideas of foresight and control. Resignation to a lifetime of proverty follows."*

*"India's Population" fact and policy by S. Chandrasehkar (Indian Institute for population studies—Annamlai University, Chidambaram, India), page 29.

6. The extreme backwardness of the Chhattisgaris has been well described by Shri Jayaratnam in his report on the Land Revenue Settlement of the Bilaspur Zamindaris, where he says, "But it is impossible to refrain from stating that the standard of living of these people is incredibly low. They have, to all appearances, found rock bottom, and I was credibly informed by village *gaontias* that the majority of the average open country people find, on the average, two to three annas a day sufficient for their maintenance. This is not a matter for commiseration, for it is due to a defect in character born of generations of aimless existence, and an utter lack of enterprise and ambition. During the last three decades the terrors of famine and pestilence have been very greatly mitigated by the efforts of Government, with the result that the standard of living constitutes the principal check on the expansion of a naturally prolific people".

7. In considering the rural birth rates in the Chhattisgarh Plain, therefore, we have to be extremely cautious and the figures should be taken as representing the probable lower limit of the actual rates.

Conclusions about Birth Rates

8. A comparative study of the figures of birth rates for the rural areas and for the general population, as given in Subsidiary Tables 2.3 and 1.3, clearly shows that the trends are, more or less, identical and the reasons given for the fall in the birth rate for the general population hold good in the case of the rural population also.

The Death Rates

9. Details of the deaths in rural areas in the State, the Natural Divisions and districts are given in Subsidiary Table 2·3 in Part I-B of the Report. The mean decennial death rates for Madhya Pradesh for the rural and general population during the last three decades are as follows :—

Table 47

Mean decennial death rates of the rural and general population in Madhya Pradesh

Decade	Mean decennial Death rate	
	Rural	General
(1)	(2)	(3)
1921—30	31.6	31.8
1931—40	32.0	31.9
1941—50	31.2	30.3

10. It is interesting to observe that while the fall in the death rate of the general population has come down by 1.5 per cent during the last 30 years, the fall in the death rate in the villages is only 0.4 per cent. This is due to the fact that medical facilities in the urban areas are better than those in the rural areas. In fact, the death rate figures given above for the rural areas clearly show how little progress is made in reducing mortality in the villages which continues to be heavy.

11. The death rates for the rural and general population of the Natural Divisions have been as follows :—

Table 48

Mean decennial death rates of the rural and general population in the Natural Divisions.

Name of Divisions	Mean decennial death rate					
	1921-30		1931-40		1941-50	
	Rural	General	Rural	General	Rural	General
(1)	(2)	(3)	(4)	(5)	(6)	(7)
North-West Madhya Pradesh Division	32·3	32·5	35·6	35·0	32·5	31·5
East Madhya Pradesh Division	29·8	29·8	27·9	27·8	28·4	28·1
South-West Madhya Pradesh Division	33·4	33·3	34·2	33·6	33·7	32·1

12. The above figures show how the death rate of the rural population in the North-West Madhya Pradesh Division actually increased by 3.3 per cent during the first interval and then came down by 3.1 per cent and is even now higher than that during 1921—30.

13. It will be further noticed from Subsidiary Table 2·3 that the death rate is the highest in the State in the Nimar district. The unhealthy conditions in the malaria-infested areas of this district have already been mentioned in the previous Chapter. Figures for the Hoshangabad, Jabalpur and Sagar

districts are also high, and indicate how the whole of the Nerbudda Valley is unhealthy as has already been pointed out.

14. In the South-West Madhya Pradesh Division, the high death rates in the Berar districts of Amravati, Akola, Buldana and Yeotmal attract attention, particularly during the decade 1941—50 when the death rates in the rural parts of Akola, Buldana and Yeotmal are conspicuously high, as will be noticed from Table 49 given below :—

Table 49

Mean decennial death rates of the rural and urban population in the districts of the South-West Madhya Pradesh Division.

Districts	1921-30		1931-40		1941-50	
	Rural	General	Rural	General	Rural	General
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Wardha	32·0	31·3	34·8	33·3	32·5	30·5
Nagpur	31·5	32·4	33·8	33·9	31·5	29·8
Amravati	34·8	34·3	34·3	34·0	32·9	30·8
Akola	36·0	35·5	36·6	35·5	35·4	34·0
Buldana	33·6	33·8	33·6	33·0	34·1	33·2
Yeotmal	31·8	31·5	32·4	31·9	35·1	34·2

15. Table 49 further shows tnat in the Akola district the death rate has been high in the rural areas during all the three decades, while it has shown a distinct rise in Yeotmal and Buldana during the current decade.

16. As compared to the death rates of the South-West Madhya Pradesh Division, those in the East Madhya Pradesh Division are comparatively lower as will be noticed from Table 48 above. In this connection, we must remember the observations made in the previous Chapter about the comparative accuracy of the vital statistics in the Natural Divisions. The rural areas of the backward Chhattisgarh plains and the Plateau districts have hardly any medical relief and the toll of death is heavy. Summing up the conditions in these undeveloped areas, Col. J. B. Hance, Inspector-General of Civil Hospitals and Director of Public Health, remarked, "Whereas in the more settled parts of the province most of the inhabitants are within reasonable distance of some form of medical attention, and communications are reasonably adequate—in some cases even easy—the tracts inhabited by the aboriginals consist mostly of thick forest in which communications are difficult and in the monsoon almost impossible. Such dispensaries as there are, are situated very far apart in cleared and comparably settled areas. The sick aboriginal, therefore, stays where he is and mostly lives, dies or spreads his disease without let, hindrance or help."*

Conclusions About Death Rates

17. As we have pointed out in the previous Chapter, the problem of medical relief in the State is a formidable one and it is more so in the rural areas. The statistics show that there is little change in the rural death rate during the last three decades and the heavy mortality continues unabated. There is little hope of the death rate falling appreciably in the rural areas during the next decade unless measures of the type suggested in the previous Chapter are taken on an extensive scale.

The Natural Increase of Population in the Rural Areas of Madhya Pradesh

18. As has been pointed out the vital statistics figures for the rural areas of the integrated States are not available at all and those which are available for the general population are unreliable. Again particulars of emigration from the rural areas are also not available. Under the circumstances we can determine the natural increase or the excess of births over deaths only for the area under registration shown in Subsidiary Table 2.3 in Part I-B of the Report. This area consists of the old districts of Madhya Pradesh, excluding the integrated States. The figures are as follows :—

(1)	1941-50 (2)	1931-40 (3)	1921-30 (4)
Registered births	5,624,386	5,864,113	5,405,051
Registered deaths	4,685,961	4,563,126	4,125,335
Natural increase	938,425	1,300,987	1,279,716
Decennial rate of natural increase.	6·2	9·2	9·9

Significance of The Natural Increase

19. The above figures clearly show how the rate of natural increase of population in the rural areas has been falling during the last three decades and the causes are (*a*) emigration to urban areas and (*b*) a significant fall in the birth rate. The reasons for the fall in the birth rate have already been discussed in the previous Chapter.

*Quoted in "The Aboriginal Problem in Central Provinces and Berar" by W. V. Grigson, page 304 (Nagpur : Government Printing—1944).

SECTION VI.—LIVELIHOOD PATTERN

1. About 85.4 per cent of the rural population of Madhya Pradesh belongs to the agricultural classes and about 14.6 per cent to the non-agricultural classes, as is obvious from Subsidiary Table 2.4 given in Part I-B of the Report.

2. The distribution of the rural population amongst the agricultural classes is as follows :—

	Per cent
Class I—Cultivators of owned land ..	56.0
Class II—Cultivators of unowned land	5.0
Class III—Agricultural labourers ..	22.7
Class IV—Non-cultivating owners of land.	1.7

3. In considering these figures, the definition of "own land" for purposes of Census, as explained in Section VI of the previous Chapter, should be remembered. As pointed out, the Malguzars and Zamindars owned the estate and not the land in the estate which was really always owned by the cultivators of Livelihood Class I.

4. Amongst the non-agricultural classes, about 7.9 per cent (out of the total of about 14.6 per cent) belong to the Livelihood Class V (Production other than cultivation), which, as we have seen previously, includes the industries of division "O" of the divisions under the Indian Census Economic Classification Scheme given in Part II-B of the Report. This division includes industries such as stock raising, rearing of small animals, plantations, forestry, etc. It is also interesting to observe from Subsidiary Table 5.8 in Part I-B of the Report that in the rural areas of the State nearly 1/6th (14.65 per cent) of the total number of self-supporting persons engaged in all industries and services belong to division "O" consisting of the above industries.

5. Commercial people in the rural areas account for only 2 per cent of the population, while about 4.2 per cent depend upon services and miscellaneous sources. People depending upon transport are hardly half a per cent in the rural areas of the State.

THE NATURAL DIVISIONS

6. The livelihood pattern of rural population in the Natural Divisions as compared to the State as a whole is summarised in the following table. It gives the number of persons per 10,000 of the rural population :—

Table 50

Livelihood pattern of the rural population of Madhya Pradesh

State and Natural Divisions	Livelihood Classes							
	I.—Cultivators of owned land	II.—Cultivators of unowned land	III.—Cultivating labourers	IV.—Non-cultivating owners of land and agricultural rent receivers	V.—Production other than cultivation	VI.—Commerce	VII.—Transport	VIII.—Other services and miscellaneous sources
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Madhya Pradesh	5,598	499	2,276	171	790	196	53	417
North-West Madhya Pradesh Division ..	5,405	508	2,024	214	944	268	87	550
East Madhya Pradesh Division	6,593	331	1,731	109	759	135	39	303
South-West Madhya Pradesh Division ..	3,489	883	3,838	266	688	255	48	533

7. It will be noticed that in the East Madhya Pradesh Division the largest number of people derive their principal means of livelihood from cultivation of own land; while the smallest number of such owner cultivators are to be found in the South-West Madhya Pradesh Division, which has the typical characteristic of possessing the largest percentage of agricultural labourers, for reasons explained in the previous Chapter.

8. A comparison of Subsidiary Table 2.4 with Table 1.8 given in Part I-B of the Report will show that the rural population has, on the whole, the same characteristics with regard to the agricultural classes in the rural areas as is found in the general population. This is due to the overwhelming rural character of the State. Amongst the agricultural livelihood classes the districts which attract attention are Surguja, Bilaspur and Raigarh in

which the owner cultivators claim over 70 per cent of the rural population. In fact, in the Surguja district about 79 per cent of the rural population falls under Livelihood Class I, while in the Bilaspur district the percentage is 75 and in Raigarh it is 72.

The Non-agricultural Classes

9. The distribution of the non-agricultural classes in the Natural Divisions is of a different pattern amongst the rural population as compared with the general population. The largest percentage of people belonging to Livelihood Class V (Production other than cultivation) are to be found in the North-West Madhya Pradesh Division (9.44). In the East Madhya Pradesh Division, their percentage is 7.59, while in the South-West Madhya Pradesh Division it is only 6.88.

High Percentage of People Belonging to Livelihood Class V (Production Other Than Cultivation) in Rural Areas Explained

10. The reasons for the high percentage of people in Livelihood Class V in the North-West Madhya Pradesh Division are as follows :—

(*a*) A perusal of Subsidiary Table 5.8 in Part I-B of the Report shows that stock raising, forestry and fishing (of Division'O') are important industries of the North-West Madhya Pradesh Division, which has excellent forests and rivers as well as tanks.

(*b*) Subsidiary Table 5.10 shows that the tobacco and bidi industry of Jabalpur and Sagar, cotton ginning pressing and textile industry of Nimar, and the hand weaving and garment making industry in the Plateau districts are also very important in this Natural Division.

(*c*) Mining and quarrying industries are also very significant as will be seen from Subsidiary Table 5.9. Coal mining of Chhindwara and Betul, clay and lime-stone quarrying of Jabalpur, Hoshangabad and Nimar and Bauxite ore mining of Jabalpur are all well-known industries of the rural areas of the Division.

11. In the East Madhya Pradesh Division, the figures under Livelihood Class V are affected by the three districts of the East Maratha Plain, namely, Chanda, Bhandara and Balaghat and excluding these districts, the percentage of the people in Livelihood Class V is only 5.46 in the Chhattisgarh Plain. In the East Maratha Plain Sub-Division on the other hand, the percentage is as high as 13.57. The three districts of this Sub-Division are rich in forest and minerals. Coal mining in the Chanda district and manganese mining in the Bhandara and Balaghat districts are important industries as also bidi making, stock raising, forestry and fishing. Handloom weaving is also extensively done in this Natural Sub-Division. A perusal of Subsidiary Tables 5.7, 5.8 to 5.10 will show how the above industries are of considerable importance in the East Maratha Plain which, therefore, shows the high percentage in Livelihood Class V in the rural areas. In fact if the percentage in Livelihood Class V is worked out in the rural areas on the non-agricultural population only [as is done in Subsidiary Table 5.1 (A) given in Part I-B of the Report] and not on the total population, as in Subsidiary Table 2.4 from which Table 50 given above is derived, we would find that the highest percentage (69.69) of the non-agricultural population belongs to Livelihood Class V in the East Maratha Plain Sub-Division of the East Madhya Pradesh Division. The corresponding percentage of the non-agricultural population belonging to Livelihood Class V in the rural areas of the North-West, East and South-West Madhya Pradesh Divisions as given in Subsidiary Table 5.1 (A) are 51.06, 61.38 and 45.15 respectively.

Examination of Individual Districts with High Percentage of People in Livelihood Class V (Production Other Than Cultivation)

12. A perusal of column 6 of Subsidiary Table 2.4 relating to Livelihood Class V (Production other than cultivation) shows that more than 10 per cent of the population belongs to this Livelihood Class in the rural areas in the districts of Jabalpur (10.94), Hoshangabad (10.99), Chhindwara (11.60), Chanda (12.40), Bhandara (17.45) and Nagpur (13.97). To appreciate these figures we must again refer to Subsidiary Tables 5.7 to 5.12 dealing with the distribution of the people engaged in the different industries of Livelihood Class V and also to the known facts about the existence of particular industries in these districts.

The Jabalpur District

13. The high percentage in Livelihood Class V in the rural areas of the Jabalpur district is due to different industries to be found in the interior. The brass, copper and bell metal workers of the district have been known for a very long time. Although these industries are not very prosperous they engage a fair number of people. The brass and copper utensils of the Panagar and Murwara area are well-known. They are manufactured by the local 'Tameras' mostly from imported sheets. The bell metal dishes and pots of Bilahari, Bijeraghogarh and Barhi in the Murwara tahsil are also popular.

14. Mining and quarrying of limes-stone, clay, soap-stone, bauxite, red and yellow ochre and chalk are also important industries of the Jabalpur district which absorb a large number of people. The following table shows the extent of mining and quarrying in the district :—

Table 51

Mining and quarrying output in the Jabalpur district.

Name of mineral	1949			1950		
	Number of mines	Output of mineral in tons	Value raised	Number of mines	Output of mineral in tons	Value raised
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Rs.			Rs.
Lime-stone	18	638,124	2,691,268	13	587,733	1,983,582
Fire-clay and white clay	7	29,111	210,383	7	38,870	242,233
Soapstone	7	2,256	118,072	7	1,818	101,374
Bauxite	9	24,245	273,995	8	26,653	208,486
Red and yellow Ochre and chalk	1	8	1,571	1	120	1,200

15. Tobacco, vegetables, singara and sugarcane plantations in the Jabalpur district also contribute to the increase in the proportion of people of Livelihood Class V, as also the popular cottage 'bidi' industry.

The Hoshangabad District

16. In the Hoshangabad district forestry and collection of forest produce are very important industries. The district has approximately 2,000 square miles of reserved forest. It is mainly in compact blocks. The teak of Bori forest is considered to be of a very superior quality and it was one of the first tracts in India to be declared a reserved forest in the year 1859. There are forest depots at Khidkia, Timarni and Taku where approximately 30,000 cubic feet of teak in the form of round, square and sawn wood, felled departmentally, are sold by public auction. The following table gives a rough estimate of the forest produce removed by the contractors and the consumers annually :—

Table 52

Estimate of forest produce in the Hoshangabad district.

1.	Teak timber ..	667,897	c.ft.
2.	Satkata	835,200	c.ft.
3.	Charcoal	600	wagons.
4.	Fuel	5,000	cart-loads.
5.	Tendoo leaves ..	5,000	bondries.
6.	Bamboos	2,700,000	in numbers.
7.	Gum	115	maunds.
8.	Lac	50	maunds

17. The tiles and brick manufacturing industries of the Hoshangabad district are well-known. In addition to six organised companies whose combined annual output of bricks and tiles is worth about Rs. 301,700/-, there are a number of private individuals engaged in brick making and the making of country tiles. Weaving is a popular industry among the Koris and Mehars and basket and mat making industries are popular amongst the Basods of the Babai area and people living close to other forests.

18. Industries connected with grains and pulses also engage fairly large number of people in the rural areas. Piparia in the Hoshangabad district is one of the largest markets of pulses.

19. Fishing and plantation industries are also significant in the Hoshangabad district. The Nerbudda flows along the Northern boundary of the district and plantations in the river bed during the summer and fishing all round the year are very common.

The Chanda District

20. The reason for the high percentage of people in the rural areas of the Chanda district under Livelihood Class V can be attributed to the existence of the following industries :—

(i) Forestry:—The forests of the Chanda district are well-known in India. The Allapali teak is regarded as one of the best qualities of timber in the country. The thick and valuable forests of Allapali, Kolsa, Mohorli and Ahiri are national assets.

In addition to teak, bija, khair, yen, bamboo, fuel and grass are other important forest produce as also gum, mahua, lac, harra and tendu leaves.

(ii) The coal mining industry of the Chanda district is also extremely important. Two of the collieries at Ghugus and Majri are completely in the rural areas, while the Mahakali, the Hindusthan Lal Peth and the Ballarpur collieries are situated in the urban areas, although they also attract workers from the surrounding villages. The following table gives the approximate number of labourers employed in each of these mines and the average annual output in tons :—

Table 53

Output of coal-mines in the Chanda district and particulars of the labourers engaged.

Name of coal mine	Place	Number of labourers		Average annual output in tons
		Males	Females	
(1)	(2)	(3)	(4)	(5)
1. Mahakali Colliery ..	Chanda ..	482	52	38,750
2. Hindusthan Lalpeth Colliery.	Do. ..	922	60	60,000
3. Ballarpur Colliery	Ballarpur..	1,200	350 40 boys.	95,000
4. Ghugus Colliery ..	Ghugus ..	604	96	89,000
5. Majri Colliery ..	Majri in Warora tahsil.	Not available		38,550

(iii) The match works, the glass factory and the ceramic industries of Chanda as well as the pottery works near Ballarpur and the new Ballarpur Paper Mills all attract fairly large number of workers from the surrounding villages.

(iv) There are 14 rice mills and 4 oil mills in the Chanda district and fairly large number of labourers from the villages get employment in these factories.

(v) The 'bidi' industry is not very flourishing in the Chanda district, but it does provide employment in parts of the Bramhapuri, Sironcha and Chanda tahsils of the district.

(vi) The handloom cloth industry is to be found on a fairly large scale throughout the district except in the Warora tahsil. The handloom cloth produced is of coarse and medium quality. The industry is reported to be very popular in the Bramhapuri and Gadchiroli tahsils amongst the Koshtis and the Harijan communities.

(vii) The Brass and bell metal industry also absorbs a certain number of workers in the district.

(viii) Kosa silk production and manufacture is also prevalent in the Chanda district, particularly in the Chanda, Gadchiroli and Sironcha tahsils.

(ix) Fishing in the rivers of the district again provides good employment to the Dhimars.

The Bhandara District

21. The high percentage of people in Livelihood Class V in the Bhandara district is due to the very popular 'bidi' industry of the place. The 'bidi' industry is so paying that an acute shortage of agricultural labour is frequently experienced in this district as will be shown later in Chapter IV, Section VI where the secondary occupation of the agricultural labourers is discussed. Weaving is next in importance to the 'bidi' industry in the villages. Manufacture of brass utensils, basket making, rope and mat making and brick manufacturing industries are also common in the district. The glass and lac factories of Gondia also provide employment to the people of the surrounding villages. The Bhandara district also produces excellent rice and there are 24 rice mills in the Sakoli tahsil and 67 in the Gondia tahsil which provide ample opportunity to the villagers for employment. Manganese mining is a very important industry of the Bhandara district which produces some of the finest manganese in the world.

The Nagpur District

22. In the Nagpur district also the Manganese mines of Mansar and the surrounding areas give employment to the people in the rural areas. The orange plantation industry of this district is known all over the country. The table given below shows the progress of orange cultivation in the Nagpur district during the last 20 years :—

Table 54

Orange cultivation in the Nagpur district.

Area under orange plantations (in acres)					
Year	Area	Year	Area	Year	Area
(1)	(2)	(3)	(4)	(5)	(6)
1929-30 ..	5,566	1937-38	11,131	1945-46	20,893
1930-31 ..	5,761	1938-39	12,812	1946-47	20,995
1931-32 ..	5,883	1939-40	13,512	1947-48	21,898
1932-33 ..	6,132	1940-41	15,449	1948-49	21,984
1933-34 ..	6,617	1941-42	17,773	1949-50	21,638
1934-35 ..	7,385	1942-43	18,643	1950-51	21,515
1935-36 ..	8,666	1943-44	18,824		
1936-37 ..	9,266	1944-45	17,839		

23. The Nagpur orange market is perhaps the biggest in India. About 87,000 carts of oranges are reported to have been received in the market during the last season ending 5th May 1952. About two-thirds of the oranges grown in Madhya Pradesh come from the Nagpur district. The estimate of production of oranges in Madhya Pradesh, their estimated export and the market arrivals in Nagpur are given below in Table 55. The figures have been very kindly supplied by the Deputy Director of Agriculture (Economics and Marketing) to the Government of Madhya Pradesh :—

Table 55

Production and Marketing of Oranges.

Years	Estimated production of oranges in Madhya Pradesh	Estimated exports of oranges from Madhya Pradesh	Arrivals of oranges in the Nagpur market
(1)	(2)	(3)	(4)
	Tons	Tons	Carts
1940-41	97,757	58,000	68,374
1941-42	107,190	64,000	51,299
1942-43	110,356	66,000	82,159
1943-44	113,000	68,000	72,661
1944-45	110,241	66,000	116,398
1945-46	116,867	96,000	109,314
1946-47	109,787	86,000	91,178
1947-48	99,405	80,000	100,560
1948-49	106,880	86,000	96,776
1949-50	22,524	18,000	21,682

24. The main export markets are Delhi and Calcutta. From Calcutta the oranges are further exported to Pakistan. We will refer to the orange industry again in Chapter V, Section IV where its cold storage is discussed.

25. The 'bidi' industry is also popular in the rural areas of the Nagpur district adjoining the Bhandara district, as will be seen from a perusal of Subsidiary Table 5·10. The weaving trade of the Koshtis is also significantly reflected in the figures of the Subsidiary Table 5·10 which also include the textile industries of the urban areas.

26. The following industries might be mentioned amongst the other cottage industries of the Nagpur district :—

(i) Brick and tile making. The Kanhan clay is most suitable for preparing bricks and tiles and the industry has naturally flourished along the bank of the river.

(ii) Brass-ware making and manufacture of bronze articles is also to be found in certain parts of the district.

(iii) Basket making is a popular industry in the rural areas.

(iv) 'Rangoli' or stone powder making is also to be found in some places of the district.

(v) Fishing in the river beds, tanks and ponds is also a significant industry in the rural areas. It is reported by the Tahsildar, Ramtek, that fish worth over Rs. 500 are exported daily from the tanks of Khindsi, Chakorda, Mansar, Dongri, Satak, Ghoti, Belda and the adjoining tanks.

(vi) The betel leaves plantations of the Ramtek tahsil are also well-known.

The Chhindwara District

27. In the Chhindwara district coal mining is the most important industry in the rural areas. There are some 17 coal mines in the Chhindwara tahsil itself. Manganese mines also exist at Sitapar, Kacchidhana, Vaghoda and Gowari-Wadhona in the Sausar tahsil. The cotton and ginning factories of Chichkheda and Pandhurna in the Sausar tahsil, as also the charcoal burning industry and collection of forest produce provide important sources of occupation to the villagers of the district. Handloom weaving is to be found in many parts of the district. The big centres are Chand, Mohgaon, Pandhurna, Lodhikheda and Barghat. In the Lakhnadon tahsil and the Zilmili tract of the Seoni tahsil hemp sacks are woven by the Banjaras. Blankets are also manufactured in the interior, the principal centres of which are Mahuljhir, Chawalpani and Rohona in the Chhindwara tahsil and Pipla, Lodhikheda and Berdi in the Sausar tahsil. Manufacture of bangles, particularly of lac is an industry which is found at places in the Seoni tahsil. This was an important industry in the past, but is now dying out. Brass and copper utensils of Lodhikheda and some other centres in the district are also well-known. The 'bidi' industry is not very prominent but is to be found in a number of places. Manufacture of earthenware as well as basket making are also important cottage industries of the district in which there are excellent forests and also good clay for earthenware in the Chhindwara and Seoni tahsils.

Commercial Activities in the Rural Areas of the Natural Divisions

28. Subsidiary Table 2·4 given in Part I-B of the Report and Table 50 given above show that the percentage of the rural population belonging to

Livelihood Class VI (Commerce) in the North-West, East and South-West Madhya Pradesh Divisions are 2·68, 1·35 and 2·55, respectively. The East Madhya Pradesh Division includes the East Maratha Plain Sub-Division consisting of the Bhandara, Balaghat and Chanda districts. If these districts are not taken into consideration the percentage of the rural population belonging to Livelihood Class VI in the remaining part of the East Madhya Pradesh Division, that is to say in the Chhattisgarh Plain Sub-Division, would be only 1·11. It must, however, be remembered that all the percentages referred to here are calculated on the entire rural population of the Division or Sub-Division. On the other hand if these percentages are calculated on the actual number of people belonging to the non-agricultural classes only as is done in Subsidiary Table 5·1 (A) given in Part I-B of the Report, it will be found that the highest percentage (16·74) of the rural people of the non-agricultural classes belonging to Livelihood Class VI is to be found in the South-West Madhya Pradesh Division. The corresponding percentages in the North-West and East Madhya Pradesh Divisions are 14·52 and 10·94 respectively, while those for the Chhattisgarh and East Maratha Plains they are 11·33 and 10·40 per cent respectively. The flourishing grain trade of the Raipur and Bilaspur districts where over 15 per cent of the non-agricultural population in rural areas depends upon commerce is responsible for the higher percentage in the Chhattisgarh Plain compared to that in the East Maratha Plain.

Transport Activities

29. Transport activities in the rural areas of the North-West Madhya Pradesh Division are comparatively greater than in the other two Divisions. It is to be remembered that this Division is served by railway communications to a much greater extent than the other two Divisions. In this connection the following remarks contained in the Report of the C. P. Banking Enquiry Committee (1929-30) are of interest :—

"For instance, the Itarsi-Jubbulpore branch of the Great Indian Peninsula Railway, which runs along the whole length of the Nerbudda Valley, places most villages in the Hoshangabad, Narsinghpur and the Western portion of the Jubbulpore districts within 10 or 15 miles of a railway station. The hinterland of Mandla, Chanda and Chhattisgarh and parts of the Satpura Plateau, however, are situated at a much greater distance from the railway and, although with the exception of the more hilly and most backward tracts, there are now few villages more than 20 miles from a first class road, there are still considerable areas more than 50 miles distant from the railway. In certain backward tracts, such as those mentioned above, pack-bullocks are still used as a means of transport, but these tracts are relatively unimportant, and communications now suffice for the moving of produce by country carts from nearly all cultivated areas to the wholesale markets. In the cotton zone and in other tracts where money crops are produced for sale, a large number of the cultivators carry their own produce in their own carts to the nearest market town, but in other cases, with the exception of that small percentage of persons who are habituated to litigation, and who are mostly persons who either owe or are owed considerable sums of money and who are not typical of the real villager, the majority of the dwellers in rural areas rarely visit the town. Their lives centre round the village in which they dwell..... Current events in the town are often not matters of much interest in the village, where interests centre round the prospects of the coming harvest and other rural matters of that kind. The marriage celebrations of a big man in the village, disputes over some petty encroachment of land, trespass of the cattle of one villager into the field of another, local scandals and gossip of the village, or the highhandedness of some petty local official, etc., etc., are all matters of much greater interest than the more important events of the outside world, and may be discussed far into the night when the villagers collect together to smoke the *chilum* at the village *baithak* or under the village pipal tree."*

30. Since the Banking Enquiry Committee Report was written 20 years ago development in transport activities have increased very considerably as we shall see in Chapter V, Section XI (Transport, Storage and Communications), but the essential character of the villager depicted in the Report has not undergone material change, particularly in those backward tracts where even now communications are poor. Motor vehicles and jeep cars are, however, now reaching places, where a generation ago it would have been fantastic to have thought of their presence.

31. Improvement of transport and means of communications must receive top priority in our rural development plans as no progress is possible either in the economic field or in the social sphere unless the present difficulties of movement are overcome and easy contact is rendered possible.

Other Services and Miscellaneous Sources

32. According to Subsidiary Table 2·4 given in Part I-B of the Report and Table 50 given above the percentage of the rural population belonging to

*'Report of the Central Provinces Provincial Banking Enquiry Committee, 1929-30, Volume I, Pages 36-37' (Nagpur: Government Press).

Livelihood Class VIII (other services and miscellaneous sources) in the North-West, East and South-West Madhya Pradesh Divisions are 5·50, 3·03 and 5·33 respectively. These percentages are calculated on the entire rural population of the Natural Divisions. If, however, they are calculated on the non-agricultural population of the rural areas of the Divisions as is done in Subsidiary Table 5·1 (A) given in Part I-B of the Report, the corresponding percentages work out to 29·74, 24·54 and 34·97 respectively. In other words the percentage of people belonging to the non-agricultural classes and depending upon Livelihood Class VIII (other services and miscellaneous sources) is highest in the South-West Madhya Pradesh Division. Livelihood Class VIII consists of Division '8' (Health, Education and Public Administration) and Division '9' (Services not elsewhere specified) of the Divisions of all industries and services according to the Indian Census Classification Scheme already referred to. It is interesting in this connection to refer to Subsidiary Table 5·7 which shows the territorial distribution of 10,000 self-supporting persons of all industries and services in the State according to the ten divisions. The figures for the three Natural Divisions are as follows :—

State and Divisions	Division '8' Health, Education and Public Administration	Division '9' Services not elsewhere specified
(1)	(2)	(3)
Madhya Pradesh	1,031	1,267
North-West Madhya Pradesh Division.	1,021	1,304
East Madhya Pradesh Division ..	857	1,194
South-West Madhya Pradesh Division.	1,428	1,370

The figures under Division '8' (Health, Education and Public Administration) are particularly interesting as they show the highest percentage in the most developed part of the State, *viz.*, the South-West Madhya Pradesh Division and the least percentage in the most backward area, *viz.*, the East Madhya Pradesh Division.

SECTION VII.—CONCLUDING REMARKS

Distribution of Rural Population

1. We have seen in the previous sections how the vast majority (87 per cent) of the people of Madhya Pradesh live in the rural areas. The process of urbanization has been extremely slow and it is only of late that industrial activities are increasing and there is noticeable movement of people from the villages to the industrial centres. Amongst the people living in the villages, about 47.6 per cent reside in villages with a population between 500 and 2,000 and about 43 per cent in villages with population under 500. In other words over 90 per cent of the rural population reside in villages of small and medium size, while only about 9.4 per cent of them live in comparatively larger villages of over 2,000 population. There are 48,444 inhabited villages in the State and the average population per village comes to about 379 with about 80 houses per village and about five persons per house. The average density of the rural population is 146 persons to a square mile.

Growth of Rural Population

2. The decennial growth rate of the rural population has been falling after 1921—30. It was 9.7 in 1921—30, 7.9 in 1931—40 and 4.4 in 1941—50. The decade 1921—30 was marked by rapid recovery after the severe influenza epidemic referred to in the previous Chapter. The causes for the subsequent reduced growth rate of the rural population are associated with the fall in the birth rate due to the previous history of famines and epidemics and it is also connected with the increasing drift of population towards the urban areas. There is limited immigration into the rural parts of the State, while the movement from the rural areas into the urban parts is noticeable almost in all districts, particularly in those of the South-West and North-West Madhya Pradesh Divisions.

3. The birth statistics of the rural population show that the mean decennial birth rate, which was 41.5 in 1921—30, has come down to 37.3 in 1941—50. The mean decennial death rate has hardly changed during the last three decades. It was 31.6 in 1921—30 and was 31.1 in 1941—50.

Future Growth of the Rural Population

4. The difficulties in forecasting the population in future have been enumerated in the previous Chapter. In the case of the rural population, the difficulties are further increased on account of the probable future increased outflow of the rural population into the urban areas for reasons discussed in Section IV on 'Movement' above. Assuming, however, that the death rate is not likely to go down appreciably in the rural areas during the next decade and that the birth rate might remain steady as pointed out in the previous Chapter, it might be surmised that the growth rate of the rural population of the State will show a further fall during the next decade. However, when the birth rate begins to rise after 1960, as already mentioned, the rural population will present far more difficult problems than those that have ever appeared in the past.

The Economic Outlook

5. 85.4 per cent of the rural population of Madhya Pradesh belong to the agricultural livelihood classes. Only about 14.6 per cent of them depend upon industries, commerce and miscellaneous sources. The nature of the non-agricultural activities, in which they are engaged, can be judged from the distribution of 10,000 self-supporting persons of all industries and services given in Table 56 below which is derived from Subsidiary Table 5.7 in Part I-B of the Report:—

Table 56

Distribution of 10,000 self-supporting persons of all industries and services, in rural areas by divisions of industries and services, in the State and the Natural Divisions.

Divisions of Industries and Services	Madhya Pradesh	North-West Madhya Pradesh Division	East Madhya Pradesh Division	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)
All Industries and Services				
Total Persons	841,376	267,082	394,678	179,616
Distribution of 10,000 self-supporting persons in all industries and services				
0—Primary Industries not elsewhere specified	1,465	1,166	1,780	1,218
1—Mining and Quarrying	562	778	512	351
2—Processing and Manufacture—Food stuffs, textiles, leather and products thereof	1,971	1,705	2,446	1,321
3—Processing and Manufacture—Metals, chemicals and products thereof	457	447	477	431
4—Processing and Manufacture—Not elsewhere specified	1,123	1,141	985	1,400
5—Construction and Utilities	411	547	290	473
6—Commerce	1,331	1,399	1,125	1,684
7—Transport, Storage and Communications	382	492	334	324
8—Health, Education and Public Administration	1,031	1,021	857	1,428
9—Services not elsewhere specified	1,267	1,304	1,194	1,370
Total Divisions 0 to 9	10,000	10,000	10,000	10,000

6. It will be noticed that nearly one-seventh (14.65 per cent) of the people engaged in industries and services are occupied in 'Primary industries not elsewhere specified', including stock raising, rearing of small animals, and insects, plantations, forestry and collection of forest produce, hunting and fishing. Subsidiary Table 5.8 given in Part I-B of the Report shows that amongst these persons engaged in 'Primary industries not elsewhere specified', more than half (59.56 per cent) are engaged n stock raising, about a fifth (20.94 per cent) in fishing and about a seventh (13.87 per cent) in wood-cutting, charcoal burning, collection of forest produce and in forest services. Table 56 given above further shows that about one-fifth (19.71 per cent) of the people are engaged in 'Processing and manufacture of food-stuffs, textiles, leather and products thereof'. Of these one-fifth, more than a third (35.99 per cent) are engaged in 'bidi' making and other tobacco industries, while about a quarter (23.88 per cent) get employment in weaving and other cotton textile rural industries, as will be apparent from a perusal of Subsidiary Table 5.10 in Part I-B of the Report.

7. Table 56 given above also shows that about 11.23 per cent of the self-supporting persons of the rural population are engaged in 'Processing and manufacture not elsewhere specified'. A perusal of Subsidiary Table 5.12 in Part I-B of the Report shows that more than half of these people are engaged in industries connected with wood and wood products other than furniture and fixtures. They include sawyers, basket makers and carpenters, etc. Thus, our traditional "hewers of wood" in the villages are to be found as "sawyers" under this head "Processing and manufacture not elsewhere specified" and as "wood-cutters in forest" under the head "Primary industries not elsewhere specified".

8. Amongst the 13.31 per cent of commercial people in the rural areas, shown in Table 56 above, more than half (about 56.5 per cent) are engaged in retail trade in food-stuffs, as will be seen from a perusal of Subsidiary Table 5.14 in Part I-B of the Report. About 22 per cent are engaged in unclassified retail trade and about 9.08 per cent in retail trade of cloth and other textiles. It is interesting to notice that of the people engaged in 'Commerce', nearly 4.76 per cent are also engaged in 'Money-lending and banking.'

9. The percentage of self-supporting persons engaged in 'Services not elsewhere specified' constitute about 12.67 per cent of the people in the rural classes, as shown in Table 56 above. Of these, 23.51 per cent are Barbers, 17.10 per cent are domestic servants, 10.89 per cent are Dhobies, 7.23 per cent are engaged in religious activities, while 29.84 per cent are engaged in services otherwise unclassified, as will be obvious from a perusal of Subsidiary Table 5.17 given in Part I-B of the Report.

CONCLUSION

10. It is, therefore, clear that our rural population is almost entirely dependent on agriculture and forests and this confirms the remarks about the overcrowding in agriculture made in the previous Chapter. In fact, this overcrowding in agriculture is, as pointed out, a tremendous waste of human labour and is one of the principal causes of our backwardness. Diversion of the surplus rural population to industrial activities is, therefore, one of the pressing necessities of the State vividly brought out by the study of the Census figures on economic classification of the rural population. The question of unemployment and under employment amongst the agricultural classes has been considered in Chapter IV (see paragraphs 6 to 9 of section X of Chapter IV.) For a detailed discussion on dependency see also sections II and IV to VII of that Chapter.

CHAPTER III

Urban Population

SECTION I.—PRELIMINARY REMARKS

1. Our historical cities and towns flourished not on account of large industrial or commercial developments, but on account of their political or religious significance. The headquarters of a district place, for example, got importance for administrative reasons; while a place of pilgrimage thrived on the religious belief of the people. During the last two decades, however, the urban development, as pointed out, is significant and is connected with the industrial and economic progress in the country. The study of the urban population problems is, therefore, gaining increasing importance. Some writers have even remarked, "In many ways what is happening in the city today is what will be happening to all of India in future."* Although in India our rural economy will persist for reasons associated with our history, culture and inter-national economic circumstances, particularly those connected with the world shortage of food in the background of rapidly increasing population, nevertheless the pace of urbanization will be fast and although India might not be transformed into a country of the Western type, the demand for urban comforts and facilities is bound to increase in the rural areas and perhaps it might be a sound policy to appreciate these demands in time and to try to keep the cultivators contented and happy in their own homes instead of allowing them to be allured by the cities and towns leaving agriculture to less efficient hands. Under such conditions only the real surplus rural population would move to the towns for employment.

2. With the rapidly increasing urban population, the connected problems are assuming importance and the need of having comprehensive urban statistics was perhaps never greater than it is at the present moment, when planned urban development in the country will pave the way to future prosperity and happiness, avoiding the evils through which industrial cities had to pass elsewhere. Proper housing accommodation, sanitation and public health conveniences, recreational facilities, and arrangements for getting wholesome food and protected water at economic rates might all be provided well in time, so that our future cities might not be the replicas of some of our worst urban areas, which developed under conditions of *laissez faire* economy of the past.

3. The general population statistics in respect of the towns will be found in the following tables given in Part II-A of the Census Report :—

(1) Table A-III.—Towns and villages classified by population.

(2) Table A-IV.—Towns classified by population with variation since 1901.

(3) Table A-V.—Towns arranged territorially with population by livelihood classes.

The tables give a complete picture of the growth of the towns in the State and of the broad economic classification of the people in each town.

4. In addition to the above general population tables, statistics about the urban areas in each district in respect of the detailed economic classification, as well as in respect of social and cultural data, will be found in Parts II-B and II-C of the Report.

5. Detailed statistics about the municipal wards of the towns in respect of livelihood classes of the people and their literacy will be found in the Primary Census Abstracts given in the District Census Hand-Books.

*'Population of India and Pakistan' by Kingsley Davis, page 127.

6. In Part I-B of the Report, the following Subsidiary Tables have been given :—

(1) Subsidiary Table 3.1.—Distribution of population between towns.

(2) Subsidiary Table 3.2.—Variation and density of urban population.

(3) Subsidiary Table 3.3.—Mean decennial growth rates during three decades—urban population.

(4) Subsidiary Table 3.4.—Towns classified by population.

(5) Subsidiary Table 3.5.—Cities—Chief figures.

(6) Subsidiary Table 3.6.—Number per 1,000 of the general population and of each livelihood class who live in towns.

(7) Subsidiary Table 3.7.—Livelihood pattern of urban population.

(8) Subsidiary Table 3.8.—Immigration into urban areas.

7. In addition to the above Subsidiary Tables, which are reviewed in this Chapter, seven additional Subsidiary Tables are also included in Part I-B of the Report about livelihood classification of the people living in small towns with population of less than 5,000, variation in each class of town, displaced persons in each town, percentage of immigrants and females per thousand males in each town and in each ward of the cities.

8. The definition of towns and many other matters relating to the urban population and intimately connected with the discussion of rural problems have already been covered in the previous Chapter and this Chapter should be read along with it to appreciate the whole problem of population study in the urban areas.

SECTION II.—GENERAL DISTRIBUTION AND DISTRIBUTION AMONG TOWNS CLASSIFIED BY SIZE OF URBAN POPULATION

1. The urban population of Madhya Pradesh is about 2.877 millions distributed in 142 towns, including the cities of Nagpur and Jabalpur, and is about 13 per cent of the total population of the State. About a quarter (24·5 per cent) of the total urban population resides in the two cities. The distribution of the actual urban population of the State in the Natural Divisions is shown in Table 57 below :—

Table 57*

Distribution of Urban Population.

State and Divisions	Total area in square miles	Urban area in square miles	Number of towns	Average density	Urban population		
					Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Madhya Pradesh	130,272	391	142	7,394	2,877,339	1,494,962	1,382,377
North-West Madhya Pradesh Division	37,645	131	37	6,443	842,493	445,817	396,676
East Madhya Pradesh Division	68,550	106	41	5,580	582,844	298,387	284,457
South-West Madhya Pradesh Division	24,077	154	64	9,431	1,452,002	750,758	701,244

2. It will be noticed that the South-West Madhya Pradesh Division, which is the most developed part of the State, is also the most urbanised area in Madhya Pradesh. Although its total area is smallest of the three Natural Divisions, the urban area in this Division is the largest as also the average urban density per square mile, which is as high as 9,431. This Natural Division contains the City of Nagpur, in which the urban density is 54,768 persons to a square mile. The city of Jabalpur is situated in the North-West Madhya Pradesh Division and the average density of Jabalpur City is only 8,107 persons per square mile. The question of the number of houses in the urban areas will be considered in Chapter VI but it may be mentioned here that although the average density of the urban population in Jabalpur City is much less than in Nagpur, the average number of persons per house in Jabalpur City is about seven compared to about five in Nagpur.

URBAN DENSITY

3. In considering the question of urban density, it must be remembered that many of the towns have grown up in small areas in a haphazard manner and some of them have extremely congested localities which accounts for the high density figures in some of the smaller towns. Describing the growth of urban areas in India, Chandrasekhar says, "It is not necessary for our purpose to go into any details regarding the growth of the leading Indian cities from pre-steam days to modern times, except to point out that there has been no planned development in the growth of cities. The Indian cities, with few exceptions, have grown in the most haphazard manner and they are nothing more than a conglomeration of buildings, mere unplanned mechanical extensions to the existing ugly urban centres. If town planning means basically the equitable distribution of the available land according to the various needs of the community including the provision for residential and industrial areas, space for broad thorough fares, dustless streets and avenues, gardens, parks and pools and Civic amenities like a protected water-supply, hygienic sewage disposal and adequate lighting, no civic or Provincial Government has seriously thought of it.†

MEASURES FOR PREVENTING CONGESTION

4. The necessity of controlling the development of towns has of late been recognised in the State and the Central Provinces and Berar Town Planning Act, 1948, was passed to control the development of urban areas. The Act authorises the Municipal Committees to take up development schemes for roads, buildings, play-grounds, parks, drainage, water-supply etc.

5. In the same year, another enactment called the Central Provinces and Berar Regulation of Uses of Land Act, 1948, was passed. This Act is intended to control ribbon development by the side of roads. Land adjacent to any road can be declared by the State Government as the 'Control Area' in which the construction of buildings is regulated according to plan.

* Density has been calculated on the actual area supplied by the Deputy Commissioners and before it was rounded to the nearest integer.

† 'India's Population—Fact and Policy', by S. Chandrasekhar, page 51.

6. A Town-Planning Department has also been opened by the State Government and a Town Planning Expert has also been appointed. Master Plans for different cities and towns are under consideration and town development and town expansion schemes of the more important towns are being investigated by the Department.

Distribution of Urban Population Among Towns Classified by Size of Urban Population

7. Towns have been divided into six classes according to their population as shown in Table 58 below which gives the population (actual and percentage) residing in each class of towns :—

Table 58

Distribution of urban population (actual and percentage) residing in different classes of towns.

Class of towns	No. of towns of each class	Percentage of total urban population	Actual population		
			Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	6)
I.—100,000 and over	2	24	706,097	374,267	331,830
II.—50,000 to 100,000	6	16	454,957	239,530	215,427
III.—20,000 to 50,000	22	23	665,692	341,352	324,340
IV.—10,000 to 20,000	47	23	657,234	339,429	317,805
V.—5,000 to 10,000	47	12	340 590	172,802	167,788
VI.—Under 5,000	16	2	52,769	27,582	25,187
Total ..	140	100	2,877,339	1,494,962	1,382,377

NOTE.—Jabalpur Cantonment and Khamaria are included in Jabalpur City in this Table.

Table 58 shows the concentration of urban population in the larger categories of towns in the State. The eight towns of Classes I and II contain 40 per cent of the entire urban population. Towns of Classes III and IV each contain about 23 per cent of the population although the number of towns in Class IV is more than double the number in Class III. Towns with population of less than 5,000 call for attention as normally such small places are treated as villages if the classification is based solely on the size of population.

Towns with Population Below 5,000

8. We have pointed out in the previous Chapter that the definition of a town for purposes of the Census was of an elastic type and all places with Municipalities as well as places which had urban characteristics were treated as towns irrespective of the size of their population. Table 58 above shows that there are 16 towns in Madhya Pradesh with populations of less than 5,000 and about 2 per cent of the total urban population of the State resides in such towns. Subsidiary Table 3·9 in Part I-B of the Report gives the livelihood classification of the people of these towns.

9. It will be seen that there are only 3 towns—Gharghoda, Ashti and Kelod with a total population of 10,918 in which the number of persons belonging to the agricultural classes exceeds the number belonging to the non-agricultural classes.

10. Gharghoda is an important town of the Raigarh district being the headquarters of the tahsil. Ashti in the Wardha district and Kelod in the Nagpur district are also reported to have urban characteristics in spite of the rural background of the people.

Distribution of Urban Population in the Natural Divisions and Districts

11. Subsidiary Table 3·1 in Part I-B of the Report gives the distribution of the urban population in the State and its different parts by size of towns and we will proceed to study this distribution by Natural Divisions.

North-West Madhya Pradesh Division

12. In this Division about 153 people per thousand of the general population live in towns. The distribution of the population per thousand of urban population in the towns of different classes is given in Table 59 below :—

Table 59

Number per thousand of Urban Population living in towns of different classes in the North-West Madhya Pradesh Division.

Towns with population of	Number per thousand of urban population
(1)	(2)
20,000 and over	682
10,000—20,000	218
5,000—10,000	86
Under 5,000	14

13. There are 37 towns in the Division, of which Jabalpur City is the largest. The detailed distribution and density of the urban population in the different districts will be found in Subsidiary Tables 3·1 and 3·2 in Part I-B of the Report. It will be noticed that the density of the urban population in Jabalpur district is 7,890 persons per square mile ; while, as pointed out already, the density of the population in Jabalpur City itself is 8,107. The wardwise distribution of occupied houses and the average number of persons per house in Jabalpur City are given in Subsidiary Table 6·16, in Part I-B of the Report. The city has now a corporation.

14. The density of Mandla town is only 3,561 while in Betul district the urban population density is as high as 15,198 persons to a square mile and in Nimar district is 11,594. Again the Nimar district is very prominent in respect of towns over 20,000. This is merely due to the fact that in this district there are only two towns—Burhanpur and Khandwa and both of them have a population of over 20,000. A similar picture is presented by Mandla and Betul. In Mandla district, the entire urban population is shown as residing in towns between 10,000 to 20,000 because in this district there is only one town (Mandla) with a population of 14,243. In the Betul district, there are three towns, *viz.*, Betul (15,563), Multai (11,767) and Betul Bazar (6,424). The growth of the urban population in the Betul district was referred to in the previous Chapter. We will deal with the causes of the rapid growth in the next Section. The extreme congestion in the old historical town of Burhanpur which has acquired considerable commercial and industrial importance is responsible for the high urban density in Nimar District.

The East Madhya Pradesh Division

15. In this Division, there are 41 towns and about 57 persons per thousand of general population live in them. The distribution of population per thousand of urban population in the towns of different classes is given below in Table 60 :—

Table 60

Number per thousand of Urban Population living in towns of different classes in the East Madhya Pradesh Division.

Towns with population of (1)	Number per thousand (2)
20,000 and over	518
10,000 to 20,000 ..	279
5,000 to 10,000	165
Under 5,000	38

16. The density of urban population in the East Madhya Pradesh Division is the lowest being about 5,580 persons to a square mile. The details of the distribution of the urban population and density in the districts will be found in Subsidiary Tables 3·1 and 3·2 in Part I-B of the Report. The highest urban density in the Division is found in the Raipur district, with about 9,754 people per square mile. Bilaspur comes next with 9,262 persons to a square mile. In the Bastar and Surguja districts of this Division, there is hardly any urbanisation, although there are bright prospects for the future as both these districts are rich in undeveloped minerals.

The South-West Madhya Pradesh Division

17. About 261 persons per thousand of the general population in this Division live in towns. The distribution per thousand of urban population in the towns of different classes is as follows :—

Table 61

Number per thousand of Urban Population living in towns of different classes in the South-West Madhya Pradesh Division.

Towns with population of (1)	Number per thousand (2)
20,000 and over	641
10,000 to 20,000 ..	228
5,000 to 10,000	118
Under 5,000	13

18. Among the districts of the South-West Madhya Pradesh Division, the density of urban population in the Wardha district is the highest being 13,576. In the Akola district, it is 12,882, in Nagpur 12,800, in Buldana 12,006, in Yeotmal 9,792, and in Amravati it is as low as 4,726 persons to a square mile. The low urban density in the Amravati district will be clear from a perusal of the population and area of the seventeen towns of this district given in Main Tables A-V and E given in Part II-A of the Report. It will be seen that Chikhalda Municipality has a population of only 979 while Chandur-Bazar and Pathrot have populations of less than 6,000. There are four other towns with populations of less than 10,000. In other words, a few sparsely populated towns in this district account for the low over-all urban density in the district. Again the urban area of Amravati district is as high as 60 square miles, while in the other districts of the Division the urban area varies between 9 to 46 square miles only.

19. The industrial city of Nagpur is the most important urban area in the South-West Madhya Pradesh Division. Subsidiary Table 6·15 in Part I-B of the Report gives the number of occupied houses in each ward of Nagpur City and the average number of persons per house. Except in the Shukrawar Tank Ward, in which the textile mills are mostly situated and where as many as 12 persons reside per house, in the rest of the city the distribution is fairly uniform.

20. Nagpur City has a Corporation as well as an Improvement Trust. The Nagpur Improvement Trust Act was passed in 1936 and the Board constituted under the Act started functioning in 1937. There were numerous objections against the acquisition of property and the people protested against demolition of their houses and were not prepared to go elsewhere. Eventually in 1939, a conference was convened by Government of various institutions in the City of Nagpur and various proposals were taken into consideration to formulate a guiding policy for the Trust. Unfortunately the War broke out and it was from 1944 that the Trust undertook a heavy programme of work covering different parts of the town. Again, there was considerable public criticism and in 1946 the Government appointed an Enquiry Committee with comprehensive terms of reference and the Committee examined each of the sanctioned schemes and recommended that some of the essential schemes should be proceeded with. These recommendations were accepted by Government. The Committee also recommended that the Trust work must assume an intensive rather than extensive character and that each scheme must be worked out to its final end. The Committee was definite that the City of Nagpur required improvement and that the work of improvement must be continued. Government agreed with that opinion and steps are being taken to implement these recommendations. The Trust has an ambitious programme of making better roads and communications, clearance of slums, providing modern drainage and sewage system and up-to-date markets in different parts of the city. They have already constructed about 12 miles of new roads of width varying between 40 to 100 feet and ten important bridges in different parts of the City. About three miles of existing roads have also been widened and 5,688 plots for residential purposes have been developed and 2,825 of them have been sold up to March 1951 at a total premia of about 83·31 lakhs of rupees. These measures have encouraged building activities so essential to reduce congestion in this rapidly developing City.

21. The history of the Improvement Trust, Nagpur, is given here somewhat at length, as it vividly demonstrates the abnormal difficulties involved in attempting to develop and improve a City allowed to grow in a haphazard and unsystematic manner. Many of our towns, as we will presently see, are rapidly growing and if building work is controlled from now and town planning schemes are chalked out rapidly and implemented properly, we shall not leave to posterity new urban slums of the type we have inherited from our predecessors. The situation in the past was not so serious as it is now. When we examine the growth of towns in the next section, we shall see how our urban growth has increased in recent years, as it never did before and unless we are careful and prompt the distribution of population in our towns will present the most complicated problems in future.

SECTION III.—GROWTH

1. In considering the growth of population in the urban areas, it has to be remembered that the number of towns has varied from Census to Census. Certain places which are treated as villages at one Census have been treated as towns in subsequent Censuses. Similarly, at times, certain towns at a particular Census have been classed as villages in a subsequent Census on the ground that they no longer had urban characteristics to justify their inclusion in the urban category. It is, therefore, proposed to consider the growth of the towns in two different ways. First, the growth of the urban areas will be considered on the basis of the Census figures for the areas regarded as urban during the Census, irrespective of the individual places comprising these areas. Secondly, the growth of specific urban places in each Natural Division will be traced to study their development.

The Mean Decennial Growth Rates

2. Subsidiary Table 3·3 in Part I-B of the Report gives the mean decennial growth rates of the urban population during the last three decades. It will be observed that for Madhya Pradesh the growth has been as follows :—

Table 62

Mean decennial growth rate of the urban population in Madhya Pradesh.

Decade (1)	Mean decennial growth rate (2)
1921-30	20·4
1931-40	20·0
1941-50	24·8

3. In the previous Chapter we have traced the growth of the urban population in Madhya Pradesh side by side with the rural population from 1891, when the urban population was only 7 per cent of the total population. From 1881 up to 1931, this percentage fluctuated between 7 and 9·8. In 1941, it came to 10·8 and in 1951 it is now 13·5 per cent of the total population corresponding to the condition of Japan in 1893, or the Eastern Soviets in 1880. The noteworthy point is that during the last half century the growth rate of our urban population was never so high in any decade as it was in the last decade and with the inevitable industrial development of the State possessing rich mineral and other natural resources the growth rate is bound to increase rapidly in course of time.

Growth of Towns of Different Classes

4. In order to appreciate clearly how the different classes of towns mentioned in the previous section have been growing, it is desirable to trace the growth of each class during the last 50 years. Subsidiary Table 6·10 in Part I-B of the Report shows the growth of each class of towns. It will be noticed that the net variation during the five decades in the six classes of towns has been as follows :—

Table 63

Percentage variation of population in different classes of towns in Madhya Pradesh from 1901 to 1951

Class (1)	Net variation per cent 1901—1951 (2)
I	+452·8
II	+403·7
III	+181·6
IV	+87·6
V	—19·1
VI	—2·2

5. A broad conclusion to be drawn from these figures is that the largest growth is to be found in the class of towns with the largest population. The towns of Class I (or the cities) have shown a percentage increase of over 452, while those of Class II have shown a similar increase of over 403 per cent during the last 50 years. Class III towns have shown a percentage increase of over 181, while Class IV has increased by 88 per cent. The last two Classes—V and VI show a negative percentage variation indicating a fall in the population. This fall has to be considered bearing in mind the fact that certain places have been recorded as towns at certain Census and as villages at subsequeut Censuses as already pointed out. Again, in some cases the population of a particular town has increased and it is pushed up in the higher category. Thus, for example, in 1901 Nagpur was the only City in the State. In 1911, Jabalpur was added to the city catagory. Similarly, in 1901, there were only 7 towns of Class III all of which, except Achalpur and Kamptee, have now gone into Class II, and as many as 20 other towns have been promoted to Class III.

The Growth of Individual Towns and Cities

6. Main Table A-IV (Towns classified by population with variation since 1901) shows how each of the 142 towns of the State, including the two Cities, have grown from decade to decade during the last

half century. We will proceed to study the growth of some of the important towns in each Natural Division after reviewing the growth in the Division as a whole.

THE NORTH-WEST MADHYA PRADESH DIVISION

7. Subsidiary Table 3·3 gives the mean decennial growth rates of the urban population in the Natural Divisions and the districts during the last three decades. It will be noticed that the growth rate in the North-West Madhya Pradesh Division has been largest compared to the other two Divisions during the last two decades. In 1921-30 it was as low as 17·7 and went up to 21·7 in 1931-40 and to 25·9 in 1941-50. The main cause of this rapid increase in the urban population is due to the rapid growth of towns in the Sagar, Jabalpur, Betul and Nimar districts. The development of Jabalpur City is connected with the industrial activities. Khamaria, which was a deserted village in 1941, is now a part of Jabalpur City with a population of 19,114. This township has grown up as a result of the last War.

8. For purposes of the Census Jabalpur City, Jabalpur Cantonment and Khamaria have been shown as separate towns in Main Table A-IV in Part II-A of the Census Report following the practice of the previous Censuses. Actually, however, all these three areas are contiguous and really form the City of Jabalpur. The total population of all these three areas, according to the 1951 Census, is 256,998. The population of the same area in 1901 was 90,533. It will, therefore, be seen that actually the population of the City of Jabalpur has increased by 183·9 per cent. A perusal of the Main Table A-IV mentioned above will show how the largest increase has taken place since 1931. In other words, rapid urbanization has taken place during the last 20 years.

9. Next to Jabalpur, the biggest town in this Division is Burhanpur with a population of 70,066. Its population in 1901 was only 33,341. Table A-IV, mentioned above, shows a fall of population at the Census of 1911. This was due to the Plague epidemic when many of the town people were enumerated in camps outside the town and, consequently, the urban figure shows a marked reduction. Actually, this town has been gradually expanding and has a flourishing textile industry and grain and cotton trade. A news-print mill is being erected at Chandni, about 12 miles from Burhanpur, and it is reported that it will be the biggest of its type in Asia When this new industry is fully developed, Burhanpur will become one of the important cities of the State.

10. Sagar, with a population of 66,442, is the third town in this Division. Its population was 31,412 in 1901 and the percentage growth has been 111·5. A careful perusal of Table A-IV, showing the classification of the towns by population with variations since 1901, shows that almost all of the towns of this Division have shown a fair increase in population during the last 50 years. The bigger towns have shown quite large increases, indicating that the very fact of their being large has contributed, to a certain extent, to their larger percentage increases. Some of the smaller towns have also shown remarkable development. The case of Multai, in the Betul district is perhaps most remarkable. This little town with a population of 3,339 in 1901 now possesses a population of 11,767. Development of road and rail transport in this tahsil headquarters town has helped considerably in its development. A perusal of Main Table A-V (Towns arranged territorially with population by livelihood classes), given in Part II-A of the Report, shows that transport activities and services, etc. claim about 64 per cent of the population. The town of Betul itself, which had a population of 5,566 in 1901, now possesses 15,563 inhabitants. Commerce and Industries in this district headquarters town have led to its growth. About 40 per cent of the population belong to industrial and commercial classes and about 44 per cent to services, etc.

11. Pachmarhi Cantonment and Pachmarhi Municipality actually form one town although for purposes of the Census they have been treated as separate towns. The combined population of these two adjacent localities in 1911 was 3,822. The population now is 5,242.

THE EAST MADHYA PRADESH DIVISION

12. The mean decennial growth rate of the urban population during the last three decades of this Natural Division has been comparatively the smallest. It was 19·3 in 1921-30, 21·0 in 1931-40, and 23·1 in 1941-50. There is no city in this Division and Raipur and Bilaspur are the only two towns of Class II. Raipur had a population of 32,114 in 1901 and it has now become almost a city with a population of 89,804. Bilaspur had a population of only 18,937 in 1901 and it is now 39,099. The commercial importance of Raipur and its grain trade are well-known. The third town from the point of view of population in the East Madhya Pradesh Division is Chanda, with a population of 40,744. It had a population of only 17,803 in 1901. The coal mines of Chanda and its timber trade are principally responsible for the development of this third class town, which is likely to step into class II fairly soon. Raigarh, which had a population of 6,764 in 1901 is now proud of possessing 29,684 persons. It has flourished rapidly being an important railway centre providing an outlet for the large backward areas of the old Surguja, Sarangarh and Raigarh States. Rajnandgaon and Durg are two other important small towns in this Natural Division. With

the development of the electric grid system and the supply of cheap power from Raipur, these towns are likely to develop fast.

THE SOUTH-WEST MADHYA PRADESH DIVISION

13. The mean decennial growth rate of the urban population of this Natural Division during the last three decades is given in Table 64 below :—

Table 64

Mean decennial growth rate of the South-West Madhya Pradesh Division.

Decade (1)	Mean decennial growth rate (2)
1921-30	22·1
1931-40	18·9
1941-50 .. — ..	24·7

14. Although the mean decennial growth rate of the urban population of this Natural Division is slightly lower than that of the North-West Madhya Pradesh Division during the last two decades, actually as pointed out in the previous section it is the most urbanized part of the State. The reason is that there is a concentration of large industries in the towns of this area. A perusal of Table 65 given below which is derived from Subsidiary Table 3·6 in Part I-B of the Report will clearly show how 58·5 per cent of the people of Livelihood Class V (Production other than cultivation) reside in the towns of this Natural Division as compared to the average of 3·6 per cent for the State as a whole, 3·5 per cent for the North-West Madhya Pradesh Division and 18·1 per cent for the East Madhya Pradesh Division :—

Table 65

Number per 1,000 *of the general population and of each livelihood class who live in Towns.*

State and Natural Divisions	General population	Livelihood classes							
		I-Cultivators of owned land	II-Cultivators of land wholly or mainly unowned	III-Cultivating labourers	IV-Non-cultivating owners of land and agricultural rent receivers	V-Production other than cultivation	VI-Commerce	VII-Transport	VIII-Other services and miscellaneous source
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	135	22	35	36	87	36	614	688	522
North-West Madhya Pradesh Division.	153	16	28	15	65	35	588	656	520
East Madhya Pradesh Division	57	10	11	7	43	181	479	562	366
South-West Madhya Pradesh Division.	261	82	59	75	144	585	725	821	641

15. Of all the urban places in the South-West Madhya Pradesh Division as well as in the State as a whole the Industrial development of Nagpur City has been very notable. The population growth of the city has also been remarkable as shown in Table 66 below :—

Table 66

Growth of Nagpur City.

Year (1)	Persons (2)
1901	127,734
1911	101,415
1921	145,193
1931	215,165
1941	301,957
1951	449,099

The slight fall in the population during 1911 was due to the Plague epidemic when people had gone out in camps at the time of the Census. The net percentage increase in the population of this City during the last 50 years is about 252. The industrial development of Nagpur City includes its well-known textile industry. With the recent inauguration of the Khaperkheda Thermal Electric Station, cheap electric power is likely to be available and the City will develop further very rapidly. A note on the Electricity development in the State is given in part II of appendix M.

16. Among the Cities of India, Nagpur stands 11th at the 1951 Census. Its rank among the Cities of India at the different Censuses is given in the table below :—

Table 67

Rank of Nagpur City in India.

Year (1)	Rank (2)
1901	25th
1911	24th
1921	19th
1931	16th
1941	13th
1951	11th

17. In the above table the rank of Nagpur City up to 1941 was in pre-partitioned India. In 1951, the two cities of Lahore and Karachi, which are now in Pakistan and which were above Nagpur up to 1941, are not taken into account. The first fifteen Cities of the Indian Union in 1951 are given in Table 68 below :—

Table 68

The first fifteen Cities of India

Serial No. (1)	Name of City (2)	Population (3)
1	Bombay	2,839,270
2	Calcutta	2,548,677
3	Madras	1,416,056
4	Hyderabad	1,085,722
5	Delhi	914,790
6	Ahmedabad	788,333
7	Bangalore	778,977
8	Kanpur	705,383
9	Lucknow	496,861
10	Poona	480,982
11	Nagpur	449,099
12	Howrah	433,630
13	Agra	375,665
14	Madurai	361,781
15	Benaras	355,777

18. It will be observed that Lucknow and Poona, which are above Nagpur in 1951, are comparable in size to Nagpur. In fact, in 1921 and 1931 Poona was below Nagpur and it is during the last decade that there has been rapid increase in the population of this City. Lucknow, on the other hand, was the fifth city from 1891 to 1911. In 1921 and 1931 it occupied the 8th place and in 1941 the 10th place.

The Nagpur Air Port

19 The Air Port at Nagpur is of very great importance being at the centre of vital airways. On account of excellent visibility almost throughout the year the Nagpur Air Port may perhaps become one of the most important international landing grounds in the world.

The Working Population of Nagpur

20. It will, therefore, be seen that Nagpur is consistently gaining a higher rank among the most important cities of the country and the problems connected with its development have, therefore an All-India significance. In considering the growth of Nagpur City in the above paragraphs, we have considered the population recorded at the Census. As we have previously seen the Census figures are essentially based on normal residence and, therefore, a very large number of people who work in Nagpur during the day time and go back to their houses in the suburban areas are not covered by the Census figures. We have already seen in Chapter I Paragraph 48 of Section IV how on the basis of the limited available figures of passenger traffic, there is a daily movement of some 7,000 people coming in and going out of Nagpur. The actual figures would be very much larger. In considering the development schemes of Nagpur City, therefore, it is desirable to bear in mind not only the problems connected with the resident population of the city,but also with those of the working population.

Growth of Amravati Town

21. Next to Nagpur, Amravati is the largest urban unit of the South-West Madhya Pradesh Division. In Main Table A-IV (Towns classified by population with variation since 1901), Amravati Municipality and Amravati Camp Municipal areas have been shown as separate towns on the analogy of previous Censuses. Actually, these two areas form a city in itself with a population exceeding 100,000. Amravati, like Nagpur, has also developed rapidly since 1931. Table 69 below shows the growth of population of the Amravati Municipal and Amravati Camp Municipal areas taken together :—

Table 69

Growth of Amravati and Amravati Camp Areas.

Year (1)	Population (2)
1901	39,511
1911	40,610
1921	45,469
1931	57,100
1941	74,309
1951	102,806

22. Till recently Amravati was the divisional headquarters of the Berar Division and although after the introduction of the Central Provinces and Berar Commissioners (Construction of References Act, 1948, the political divisions of Madhya Pradesh were abolished, the administrative importance of

Amravati as the centre of Berar is still very considerable. From commercial point of view, Amravati is an important city, although it has the disadvantage of not being on the main railway line to which it is connected by a loop from Badnera at a distance of 6 miles. It has, however, a number of first class roads radiating to all parts of the State. As Amravati will be on the Khaperkheda—Chandani electrict grid system, it is also likely to develop fast. The figures given above show that during the last fifty years the percentage increase in population of this city has been about 160.

Growth of Akola Town

23. Akola is another flourishing and rapidly growing town of the South-West Madhya Pradesh Division. Its population in 1901 was 29,289 and is now 89,606. The percentage increase during the last fifty years is thus about 206. Akola has the advantage of being on the main Bombay-Nagpur Calcutta railway line and commercially it is one-of the most important places of the State. The electric grid system has been extended to Akola also and further industrial development of this town is assured.

SECTION IV.—MOVEMENT

1. Of the total urban population of 2,877,339 residing in Madhya Pradesh, as many as 2,147,168 persons (about 75 per cent) were recorded at the Census as born in the district of enumeration. This means that the population mostly consists of people who are born in the villages of the same district and have migrated to the towns and of people born in the towns of the district itself. Nearly one-fourth of the urban people had their birth places outside the district of enumeration and obviously these are the migrants who have come from other areas.

Analysis of the Immigrants into the Urban Parts of the State and the Natural Divisions

2. The following table gives the total number of immigrants as well as their percentage in the State and the Natural Divisions based on the birth place statistics :—

Table 7.

Immigrants, actual and percentage, in the urban parts of Madhya Pradesh and the Natural Divisions.

Persons enumerated in	Persons born in						
	District of enumeration	Other districts of the same Natural Division	Other parts of the State	Adjacent States	Other parts of India	Beyond India	
						Pakistan	Other territories
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Madhya Pradesh	2,147,168	219,501	157,977	193,208	72,342	84,474	2,669
	(74.62)	(7.63)	(5.49)	(6.72)	(2.51)	(2.94)	(0.09)
North-West Madhya Pradesh Division	616,168	46,421	29,913	88,536	23,750	36,332	1,373
	(73.14)	(5.51)	(3.55)	(10.51)	(2.82)	(4.31)	(0.16)
East Madhya Pradesh Division	429,413	46,283	41,356	29,346	18,755	17,400	291
	(73.67)	(7.94)	(7.10)	(5.03)	(3.22)	(2.99)	(0.05)
South-West Madhya Pradesh Division	1,101,587	126,797	86,708	75,326	29,837	30,742	1,005
	(75.87)	(8.73)	(5.97)	(5.19)	(2.05)	(2·12)	(0.07)

3. Table 70 shows that in Madhya Pradesh the percentage of persons born outside the district of enumeration is 25.38. Nearly half of them (13.12 per cent) were born in the different districts of the State itself, while about a third (9.23 per cent) are from the rest of India. Apart from the displaced persons and Pakistani nationals, who constitute about 2.94 per cent of the total urban population, the number of other foreign born people is 2,669 or about 9 per ten thousand.

4. It will be observed that the largest number of immigrants from Pakistan are to be found in the North-West Madhya Pradesh Division, where the largest number of displaced persons have settled down, mostly in the Jabalpur district. Details of immigration into the urban areas of the districts from outside the district will be found in Subsidiary Table 3.8 in Part I-B of the Report. The number of displaced persons enumerated in each town is similarly given in Subsidiary Table 3.11.

Large Number of Migrants in the South-West Madhya Pradesh Division

5. We have already pointed out in Section II of this Chapter that although the South-West Madhya Pradesh Division is the smallest in area it is the most urbanised part of the State and Table 70 given above shows that out of 730,171 born out side the district of enumeration as many as 350,415 (or about 48 per cent) were enumerated in the South-West Madhya Pradesh Division. The rapid urbanization of the South-West Madhya Pradesh Division was connected with the industrial and commercial developments and was responsible for attracting migrants into the urban areas from different places. But as we will see presently the industrialization has also failed to keep pace with the growing population and clear signs of emigration from the urban areas, particularly from Berar, are now noticeable.

MIGRATION FROM RURAL TO URBAN AREAS AND THE NATURE OF URBAN IMMIGRATION

6. Unfortunately as pointed out in the previous Chapter no statistics are available to show the actual movement of people from the rural areas of a district into the urban areas, but in paragraphs 12 and 13 of Section IV of that Chapter we have discussed the nature of migration-*cum*-registration error in the rural and urban areas to point out the movement from the rural to the urban areas. The question of sex ratios will be fully discussed in Chapter VI, but here it is necessary to refer to it to indicate the nature of migration from the rural to urban areas as well as from other parts. Table 71 given below is derived from Subsidiary Table 3.12 in Part I-B of the Report which shows the percentage of migrants by sex :—

Table 71

Percentage of males and females among persons born in the district of enumeration, other districts of Natural Division, and the State and other States of India.

State or Division where enumerated	Percentage of people born in											
	District of enumeration			Other districts of same Natural Division			Other parts of the State			All other States of India		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	74.6	39.2	35.4	7.6	3.4	4.2	5.5	2.5	3.0	9.2	5.1	4.1
North-West Madhya Pradesh Division.	73.1	38.2	34.9	5.5	2.9	2.6	3.6	1.7	1.9	13.3	7.9	5.4
East Madhya Pradesh Division.	73.7	38.6	35.1	7.9	3.2	4.7	7.1	3.2	3.9	8.2	4.5	3.7
South-West Madhya Pradesh Division.	75.9	40.1	35.8	8.7	3.8	4.9	6.0	2.8	3.2	7.2	3.8	3.4

7. The figures in Table 71 indicate that the female proportion is surprisingly low amongst people born in the district of enumeration indicating clearly how the villagers come to the towns of their district leaving their families in the villages. In this connection the discussion in the previous Chapter about the disinclination of people to leave the villages permanently is of interest. The figures confirm the tendency. The female ratio for migrants from "other districts of the same Natural Division" and from other parts of the State is on the other hand generally high indicating marriage or casual migration. The female proportion is found to be again low in the case of migrants from other States showing the movement of people coming for business, etc., leaving their families behind.

8. The over-all male and female ratio in the urban areas is also of interest as it also shows the migratory nature of the urban population. In Madhya Pradesh as a whole, there are 925 women in the urban population per one thousand males. In the Natural Divisions, the figures are as follows :—

Table 72

Females per 1,000 *males in the Natural Divisions.*

Name of Division	Females per 1,000 males
(1)	(2)
North-West Madhya Pradesh Division.	890
East Madhya Pradesh Division.	953
South-West Madhya Pradesh Division.	934

9. In Jabalpur City, there are 897 females per 1,000 males; whereas in the Jabalpur Cantonment there are only 555 females per 1,000 males. Nagpur City, on the other hand, has 919 females per 1,000 males. The male and female ratio in each town of the State and in the Wards of the two cities will be found in subsidiary tables 3.13 to 3.15 in Part I-B of the Report.

EMIGRATION FROM THE URBAN AREAS

10. Figures of emigration from the urban areas are not available but this movement can be judged from the deterioration in the population of some of the towns. Main Table A-IV (Towns classified by population with variation since 1901) given in Part II-A of the Report shows that out of 142 towns in the State rapid growth is indicated in the case of most of them. There are about 20 towns including 12 in the South-West Madhya Pradesh Division in which the population has declined. Of these Jabalpur Cantonment and Pachmarhi Cantonment call for no comments because of the usual movements of army personnel. The slight fall in Pachmarhi Municipal area is also obviously associated with the reduction in the Cantonment population. Some of the towns of the integrated States have shown reduction in population. Amongst these are Piparia (—78) in the Durg District, Kanker (—249) in the Bastar District, Sarangarh (—324) in the Raigarh District and Baikunthpur (—430) in the Surguja District. Emigration of a limited character from these towns in the integrated States is not unlikely on account of the administrative

bringes. Arang which has shown a fall of 16 persons in the Raipur District also calls for no remarks.

11. The position in the South-West Madhya Pradesh Division is, however, different. Sindi in the Wardha district is deteriorating during the last two decades. It lost 1,027 inhabitants according to the Census of 1941 and again it has registered a further fall of 408 during 1951 when its population was found to be 5,448. Ashti, which is also in the Wardha district shows a fall of 2,731 with a population of 3,726 in 1951. Of the towns in the Amravati district Anjangaon shows a sharp fall of 4,987 bringing the population to 12,810. Amongst the other towns of this district which have declined are Morsi (—782), Chandur Bazar (—363), Pathrot (—88), and Chikhalda (—68). Except Barsi Takli which shows a small fall of 325 persons no other town of the Akola district has deteriorated. In the Buldana district Jalgaon (—835) and in the Yeotmal district Pandharkaoda (—381) have both lost in population during the last decade. Umrer (—176) and Kelod (—667) in the Nagpur district have also registered a fall in their population in 1951.

12. The deterioration of the 12 towns out of 64 in the South-West Madhya Pradesh Division is thus a significant circumstance. A perusal of Main Table A-IV mentioned above further shows that in addition to these towns there are quite a few others in this division which have shown very low growth during the current decade compared to that in the previous decades; amongst these might be mentioned Deoli in the Wardha district Katol, Khapa, Mohpa and Kamptee Cantonment in the Nagpur district, Shirasgaon and Karasgaon in the Amravati district; Akot, Washim, Balapur and Patur in the Akola district and Mehkar and Deolgaon-Raja in the Buldana district and Ghatanji in the Yeotmal district. A study of these figures tends to show that the emigration from the South-West Madhya Pradesh Division into the adjoining Bombay and Hyderabad States discussed in Chapter I obviously includes people from some of the urban areas of the Division also. The explanation is not far to seek.

Industrialisation failing to keep Pace with Growth of Urban Population in Certain Areas

13. We have already referred to the problem of population out-stripping cultivation and now we are facing the other problem of industrialisation in urban areas failing to keep pace with the growing population which has found an outlet into neighbouring States. The livelihood pattern of the emigrants from South-West Madhya Pradesh Division into the adjoining States has already been discussed in the previous Chapter and it is shown how the industrial cities of those States, particularly Bombay have been attracting migrants from this Division.

SECTION V.—NATURAL INCREASE, BIRTHS AND DEATHS

THE BIRTH RATES

1. The mean decennial birth rates for the urban population are given in Subsidiary Table 3·3 in Part I-B of the Report. A comparison of these rates with those for the rural areas is made in Table 73 below for Madhya Pradesh and the Natural Divisions :—

Table 73

Mean decennial birth rates in the urban and rural areas of Madhya Pradesh and the Natural Divisions.

State and Divisions	Mean decennial birth rates					
	1921—30		1931—40		1941—50	
	Urban	Rural	Urban	Rural	Urban	Rural
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh	40.6	41.5	41.2	41.2	34.9	37.3
North-West Madhya Pradesh Division	40.5	41.3	42.0	43.9	33.7	37.3
East Madhya Pradesh Division	36.7	39.6	37.8	39.2	31.6	35.4
South-West Madhya Pradesh Division	41.7	44.3	41.7	41.0	36.6	40.3

2. In considering the urban birth as well as death rates, it should be remembered that the rural/urban break-up in the Public Health Reports are not identical with the rural/urban break-up at the Censuses. To overcome this difficulty, the birth and death rates are calculated only for those places for which the population as well as the vital statistics figures were available for the entire decade. The procedure is fully explained in the flyleaf to Table 3·3.

LOWER BIRTH RATES IN URBAN AREAS

3. A comparison of the figures of birth rates for the rural and urban areas, as given in Subsidiary Tables 2·3 and 3·3, shows very clearly that as a general rule the birth rates in the urban areas are lower than those in the rural areas.

CAUSES OF LOWER BIRTH RATE IN THE URBAN AREAS

4. While examining the causes of the low birth rate in the urban areas it is interesting to observe that the sex ratio is significantly different in the rural and urban areas for reasons connected with the phenomena of migration already discussed. The detailed discussion of the sex ratio will be undertaken in Chapter VI, but here it may be pointed out in connection with the low birth rate that th number of females per 1,000 males in the urban areas is lower than that in the rural areas in the State as well as in the Natural Divisions as shown in Table 74 given below :—

Table 74

Females per 1,000 *male sin rural and urban population*

State and Natura l Divisions	Rural population	Urban population
(1)	(2)	(3)
Madhya Pradesh	1,004	925
North-West Madhya Pradesh Division.	988	890
East Madhya Pradesh Division.	1,021	953
South-West Madhya Pradesh Division.	982	934

5. The percentage of married people in the rural and urban areas has also a direct effect on the birth rate. Table 75 given below shows the marital status of 1,000 persons of each sex of rural and urban population in Madhya Pradesh and the Natural Divisions.

Table 75

Marital status of 1,000 *persons of each sex in the rural and urban population.*

Divison and State	Males						Females					
	Unmarried		Married		Widowed		Unmarried		Married		Widowed	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh	450	501	501	454	49	45	371	397	498	474	131	129
North-west Madhya Pradesh Division	478	474	470	487	52	39	376	424	482	459	142	117
East Madhya Pradesh Division.	422	480	534	469	44	51	369	357	513	496	118	147
South-west Madhya Pradesh Division	483	526	458	427	59	47	370	398	480	474	150	128

It will be observed that the percentage of married females in the rural areas is throughout higher than that in the urban areas.

6. Another interesting circumstance connected with the low birth rate in the urban areas is noticeable in the age distribution of 1,000 married persons of each sex in the rural and urban areas is given in Table 76 below :—

Table 76

Age distribution of 1,000 married persons of each sex by rural and urban break-up.

Division and State		Males				Females			
		0-14	15-34	35-54	55 and over	0-14	15-34	35-54	55 and over
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Madhya Pradesh	Rural	47	463	382	106	82	560	300	57
	Urban	12	468	409	110	47	600	296	57
North-West Madhya Pradesh Division	Rural	21	485	406	85	52	604	306	36
	Urban	11	507	384	98	48	602	274	76
East Madhya Pradesh Division	Rural	68	462	360	109	96	529	305	69
	Urban	20	468	415	97	61	607	288	43
South-West Madhya Pradesh Division	Rural	22	440	412	125	79	588	282	49
	Urban	10	442	423	124	40	597	310	52

It will be noticed that in Madhya Pradesh the percentage of married females below 15 years in the rural areas is almost double the number in the urban areas. In the Natural Divisions also the percentage of these young married girls is higher in the rural than that in the urban areas. The flagrant violation of the Marriage Law and its effect on the birth rates in general will be discussed in Chapter VI.

7. In paragraphs 13 and 14 of Section VII, Chapter I, we have discussed the general causes which tend to lower the birth rate and they are mostly connected with modernization which is more apparent in the urban than in the rural areas.

Family Planning

8. Although Family Planning centres or clinics have not yet been started in the State, the value of Family Planning is being increasingly appreciated in the urban areas of the State. In Nagpur City there are actually four recognized places,* where advice is given to the people on methods connected with Birth Control. Problems relating to Family Planning and sex education are freely discussed and encouraged in newspapers. Thus in an article recently contributed by Harendranath Chhattopadhyaya to a local paper, he says, "It is time that we took up a new attitude towards an aspect of growth and life which is, perhaps, the pivot of all existence. In one word SEX. We have been prudes too long specially in this country which still glibly assumes the reputation of the most moral and spiritual country in the world."† Proceeding further, he observes, "There is no safer way of studying the difficult passions of the flesh than by the frank and healthy approach towards them. Our boys and girls would grow up into fine and enviable maturity preserving the warm and noble material of the body and mind harmonised by the rhythm of clear and infinite understanding." The extent to which birth control measures have found their way even amongst industrial workers of Nagpur might be judged from what Capt. R. L. Obhrai and Dr. Sushila Obhrai Medical Officers of the local textile mills say, "I (Medical Officer, Model Mills) and my wife (Lady Medical Officer, Empress Mills) have been advising our clients about the simple rhythmic or safe-period Birth Control Method for *some years past* and have found it very effective (in over 90 per cent of cases)..... We feel special necessity for the Family Planning in our State of Madhya Pradesh where the procreation rate specially among the working classes seems to be very high indeed with a great infant mortality rate and ruining of the mothers' health."‡

9. In an interesting article on Population problem published in a local paper* Murarilal Shukla welcomes the steps taken by the Planning Commission to control the birth rate and appeals to individuals to make the movement effective. He

*The Daga Memorial Hospital; the Child Welfare Centre, Sadar; the Child Welfare Centre, Gaddigodam, and the Child Welfare Centre, Dharampeth.

†The Nagpur Times, dated the 25th November 1951.

‡The Hitavada, Nagpur, dated the 25th November 1951.

§The Hitavada, Nagpur, September 10th, 1952.

says, "While interest in the subject of birth-control is great among the educated classes, the masses are generally untouched by this movement. It is a happy augury that the Planning Commission is alive to this problem. The Sub-Committee on Population and Family-Planning has envisaged a three point programme to check high fertility. It is recommended that the State should provide facilities for sterilisation or for advice on contraception on medical grounds; that such help and advice should not be withheld from others who seek it on social and economic grounds and that research and information centres should be organised on an extensive scale. But in a democratic country the State can play only a limited part in such matters. It is the individual citizens who make any movement effective, and it is their co-operation which will cut the Gordian knot of population."

Variation in Birth Rates

10. Table 73 given above shows the variation in the mean decennial birth rate in the State and the Natural Divisions. It will be observed that during the first interval between 1921—30 and 1931—40 in Madhya Pradesh as well as in the North-West and East Madhya Pradesh Divisions the birth rate has increased; whereas in the South-West Madhya Pradesh Division it has been steady. During the second interval between 1931—40 to 1941—50, there is a sharp fall in all the Natural Divisions. The reasons for the different behaviour of the birth rates in the Natural Divisions and during the two intervals are essentially the same as already discussed in Chapter I.

Birth Rates in the Districts

11. In considering the birth rates of the urban population of individual districts as given in Subsidiary Table 3·3, caution is needed. Thus, for example, the Balaghat district shows an abnormally low birth rate of 17·1 during 1941—50 compared to 31·6 for the East Madhya Pradesh Division and 34·9 for the State as a whole. This abnormality is due to the fact that vital statistics of only Balaghat town were available and during the last decade this town has grown very rapidly. Its population in 1941 was 11,482, while in 1951 it was 16,291. The heavy immigration is obviously responsible for the low calculated rate. The flourishing manganese mining and 'bidi' industry and the grain trade of the Balaghat district have given the headquarters town considerable importance resulting in its rapid growth.

12. Heavy immigration into the cities of Jabalpur and Nagpur are also to some extent reflected in the urban birth rates of the district.

13. A perusal of Main Table A-IV (Towns classified by Population with Variation since 1901), given in Part II-A of the Report, will show how some of the towns have grown very rapidly during the last decade and this fact has to be borne in mind in considering the urban birth rates of the particular districts.

The Death Rates

14. The mean decennial death rates of the urban population are also given in Subsidiary Table 3·3. The comparative figures for the urban and rural population for the State and Natural Divisions are as follows :—

Table 77

Mean decennial death rates of urban and rural areas in Madhya Pradesh and the Natural Divisions

State and Divisions	Mean decennial death rates					
	1921—30		1931—40		1941—50	
	Urban	Rural	Urban	Rural	Urban	Rural
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh	32.8	31.6	30.6	32.0	25.6	31.1
North-West Madhya Pradesh Division	34.1	32.3	30.9	35.6	25.1	32.5
East Madhya Pradesh Division	30.0	29.8	27.2	27.9	22.3	28.4
South-West Madhya Pradesh Division	32.7	33.4	31.3	34.2	26.8	33.7

15. These figures very clearly show how the fight against death seems to have given encouraging results in the urban areas. The fall in the death rate during the last thirty years in the rural areas of the State is hardly perceptible being of the order of about 0.5 per cent while in the case of the urban areas it is 7.2 per cent.

16. Among the Natural Divisions, the North-West Madhya Pradesh Division has shown the greatest fall in the death rate in the urban areas. It was 34.1 per cent in 1921—30 and 25.1 in 1941—50, showing a drop of nine per cent. In the East Madhya Pradesh Division, the corresponding fall is 7.7 per cent, while in the South-West Madhya Pradesh Division it is 5.9 per cent.

Causes of Fall in the Urban Death Rates

17. Medical facilities have undoubtedly improved in the urban areas and this is the main cause of the fall in the death rate. In Table 27 given in Chapter I, Section V, we have already pointed out the infant mortality rates for the general, rural and urban population. A perusal of the table shows that the fall in infant mortality in recent years is more marked in the urban as compared with the rural areas.

18. It is also interesting to observe from Table 77 that during the decade 1921—30 the urban death rates were all higher than the rural death rates. The conditions are reversed from 1931—40 when the urban rates came down and continued to fall, while the rural rates showed no perceptible change. This circumstance further shows clearly how during the last two decades increased medical facilities in the urban areas have brought down the death rate.

19. The comparatively sharp fall in the North-West Madhya Pradesh Division between 1921 and 1950 is due to the fact that the decade 1921—30 was typically unhealthy for this Division. In the beginning of the decade as well as towards the end the death rates in this Division were high and the urban death rates were as usual at that time higher than the rural ones. In 1928 and 1930 the Cholera epidemic was relatively severe in thi Division. The South-West Madhya Pradesh Division was also affected by Cholera.

20. Prior to 1930 when the death rates in urban areas exceeded the rural death rates the simple explanation offered was that the villagers lived in healthier surroundings and that the natural open air life enabled them to keep well while the people of the towns living in congested places fell an easy prey to disease. Congestion in our urban areas has hardly diminished and it is on account of the modern drugs and medical facilities that our urban death rate has significantly come down. If these benefits of modern science were to be made available to our village people there is little doubt that the death rate among them would come down even to a greater extent than has been the case in the urban areas.

The Natural Increase of Population in the Urban Areas of Madhya Pradesh

21. As in the case of the rural population vital statistics for the urban areas of the integrated States are not available and the natural increase can be estimated only for the area under registration. This area consists of the towns in the old districts of Madhya Pradesh (excluding integrated States) for which vital statistics are available in the Public Health Reports. The figures are summarised in Table 78 below :—

Table 78

Natural increase of population in urban areas for which reliable vital statistics are available

Decade	Registered births	Registered deaths	Natural increase	Decennial rate of natural increase
(1)	(2)	(3)	(4)	(5)
1941—50	821,791	601,759	220,032	9.3
1931—40	744,717	552,062	192,655	10.6
1921—30	603,030	486,114	116,916	7.8

Significance of the Natural Increase

22. The figures given in Table 78 show that the rate of natural increase of population as judged by the excess of births over deaths increased during the decade 1931—40 as compared to the rate of the previous decade and came down during the next decade 1941—50. To appreciate these changes it is necessary to consider the rates of the population growth in the corresponding area as given in Table 79 below :—

Table 79

Mean decennial growth rate of the urban areas for which reliable vital statistics are available.

Decade	Mean decennial growth rate
(1)	(2)
1941—50 ..	24.9
1931—40 ..	20.3
1921—30 ..	20.9

23. It will be noticed that the rate of growth of the population was fairly steady during the decades 1921—30 and 1931—40 when the rate of natural increase was going up but in the last decade the rate of growth of the population increased significantly while the natural increase rate came down. These typical changes in the rates are due to the immigration phenomena. During the first two decades the number of births occurring in the population were considered against a fairly steady mean population of the respective decades yielding a significant rise in the rate of natural increase. In the last decade 1941—50 the heavy immigration into the urban areas inflated the mean population without taking into account the births among the unusually large number of migrants before coming to the towns. Naturally, therefore, the birth rate showed a drop as also the natural increase rate although the growth rate sharply increased. Again, the considerations about the fall in the birth rates of the general population during 1941—50 discussed in Chapter I has also to be borne in mind in considering the typical rates of natural increase of the urban population.

24. The prospects of further rapid immigration into the urban areas have already been discussed and with the general lower trend of birth rates anticipated we should expect a further fall in the rate of natural increase of the urban population during the next decade.

SECTION VI.—LIVELIHOOD PATTERN

1. Subsidiary Table 3.7 in Part I-B of the Report hows the distribution of 10,000 people of urban population amongst the eight Livelihood Classes. Nearly 16 per cent of the urban population belongs to agricultural classes, while 84 per cent to the non-agricultural classes.

The Agricultural Classes

2. The percentage distribution of the urban population among the four agricultural livelihood classes for Madhya Pradesh and the Natural Divisions is given in table 80 below :—

Table 80

Percentage distribution of the urban population in Madhya Pradesh and the Natural Divisions into the agricultural classes

State and Natural Divisions	I.—Cultivators of owned land	II.—Cultivators of land wholly or mainly unowned	III.—Cultivating labourers	IV.—Non-cultivating owners of land and agricultural rent receivers	Total
(1)	(2)	(3)	(4)	(5)	(6)
Madhya Pradesh	8.15	1.15	5.40	1.04	15.74
North-West Madhya Pradesh Division	4.98	0.82	1.73	0.83	8.36
East Madhya Pradesh Division	11.07	0.59	2.11	0.81	14.58
South-West Madhya Pradesh Division	8.82	1.57	8.84	1.26	20.49

The Agricultural Labourers in Urban Areas

3. It is interesting to notice that the largest percentage (20.49) of the people of agricultural classes residing in urban areas is to be found in the South-West Madhya Pradesh Division, in which another very significant point to be noted is that 8.84 per cent of these people belong to the agricultural labouring classes. Compared to the figures for the other Divisions, this is a high percentage and the explanation for it lies in the fact that, as we have already noticed in Chapter I, the percentage of agricultural labourers in the South-West Madhya Pradesh Division is the largest on account of the typical cotton growing tract, where a large number of labourers is required for cultivation and picking of cotton. Many people residing in the urban areas work as agricultural labourers during the cotton season and come back to their homes in the towns for subsidiary employment during the rest of the year. As their principal means of livelihood happens to be agricultural labour, their percentage in the livelihood pattern is obviously increased.

The Owner Cultivators in Urban Areas

4. The owner cultivators residing in the urban areas are prominent in the East as well as in the South-West Madhya Pradesh Divisions. Subsidiary Table 3.7 given in Part I-B of the Report shows that the cotton tract of Berar (consisting of the four districts of Amravati, Akola, Yeotmal and Buldana) possesses 10 to 13 per cent of the entire urban population in Livelihood Class I (owner cultivators). They include the large landholders, who get their land cultivated through servants or partners in profit, as well as the cultivators who have their fields near about and who live in the towns and work in those fields. In the East Madhya Pradesh Division, the districts in which more than 10 per cent of the urban population belongs to Livelihood Class I, are Bilaspur (11.98), Raigarh (12.74), Surguja (12.62), Chanda (15.10), and Balaghat (20.56). In the Balaghat district, nearly 24.4 per cent of the urban population residing in the three towns of Balaghat, Waraseoni and Tirodi belongs to the agricultural classes. In these backward districts quite a significant proportion of even the urban population is mainly dependent on agriculture.

5. In the North-West Madhya Pradesh Division, the Plateau districts, which are practically as backward as some of the districts in the East Madhya Pradesh Division, have also got a large percentage of owner cultivators residing in urban areas. Mandla (11.57), Betul (9.69) and Chhindwara (12.17) have all a considerable percentage of owner cultivators to the average of 4.98 per cent for the North-West Madhya Pradesh Division as a whole. In fact, in the Nerbudda Valley of the North-West Madhya Pradesh Division the percentage of owner cultivators residing in towns is nowhere more than 6.5 per cent.

The Non-Cultivating Owners of Land

6. The percentage of non-cultivating owners of land and agricultural rent receivers belonging to Livelihood Class IV in the urban areas is largest (1.26) in the South-West Madhya Pradesh Division, while in the other two Divisions their percentage is about equal being a little less than one per cent of the entire urban population.

The Non-Agricultural Classes

7. The percentage distribution of the urban population belonging to the non-agricultural classes in Madhya Pradesh and the Natural Divisions is given in Table 81 below :—

Table 81

Percentage distribution of urban population in Madhya Pradesh and the Natural Divisions into the nonagricultural classes.

State and Natural Divisions	Percentage of non-agricultural classes in urban population	V.—Production other than cultivation	VI.—Commerce	VII.—Transport	VIII.—Other services and miscellaneous sources
(1)	(2)	(3)	(4)	(5)	(6)
Madhya Pradesh	84.26	27.83	19.91	7.46	29.06
North-West Madhya Pradesh Division	91.64	28.57	21.12	9.10	32.85
East Madhya Pradesh Division	85.42	27.75	20.50	8.21	28.96
South-West Madhya Pradesh Division	79.51	27.43	18.98	6.21	26.89

It will be seen that the highest percentage (91.6) of non-agricultural classes for the urban population is to be found in the North-West Madhya Pradesh Division, while the lowest percentage (79.5) is found in the South-West Madhya Pradesh Division. This difference is merely due to the fact that in most of the towns of the South-West Madhya Pradesh Division many agriculturists also reside.

People Engaged in Production Other Than Cultivation

8. It is interesting to observe from Table 81 given above that the percentage of urban population under Livelihood Class V (production other than cultivation) is fairly uniform in all the Natural Divisions. There is a slightly higher proportion in the North-West Madhya Pradesh Division. This is due to the calculation of the percentage of the people of Livelihood Class V on the entire urban population including the agricultural classes. Subsidiary Table 5.1 (B) given in Part I-B of the report shows the number of persons in each class and sub-class per 10,000 persons of non-agricultural classes only in the urban areas. A perusal of this table will show that the percentage of the people belonging to Livelihood Class V (production other than cultivation) of the non-agricultural classes in the three Divisions is as follows :—

North-West Madhya Pradesh Division—31.18.

East Madhya Pradesh Division—32.48.

South-West Madhya Pradesh Division—34.50.

It will, therefore, be seen that the percentage of non-agricultural classes depending on the various industries grouped under Livelihood Class V is the highest (34.5) in the South-West Madhya Pradesh Division and lowest (31.18) in the North-West Madhya Pradesh Division. A detailed discussion of the different industries in Livelihood Class V in the different Natural Divisions will be found in Chapter V.

The Commercial Classes

9. Table 81 given above shows that the percentage of urban population belonging to Livelihood Class VI (Commerce) is the largest in the North-West Madhya Pradesh Division and the smallest in the South-West Madhya Pradesh Division. Here again a perusal of Subsidiary Table 5.1 (B) mentioned above will show that if the percentage is calculated on the non-agricultural population of the urban areas the figures for the Natural Divisions are found to be as follows :—

North-West Madhya Pradesh Division—23.05.

East Madhya Pradesh Division—23.99.

South-West Madhya Pradesh Division—23.87.

It is interesting to note the fairly uniform percentage of commercial people in all the Natural Divisions among the non-agricultural classes in the urban areas.

Transport

10. The percentages of the urban population belonging to Livelihood Class VII (Transport) in the North-West, East and South-West Madhya Pradesh Divisions as given in Table 81 above are 9.10, 8.21 and 6.21, respectively. If the percentages are calculated on the non-agricultural population alone they would be 9.92, 9.62 and 7.81, respectively, for the three Natural Divisions as given in Subsidiary Table 5.1 (B). The highest percentage in the North-West Madhya Pradesh Division is due to the fact that this Division contains the large railway workshops and junctions at Jabalpur and Itarsi, as already pointed out in Chapter I, Section VI.

Other Services and Miscellaneous Sources

11. According to Table 81 given above the largest percentage (32.85) of the urban population belonging to Livelihood Class VIII (other services and miscellaneous sources) is to be found in the North-West Madhya Pradesh Division. The corresponding percentage in the East Madhya Pradesh Division is 28.96 and in the South-West Madhya Pradesh Division it is the lowest being 26.89 per cent. The percentages on the actual non-agricultural population residing in the urban areas come to 35.85, 33.91 and 33.82, respectively, for the three Natural Divisions as given in Subsidiary Table 5.1 (B). Livelihood Class VIII consists of Division '8'—Health, Education and Public Administration, and Division '9'—Services not elsewhere specified of the ten divisions of all Industries and Services according to the Indian Census Economic Classification Scheme referred to already in the previous Chapter. A perusal of Subsidiary Table 5.7, referred to above, shows that the proportion of self-supporting persons in Division '8' is highest in the urban parts of the North-West Madhya Pradesh Division, while in Division '9' it is highest in the South-West Madhya Pradesh Division. The reasons are not difficult to understand. The South-West Madhya Pradesh Division contains the seat of the Government at Nagpur and it is also the most developed part of the State. Naturally, therefore, the proportion of servants would be highest there. In the North-West Madhya Pradesh Division, there are the different colleges and training institutions at Jabalpur and Sagar and therefore the percentage of self-supporting persons under Division '8' is somewhat higher than that in the South-West Madhya Pradesh Division.

12. A perusal of Subsidiary Table 3.7 shows that in the urban areas of Mandla, Betul and Jabalpur the percentage of livelihood class VIII is very high. In Mandla, it is as high as 40. In the East Madhya Pradesh Division, the districts of the Chhattisgarh Plain have all a high percentage of people belonging to this Livelihood Class. In the Bastar district 42.5 per cent of the urban population belongs to the serving classes. In the East Maratha Plain Sub-Division of the East Madhya Pradesh Division, as well as in the South-West Madhya Pradesh Division, which includes the West Maratha Plain, the percentage of the urban population belonging to Livelihood Class VIII is fairly uniform.

Urbanization and Development of Industries and Services

13. The chief characteristics of urban areas are that they accommodate a large majority of persons in a small area and this urbanization is rendered possible by the nature of occupations that prevail therein. Agriculture being the chief rural industry cannot provide a perennial employment to all those depending on it, since the industry in itself is a seasonal one. The land being a gift of nature cannot be increased, nor employment created for the growing population although by intensive cultivation its productivity could be very much enhanced. The nature of the industry in itself fixes a ceiling to the level of employment and the numbers that it can support. The urban population, which mainly depends on industries and services (that is, occupation other than agriculture), has, on the other hand, the advantage that every increase in these occupations is followed by fresh opportunities to employ more men, subject of course to practical economic considerations reviewed in the last Section of Chapter I.

14. The table given below shows the proportion of rural and urban population in each of the different livelihood classes of non-agricultural occupations :—

Table 82

Distribution of non-agricultural classes in rural and urban areas.

State and Divisions	Number per 1,000 of general population of non-agricultural classes in rural and urban areas		Number per 1,000 of general population in rural and urban areas in each livelihood class							
			V.—Production other than cultivation		VI.—Commerce		VII.—Transport		VIII.—Other services and miscellaneous sources	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Madhya Pradesh	525	475	964	36	386	614	312	688	478	522
North-West Madhya Pradesh Division ..	527	473	965	35	412	588	344	656	480	520
East Madhya Pradesh Division	705	295	819	181	521	479	438	562	634	366
South-West Madhya Pradesh Division ..	351	649	415	585	275	725	179	821	359	641

15. The above table clearly shows that urbanization is the greatest in the South-West Madhya Pradesh Division, where the dependence on non-agricultural occupations is the largest, and it is the lowest in the East Madhya Pradesh Division where such dependence is the least. The relationship between non-agricultural occupations and urbanization is vividly brought out by a reference to the figures of the districts of Nagpur and Jabalpur in which the two cities of the State are situated. Out of the total number of persons depending on non-agricultural occupations in the Nagpur district as many as 75.3 per cent of them live in the urban areas and 24.7 per cent live in rural areas. The urban rural ratio of population in the district is 46.8 : 53.2. Similarly, in the Jabalpur district as many as 65.0 per cent of the people depending on non-agricultural occupations live in urban areas and in the district as a whole 28.6 per cent of the people live in urban areas.

16. Urban areas of Nimar district, similarly, accommodate 23.3 per cent of the total population of the district and 64.3 per cent of the population following non-agricultural occupations. A perusal of the Economic Table B-I given in Part II-B of the Report and Subsidiary Table 3.6 showing the number per thousand of the general population and of each livelihood class who live in towns will show that the districts in which there is larger dependence on non-agricultural occupations have also been those which are more urbanized.

17. A comparison of the total number of principal earners at the 1931 Census and the total number of self-supporting persons at the 1951 Census in the two cities of Nagpur and Jabalpur and the percentage variation in the different livelihood classes clearly shows how urbanization goes hand in hand with the development of commerce and industries:—

Table 83

The actual number of principal earners of the 1931 Census and the self-supporting persons of the 1951 Census by livelihood classes and the percentage variation in each class in the Nagpur and Jabalpur cities.

Livelihood Class	Nagpur City			Jabalpur City		
	Principal earners of 1931 Census	Self-supporting persons of 1951 Census	Percentage variation	Principal earners of 1931 Census	Self-supporting persons of 1951 Census	Percentage variation
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I.— Cultivators of owned land	1,249	1,521	21.8	1,320	810	— 38.6
II.— Cultivators of land wholly or mainly unowned ..	88	135	53.4	10	339	3,290.0
III.— Cultivating labourers	808	337	— 58.3	350	186	— 46.9
IV.— Non-cultivating owners of land and agricultural rent receivers.	328	383	16.8	189	351	85. 7
V.— Production other than cultivation	29,153	46,112	58.2	13,510	25,560	89.2
VI.— Commerce	9,422	21,498	128.2	7,407	12,342	66.6
VII.— Transport	5,885	11,230	90.8	3,357	7,116	112.0
VIII.— Other services and miscellaneous sources ..	33,043	42,420	28.4	22,390	38,808	73.3
Total ..	79,976	123,636	54.6	48,533	85,512	76.2

18. It is interesting to observe in Table 83 above the relationship between the variation in the different classes of non-agricultural occupations. An increase in one class is followed by an increase in other classes. Thus the increase of industries in Livelihood Class V in both the cities is reflected in a corresponding increase in Livelihood Class VIII—Other services and miscellaneous sources. The increase under head VI-Commerce is very large in Nagpur compared to Jabalpur, but it is remarkable that in both these cities the commercial people have now reached the level of about 47 per cent of that engaged in industries under Livelihood Class V.

19. At the Census of 1931 the Jabalpur city contained 16.1 per cent of the population of the Jabalpur district and in 1951 it accommodates 24.6 per cent of the population of the district. The population of the city itself registered an increase of 69.5 per cent over the mean population of the period 1931—51. This increase in population is readily explained when we find that the number of total self-supporting persons in 1951 registered an increase of 76.2 per cent over those in 1931. Out of this total increase of 76.2 per cent, self-supporting persons of the non-agricultural classes show an increase of 76.6 per cent, whereas self-supporting persons of the agricultural classes show a fall of 0.4 per cent.

20. The Nagpur city also presents a similar picture. In 1931 it contained 22.9 per cent of the total population of the district and in 1951 this percentage has increased to 36.4. The city registered an increase of 70.4 per cent over the mean population of the period. Self-supporting persons ascertained at the Census of 1951 show an increase of 54.6 per cent over those of 1931. Out of this total increase, self-supporting persons of the non-agricultural classes exhibit an increase of 54.7 per cent, whereas those of agricultural classes exhibit a fall of 0.1 per cent.

21. It needs no further elucidation to conclude that with every increment in industries and services urbanization will increase in the State.

SECTION VII.—CONCLUDING REMARKS

Distribution of Population

1. We have seen that only about 13 per cent of the total population of Madhya Pradesh resides in the urban areas. Of these, about one-fourth (24 per cent) lives in the two cities of Nagpur and Jabalpur, about one-sixth in the six towns of Raipur, Akola, Amravati, Burhanpur, Sagar and Khandwa, all of which have a population of over 50,000. Table 58 gives briefly the distribution of the urban population in the towns of different classes.

2. The density of the urban population also differs widely because of the haphazard manner in which our towns have been growing. The number of persons per square mile in the urban areas of the Betul district is as high as 15,198, while in the Hoshangabad district the density of the urban population per square mile is as low as 3,347.

The Urgent Need of Controlled Development

3. We have seen that measures for preventing congestion, including the creation of a Town Planning Department, have recently been taken and the progress made by the Department will be watched with interest. Unless adequate funds are provided and prompt action is taken to control the urban development, the situation will become extremely complicated as the urban population is now growing as it never did before and the rate of growth will become faster, as we develop more and more industrially. Compared to the decennial growth rate of about 20·4 per cent in the urban population of Madhya Pradesh during 1921-30 and of 20·0 in 1931-40, the growth rate of about 24·8 per cent during 1941-50 is in itself a circumstance of grave concern. Even if this rate persists, the urban population of the State would double itself in about four decades. Actually, as pointed out, the acceleration in the rate itself is rapid and the growth will be much faster.

4. It is comparatively easier to lay out a plan in an open area and to control construction of buildings from the very beginning than to demolish old houses after they are allowed to be built in a haphazard manner for purposes of town development. Apart from wasteful expenditure involved in such operations, the harassment to the people is of no less consequence and the history of the Nagpur Improvement Trust, already referred to, should serve as an eye-opener to all our local bodies and authorities in charge of town planning and urban development work.

The Birth Rate

5. The birth rate of the urban population of Madhya Pradesh has shown a fall of about 5·7 per cent during the last three decades. The reasons for this fall, as has been explained, are partly connected with the previous history and partly with the heavy migration during the inter-Censal period 1941 to 1950. A reference has also been made to the recent movement of family planning in some urban parts of the State and for reasons given in the concluding section of Chapter I, it is desirable to encourage it in the State as early as practicable.

Effect of Birth Control Propaganda in Urban Areas

6. An argument is sometimes advanced that birth control will reduce the intelligentsia and the very cream of the nation while leaving the trash to multiply at will— a tragedy which we might rue later. Deliberate family limitation is undoubtedly most essential amongst the masses in our rural areas but it must be remembered that the intelligent middle class people of the urban areas, who cannot make both ends meet, have actually commenced practising birth control and it is futile to hope that they will not do so if the knowledge is withheld from them. In the first place, the belief that knowledge on such a subject can be withheld is ill-founded. Again, we have seen that under the present circumstances the standard of living of the middle classes is not likely to rise even if attempts are made to increase production without corresponding effort being made to control population. In other words, if we do not provide adequate facilities for birth control, we will not only fail to achieve the object of getting more intelligent babies; but, on the other hand, in our anxiety to improve the calibre of the nation, we will be doing a great disservice to the country by encouraging the middle classes to adopt unscientific or otherwise dangerous methods of birth control coming to their knowledge in the usual "hush-hush" manner. On the other hand, if carefully prepared family planning schemes are introduced and facilities are provided wherever possible to propagate the knowledge on the subject and to enable the people to get safe and reliable required materials, as visualised in paragraph 9 of Section V above, we shall not only be educating the intelligent people and preventing them from resorting to undesirable methods, but we will be taking the first important step of spreading the idea among the poorer classes and the villagers. The history of other countries has shown that the practice of birth control starts from the top—the intelligentisa—and gradually spreads down to the poorer people. With the increasing contact between the rural and urban areas, which is now taking place, it is likely that the family planning schemes of urban areas will become popular in the villages much sooner than many people imagine and actually

the theory that family planning will remain confined to towns and will sap the cream of the nation without spreading into the villages might prove to be completely unfounded.

The Death Rates

7. The death rate in the urban areas of Madhya Pradesh has shown an encouraging fall from 32·8 in 1921—30 to 25·6 in 1941—50. As compared to the corresponding rates for the rural areas, these figures indicate a very successful fight against death in the urban areas during the last two decades and as already pointed out the fall is likely to continue as more medical facilities become available.

Migration from Villages

8. The question of movement of people from villages into the towns has been discussed in the concluding Section VII of the previous Chapter and, as already pointed out, the rate of immigration into the towns is bound to increase rapidly. The phenomenon of daily migration referred to in paragraphs 48 and 49, Section VII of Chapter I has particular importance in large cities like Nagpur and Jabalpur and it shows how the resident population of a city differs from the working population during the day-time and how, therefore, the phenomenon is of importance in considering the development plans of the cities.

Communications between Urban and Rural Areas

9. We have seen in the last Chapter that contact between the rural and urban areas is rapidly increasing. In Chapter V, Section XI—Transport, Storage and Communications—we will discuss at length the transport developments in the State, but here it may be mentioned that motor transport in the State has doubled during the last decade and motor buses and Jeep cars have penetrated places far into the interior bringing the villagers, as it were, close to the towns. The increased transport facilities will encourage immigration into the urban areas and will be an important factor in the rapid increase of the urban population at a time when the growing numbers in the villages are not required to handle agriculture. Apart from the caution needed ir planning urban growth in view of these developments, considerable care will be needed to prevent urban diseases from spreading into the villages as pointed out in Chapter I, paragraph 78.

The Economic Outlook

10. Nearly 16 per cent of the urban population of Madhya Pradesh belongs to the agricultural classes and the remaining 84 per cent to the non-agricultural classes. Of the agricultural classes about 8 per cent belong to the category of owner cultivators and about 5 per cent to the class of cultivating labourers. The remaining people of the agricultural classes are roughly equally divided among the non-cultivating owners of land and cultivators of unowned land.

11. The classification of the self-supporting persons in the non-agricultural occupations on which the large majority of the urban people depend is given in detail in Subsidiary Tables 5·7 to 5·17. A perusal of Subsidiary Table 5·7 shows that there are 699,882 self-supporting persons of all industries and services, who reside in the urban areas of the State and they are distributed in the 10 divisons of industries and services in the Natural Divisions as shown in Table 84 below :—

Table 84

Distribution of the self-supporting persons of all industries and services in urban population by divisions of industries and services in Madhya Pradesh and the Natural Divisions.

Divisions of Industries and Services	Madhya Prades	North-West Madhya Pradesh Division	East Madhya Pradesh Division	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)
All Industries and Services				
Total Persons	699,882	230,666	159,587	309,629
Distribution of 10,000 self-supporting persons in all Industries and Services				
0.—Primary Industries not elsewhere specified	267	178	523	203
1.—Mining and Quarrying	127	67	366	49
2.—Processing and Manufacture—Foodstuffs, Textiles, Leather and Products thereof.	2,033	1,677	1,704	2,467
3.—Processing and Manufacture—Metals, Chemicals and Products thereof	407	722	205	277
4.—Processing and Manufacture not elsewhere specified	575	562	587	579
5.—Construction and Utilities	502	528	566	451
6.—Commerce	2,189	2,058	2,247	2,256
7.—Transport, Storage and Communications	936	1,075	985	806
8.—Health, Education and Public Administration	1,382	1,756	1,174	1,209
9.—Services not elsewhere specified	1,582	1,377	1,643	1,703
Total Divisions 0 to 9	10,000	10,000	10,000	10,000

12. Divisions '0' to '4' of the divisions of industries and services contain numerous industries and it will be observed that the most important industries of the urban areas in the State are contained in Division '2'—Processing and Manufacture of Food-stuffs, Textiles, Leather and Products thereof. In fact about 20 per cent of the total number of self-supporting persons in all industries and services are engaged in these industries. Among the other occupations given in Table 84 above Commerce claims the highest percentage (about 22) of all the self-supporting ersons engaged in all Industries and Services. Divisions '8' and '9' pertaining to Public Administration, etc., and Services not elsewhere specified each contain about 13·82 and 15·82 per cent, respectively, of the self-supporting persons engaged in all industries and services. A detailed discussion on the distribution of the self-supporting persons in different industries and services will be found in Chapter V—Non-Agricultural Classes. But here it might be pointed out that the largest number of self-supporting persons engaged in all industries and services and residing in urban areas is to be found in the South-West Madhya Pradesh Division as will be seen from Table 84 above.

CHAPTER IV

Agricultural Classes

SECTION I.—PRELIMINARY REMARKS

1. In this Chapter we shall first deal with the Agricultural Classes, their distribution in the State and their economic status and activities, and will then briefly consider the vital question of population and means of sustenance.

2. The importance of agriculture in Madhya Pradesh can hardly be overstressed. As we have already pointed out in Chapter I, Section VI, while discussing the livelihood pattern of the general population, 76 per cent of the entire population of the State belongs to the agricultural classes; while, as pointed out in Chapters II and III, about 85·4 per cent of the enormous population of over 18·37 millions residing in rural areas and about 16 per cent of even the comparatively small urban population of about 2·88 millions depend on agriculture as their principal means of livelihood. Discussing the importance of Agriculture in our country, Agrawal rightly observes: "Agriculture has always occupied a place of pride in India's economy. That role it retains even today, in spite of the fact that the country is once again being steadily industrialised. The great significance of agriculture in the country's life and economy is well borne out by the fact that it is the main occupation of the people. Truly speaking, agriculture is not merely an occupation or a business proposition for the people, it is a tradition, a way of life which for centuries has shaped their thoughts, outlook and culture."*

The Classification of Agricultural Classes

3. In accordance with the Indian Census Economic Classification Scheme given fully in Part II-B of the Report and referred to in Section VI of Chapter I, the agricultural people have been divided into the four livelihood classes already mentioned, namely cultivators of land wholly or mainly owned, and their dependants; cultivators of land wholly or mainly unowned, and their dependants; cultivating labourers, and their dependants; and non-cultivating owners of land, agricultural rent receivers, and their dependants. It is necessary to bear in mind the definitions of these terms as already pointed out in Section VI, Chapter I, as otherwise considerable confusion might arise in comparing the statistics with those collected by different investigators.

Comparison with 1931 Classification

4. Subsidiary Table 5·6, given in Part I-B of the Report shows the comparison of the livelihood classes of the 1951 Census with the occupational groups of the 1931 Census. The flyleaf to the table gives the details of the groups at the 1931 Census which correspond to different livelihood classes of 1951. It will be observed that the four agricultural livelihood classes correspond to the occupational groups of 1931 as shown in Table 85 below :—

Table 85

Livelihood Classes I to IV of 1951 Census corresponding to the occupational groups of 1931.

Livelihood class of 1951 (1)	Occupational group of 1931 Census (2)
I—Cultivators of land wholly or mainly owned; and their dependants.	5. Cultivating owners. 8. Cultivation of *jhum* and shifting areas. (There were no entries in 1931 Census under this group).
II—Cultivators of land wholly or mainly unowned; and their dependants.	6. Tenant cultivators.
III—Cultivating labourers and their dependants.	7. Agricultural labourers.
IV—Non-cultivating owners of land, agricultural rent receivers; and their dependants.	1. Non-cultivating population taking rent in money or kind.

*"Indian Agriculture and its Problems" by A. N. Agrawal, page 1 (Ranjit Printers and Publishers, Chandni Chowk, Delhi).

5. It is to be noted that the category of agriculture in 1931 not only included the above five occupational groups corresponding to the four agricultural livelihood classes, but 11 other occupational groups which are now included among the different livelihood classes of industries and services as shown in Table 86 below :—

Table 86

Agricultural occupation groups of 1931 Census corresponding to livelihood classes V and VIII of 1951.

Livelihood class of 1951 Census	Occupational group of 1931 Census	Division of Industries and Services of 1951 Census
(1)	(2)	(3)
V—Production other than cultivation.	(9) Cinchona plantation.	0·3—Plantation Industries-Owners, managers and workers.
	(10) Cocoanut plantation.	
	(11) Coffee plantation	
	(12) Ganja plantation	
	(13) Pan vine plantation.	
	(14) Rubber plantation	
	(15) Tea plantation	
	(16) Market gardeners, flower and fruit growers.	
VIII—Other services and miscellaneous sources.	(2) Estate agents and managers of owners.	9·0 Services otherwise unclassified.
	(4) Rent collectors, clerks, etc.	
	(3) Estate agents and managers of Government.	8·7 Employees of State Government.

6. In making comparison with the 1931 Census figures, therefore, the changes in the classification have to be taken into account and figures of livelihood classes are accordingly compared as far as it is possible to do so in Subsidiary Table 5·6 mentioned above.

7. The definition of cultivating owners, tenant cultivators, agricultural labourers and non-cultivating population taking rent in money or kind of the 1931 Census classification were practically the same as the corresponding definitions for the cultivators of owned land, unowned land and of agricultural labourers and rent receivers belonging to Livelihood Classes I to IV at the 1951 Census.

Reference to Statistics

8. Table A-V (Towns arranged territorially with population by livelihood classes), given in Part II-A of the Report, contains details of distribution of the agricultural classes in each town of the State. Similar tahsil-wise distribution in the urban and rural areas will be found in Table E-(Summary figures for districts). Particulars of the agricultural classes in respect of each village of the State are contained in the Primary Census Abstract of each district given in the respective District Census Hand-Book.

9. The economic status of the agricultural classes showing the economically active, semi-active and passive persons in the different parts of the State up to the district level is given in Economic Table B-I (Livelihood classes and sub-classes) in Part II-B of the Report. The break-up for the Census tracts will be found in the District Census Hand-Books. The secondary means of livelihood of the economically active or semi-active persons of the agricultural classes is contained in Table B-II (Secondary means of livelihood) for the State, each Natural Division and District. Details for the Census tracts are available in the District Census Hand-Books.

The Subsidiary Tables

10. The Subsidiary Tables of the fourth series contained in Part I-B of the Report form the basis of the review in this Chapter. Subsidiary Table 4·1, in which the ratio of agricultural classes per 1,000 persons of general population is considered along with the number in each of the four agricultural livelihood classes and sub-classes of 10,000 persons of all agricultural classes and in which a comparison is attempted with agricultural holdings by size, is prepared partly from the data collected at the Census and partly from the information about the size of holdings supplied by the Deputy Commissioners from the land records of the districts and which is given in Subsidiary Table 4·0.

11. Subsidiary Tables 4·2 to 4·5 deal with each of the four agricultural livelihood classes separately and show the distribution of 10,000 persons of each livelihood class in each of the three sub-classes of self-supporting persons, non-earning dependants and earning dependants. They also give an analysis of the secondary means of livelihood of 10,000 persons of each livelihood class. These tables have been prepared from the statistics collected at the Census.

12. Subsidiary Table 4·6 gives a complete picture of active and semi-active people in cultivation. It thus also shows the contribution to agriculture of those persons whose principal means of livelihood is other than cultivation.

13. Subsidiary Table 4·10 gives the actual calculated effective workers in cultivation. The method of preparing this table is explained in the flyleaf and the presumptions made to arrive at the figures are reviewed in the Chapter.

14. Subsidiary Tables 4·7 to 4·9 deal with the progress of cultivation during the last three decades, components of cultivated area per capita, land area per capita and trend of cultivation per capita during this period. The population figures made use of in preparing these tables are based on the Census figures. The agricultural statistics required were very kindly made available by the Director of Land Records, Madhya Pradesh.

15. Subsidiary Table 4·9, which gives the land area per capita and the trend of cultivation, deals with the supreme problem of population and sustenance and has been reviewed at length in Section IX of the Chapter. With a view to illustrating the conclusions drawn, additional Subsidiary Tables are included in Part I-B of the Report, giving the wholesale and retail prices, season value and percentage change in area under crop, percentage of variation in area under staple foodgrains and cotton, yield factors, average seed rate in lbs. per acre in different districts and area under rice, wheat and juar and production of these foodgrains in different parts of the State.

16. A series of climatological tables are also included in Part I-B of the Report showing the climatic changes at different times. These tables will be useful in fully appreciating the progress of cultivation in the different decades and the changes in the food production of the State and its different parts.

Reliability of the Statistics Reviewed

17. The question of the reliability of the Census Economic Data has already been discussed in Chapter I, Section VI (Livelihood Pattern), and need not be repeated here. The agricultural statistics used in this Chapter are those supplied by the Director of Land Records and the Agriculture Department of the Government of Madhya Pradesh. The Director of Land Records was very particular to get the required figures collected by very experienced Statisticians of his office and the figures may be taken as the most reliable available statistics in the State.

Maintenance of the Land Records and their Reliability

18. The primary agricultural statistics are collected in Madhya Pradesh with the help of the Land Records Department. The details of the method of maintenance of these records are contained in the different volumes of the Land Records Manuals. They show how scrupulous care is taken to maintain these valuable records from settlement to settlement in each district and how one of the most important duties of all Revenue Officers is closely to supervise the work of the otherwise independent land records staff, which is in turn completely equipped with its own technical and expert supervisors. In fact, the method of maintaining the land records and the technical as well as the administrative machinery provided for efficient supervision is one of the best in the country of which the State could well be proud of. The unfortunate recent tendency, however, of over-burdening this excellent set-up with political work connected with election and various other development schemes needs a note of caution. While there is no doubt that the Land Records Department provides the best machinery for carrying out most of this work, it must be remembered that it has its limitations and unless it is adequately strengthened in time to cope with the additional work, it is likely to fail. Once the beautiful land records are allowed to be neglected and become unreliable, it will be a tragedy of the first magnitude for the country at a time when we need the best available data about our agricultural production as will be seen when we discuss the problem of population growth and sustenance in Section IX.

SECTION II.—AGRICULTURAL POPULATION RATIOS; SELF-SUPPORTING PERSONS AND DEPENDANTS; SECONDARY MEANS OF LIVELIHOOD OF AGRICULTURAL CLASSES

Proportion of Agricultural Classes

1. A perusal of Subsidiary Table 4·1 given in Part I-B of the Report shows the percentage of the general population belonging to the agricultural classes in the State and its different parts. The position in the Natural Divisions and Sub-Divisions is summarised in Table 87 below :—

Table 87

Percentage of Agricultural Classes in the State and the Natural Divisions.

State, Natural Divisions and Sub-Divisions	Percentage
(1)	(2)
Madhya Pradesh	76·0
North-West Madhya Pradesh Division..	70·3
Nerbudda Valley	64·4
Plateau	79·9
East Madhya Pradesh Division.. ..	83·5
Chhattisgarh Plain..	86·4
East Maratha Plain	75·5
South-West Madhya Pradesh Division..	68·0

2. It is interesting to observe that the Nerbudda Valley has the smallest percentage of agricultural classes. The picture in the South-West Madhya Pradesh Division is much the same, while the backward areas of Chhattisgarh and Plateau have naturally the highest percentage of people belonging to the agricultural classes. In the Bastar district, their percentage is as high as 91·4 indicating how in these undeveloped tracts practically the entire population depends on agriculture.

3. Among the districts, which have the lowest percentage of agricultural classes, are Nagpur (43) and Jabalpur (57). Excluding these two districts, which have notable industrial importance, all other districts have more than 60 per cent of the population in the agricultural classes. In fact, excluding these areas, the districts of the Nerbudda Valley and the district of Wardha there is no district in the State in which the percentage of agricultural classes is less than 70.

Dependency amongst Agricultural Classes

4. Subsidiary Table 4·1 brings out a very significant fact that out of every 10,000 people belonging to the agricultural classes, 4,110 persons in Madhya Pradesh are just doing nothing, while 3,004 are actual self-supporting workers and 2,886 are earning dependants.

Dependency in the Natural Divisions and in the Hoshangabad District

5. Table 88 below shows the percentage of dependency in the Natural Divisions and Sub-Divisions :—

Table 88

Dependency amongst Agricultural Classes.

State, Divisions and Sub-Divisions	Percentage of Agricultural Classes in each sub-class		
	Self-supporting persons	Non-Earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Madhya Pradesh ..	30·04	41·10	28·86
North-West Madhya Pradesh Division.	29·44	44·45	26·11
Nerbudda Valley ..	29·61	48·99	21·40
Plateau	29·21	38·46	32·33
East Madhya Pradesh Division.	30·59	38·96	30·45
Chhattisgarh Plain ..	31·65	38·98	29·37
East Maratha Plain ..	27·32	38·90	33·78
South-West Madhya Pradesh Division.	29·40	42·48	28·12

6. It will be seen that in the Nerbudda Valley the percentage of non-earning dependants is the highest being about 49. In the Hoshangabad district of this Sub-Division, the percentage of non-earning dependants is as high as 51·21. No other district of the State shows such high a percentage of non-earning dependants amongst the agricultural classes. For a possible explanation of this abnormal dependency, we might examine the composition of the population according to age, as given

in Subsidiary Tables 6·9 to 6·14 in Part I-B of the Report. The following Table 89 gives the abstracted statistics from these tables for Madhya Pradesh and the three Natural Divisions as well as for the Nerbudda Valley Sub-Division and the Hoshangabad district :—

Table 89

Distribution of 10,000 *persons of agricultural classes by age-groups in Madhya Pradesh and certain areas.*

Age Groups	Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley Sub-Division	Hoshangabad District	East Madhya Pradesh Division	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Infants (Below 1 year)	338	361	378	335	331	331
Young children (Aged 1—4 years) ..	1,047	1,011	983	983	1,067	1,038
Boys and Girls (Aged 5—14 years) ..	2,483	2,478	2,459	2,350	2,473	2,508
Young men and women (Aged 15—34 years).	3,178	3,272	3,349	3,378	3,148	3,148
Middle-aged persons (Aged 35—54 years).	2,120	2,182	2,181	2,215	2,106	2,085
Elderly Persons (Aged 55 and over) ..	827	684	642	719	868	878

From Table 89 given above it will be seen that the total number of infants, young children and elder persons per 10,000 persons of agricultural classes in Madhya Pradesh and the different areas are as follows :—

Madhya Pradesh	2,212
North-West Madhya Pradesh Division ..	2,056
Nerbudda Valley	2,003
Hoshangabad	2,037
East Madhya Pradesh Division	2,266
South-West Madhya Pradesh Division ..	2,247

These figures show that the number of persons who are likely to be dependant on account of their age is larger in the Hoshangabad district than in the Nerbudda Valley. Their number in the East Madhya Pradesh Division and the South-West Madhya Pradesh Division is, however, larger than that in the Hoshangabad district. The age composition, therefore, only partially accounts for the high percentage of dependency in the Hoshangabad district compared to that in the Nerbudda Valley and other parts of the State.

7. To examine the matter further we may add the earning and non-earning dependants and we find that nearly 70 per cent of the agricultural classes in Madhya Pradesh are included in this combined category. The position is very much the same in all districts except Raipur, Durg and Raigarh, where the percentage varies between 60 and 65. The figures of non-earning dependants and earning dependants as given in Subsidiary Table 4·1 further show that in the Hoshangabad district, where this over-all position is the same as in many other places, the earning dependants are fewer and the non-earning dependants are more in number. One possible explanation of this state of affairs seems to be that there is much poor labouring population and that the dependants of cultivators are not as much employed as they would otherwise be. This is corroborated by Subsidiary Table 4·2 about Livelihood Class I. There we find that for the State as a whole the figure of earning dependants per 10,000 people of Livelihood Class I is 2,918 and the corresponding figure for Hoshangabad is only 1,692. Examining the position about secondary means of livelihood in Subsidiary Table 4·2, we find that the number of owner cultivators, who earn a secondary income by working as agricultural labourers, is 1,836 out of 10,000 persons of Livelihood Class I for the State as a whole, while the corresponding figure for Hoshangabad district is only 1,180. Therefore, it means that in the Hoshangabad district these people are not obtaining jobs as cultivating labourers because there is already a full quota of cultivating labourers. The part-time man cannot compete with the full-time man, who is himself demanding employment. This fact is further brought out in Subsidiary Table 4·4 for Livelihood Class III. In this table, we find that the number of self-supporting persons per 10,000 persons of Livelihood Class III for the State as a whole is 3,910 and for the Hoshangabad district it is 3,592, which means that in the Hoshangabad district the percentage of employment as self-supporting persons amongst the class of agricultural labourers themselves is lower than the average for the State as a whole.

8. It is clear that in the Hoshangabad district the scope for secondary means of livelihood as cultivating labourers or otherwise is very limited. This is a fact brought out by the

figures in the Subsidiary Tables and is corroborated by the circumstances relating to the pressure of population on agricultural land already discussed while considering the growth of population in the Hoshangabad district in Chapter I where it was pointed out how the available agricultural land in the district is fully occupied and that there are more people than are necessary for handling the cultivation.

Secondary Means of Livelihood of Agricultural Classes

9. A detailed analysis of the secondary means of livelihood of the agricultural classes for the general, rural and urban population of the State, Natural Divisions, Sub-Divisions and Districts will be found in the main economic Table B-II (Secondary Means of Livelihood) given in Part II-B of the Report. It is interesting to observe that amongst the agricultural classes in Madhya Pradesh, only about 36 per cent of the people have a secondary source of income, of whom about 29 per cent are earning dependants and the rest are self-supporting persons.

10. The following table shows the number of self-supporting persons and earning dependants per 1,000 persons of all agricultural classes, who have a secondary means of livelihood, in Madhya Pradesh and the Natural Divisions :—

Table 90

Secondary means of livelihood amongst the agricultural classes.

(Number per 1,000 persons of all agricultural classes whose secondary means of livelihood is mentioned in column 1·)

Secondary means of livelihood (1)		Madhya Pradesh (2)	North-West Madhya Pradesh Division (3)	East Madhya Pradesh Division (4)	South-West Madhya Pradesh Division (5)
Cultivation of own land	Self-supporting persons	5	2	7	6
	Earning dependants	49	13	69	8
Cultivation of unowned land	Self-supporting persons	6	6	4	12
	Earning dependants	3	3	3	2
Employment as cultivating labourers	Self-supporting persons	18	17	20	15
	Earning dependants	205	188	189	257
Rent on agricultural land	Self-supporting persons	4	5	2	6
	Earning dependants	1	..	1	1
Production (other than cultivation)	Self-supporting persons	17	20	19	7
	Earning dependants	14	15	16	7
Commerce	Self-supporting persons	7	8	6	8
	Earning dependants	3	4	4	2
Transport	Self-supporting persons	2	5	2	1
	Earning dependants	..	1	..	..
Other services and miscellaneous sources	Self-supporting persons	8	9	8	7
	Earning dependants	14	7	22	4

11. These figures show that out of about 36 per cent of the people of all agricultural classes, who have a secondary means of livelihood, in the State over 29 per cent have returned one or the other of the agricultural occupations itself as their secondary means of occupation and only about 7 per cent of the people have other types of secondary source of income. Of these 7 per cent, about 3 per cent only get subsidiary employment in some kind of industry of Livelihood Class V, which also includes such industries allied to agriculture as stock raising, forestry, breeding of small animals, etc.

12. Before we proceed to analyse the secondary means of livelihood of the actual working population amongst the agricultural classes, it is desirable to examine the percentage of people in the different agricultural livelihood classes who have a secondary source of income.

13. The following table shows the percentage of self-supporting persons to the total population of the particular livelihood class having a secondary means of livelihood and similar percentage of the earning dependants in each of the four agricultural livelihood classes in Madhya Pradesh :—

Table 91

Proportion of self-supporting persons with secondary income and earning dependants in each agricultural livelihood class.

(1)	I—Cultivators of land wholly or mainly owned (2)	II—Cultivators of land wholly or mainly unowned (3)	III—Agricultural labourers (4)	IV—Non-cultivatin owners of land; agricultural rent receivers (5)
Percentage of self-supporting persons to the total population of the class having secondary means of livelihood.	7·07	8·67	4·92	15·55
Percentage as above of earning dependants ..	29·18	32·19	28·23	18·14
Total ..	36·25	40·86	33·15	33·69

14. It is interesting to observe that the largest proportion of the total percentage of people with secondary means of livelihood is to be found in Livelihood Class II (40·86), while it is least (33·15) in Livelihood Class III. In Livelihood Class IV also the total percentage of people with a secondary means of livelihood is very low (33·69). This class, however, has another peculiarity that the percentage of self-supporting persons having a secondary means of livelihood is very nearly the same as the percentage for the earning dependants, whereas in Livelihood Classes I and II the percentage of self-supporting persons having a secondary means of livelihood is about 1/4th of the percentage of earning dependants and in the case of Livelihood Class III it is about 1/7th. The reason for this is obvious. The self-supporting persons of Livelihood Class IV have ample time at their disposal to be able to undertake subsidiary occupations, because they are the non-cultivating owners of land, who get the rents and who are not otherwise employed to earn their principal means of livelihood. In the case of the other three livelihood classes particularly Class III, this is not the case. They have to work to earn their principal means of livelihood and have to put in additional effort to supplement their income by undertaking other occupations.

Secondary Means of Livelihood of the Working Agricultural Population

15. The following table gives the distribution of 1,000 self-supporting persons and earning dependants belonging to all the agricultural classes into the eight livelihood classes according to their secondary means of livelihood :—

Table 92

Source of secondary income of economically active and semi-active persons in agriculture.

(Number per 1,000 of self-supporting persons and earning dependants who derive their secondary means of livelihood as mentioned in column 1.)

Secondary means of livelihood (1)	Madhya Pradesh (2)	North-West Madhya Pradesh Division (3)	East Madhya Pradesh Division (4)	South-West Madhya Pradesh Division (5)
I—Cultivation of own land	92	82	124	26
II—Cultivation of unowned land ..	15	15	12	25
III—Employment as cultivating labourers ..	378	369	342	473
IV—Rent on agricultural land ..	8	10	5	12
V—Production other than cultivation ..	51	63	58	25
VI—Commerce	18	22	17	17
VII—Transport	5	10	4	3
VIII—Other services and miscellaneous sources.	37	28	49	19

16. It is interesting to observe from the above table that only 604 persons out of 1,000 self-supporting persons and earning dependants of all the agricultural classes have a secondary means of livelihood. In other words, only 60 per cent of the working population have a supplementary source of income. Again, it is to be observed that this 60 per cent of people include nearly 49 per cent of those who again have for their secondary means of livelihood one of the agricultural activities. This means that only about 11 per cent of the working population of the agricultural classes have taken to occupations other than agriculture to supplement their earnings from agriculture. Such abnormal dependence on agriculture is, to say the least, alarming. It shows how the huge population belonging to the agricultural classes depends almost entirely on agriculture and has hardly any other supplementary source of income with the result that in time of fall in agricultural prices or unfavourable seasons they have no other means of keeping up their standard of living. The necessity of introducing cottage industries and other non-agricultural occupations amongst the agricultural classes cannot, therefore, be over-stressed.

SECTION III.—RELATIVE PROPORTION OF DIFFERENT AGRICULTURAL CLASSES CORRELATED TO DISTRIBUTION OF LAND IN AGRICULTURAL HOLDINGS OF DIFFERENT SIZES

Relative Proportion of Different Agricultural Classes

1. A perusal of Subsidiary Table 4.1 in Part I-B of the report shows that 65.14 per cent of the agricultural classes belong to Livelihood Class I (Cultivators of own land). Agricultural labourers of Livelihood Class III claim 26.85 per cent, while cultivators of unowned land and non-cultivating owners of land claim 5.88 and 2.13 per cent respectively.

2. A comparison of the percentage distribution of the agricultural classes into the different Natural Divisions, as given in Table 93 below, shows that the South-West Madhya Pradesh Division has a very low percentage under Livelihood Class I, and a comparatively high percentage under Livelihood Classes II and III:—

Table 93

Percentage distribution of agricultural classes into the different livelihood classes in Madhya Pradesh and the Natural Divisions.

State and Natural Divisions	Percentage of all agricultural classes belonging to livelihood class—			
	I—Cultivators of land wholly or mainly owned	II—Cultivators of land wholly or mainly unowned	III—Agricultural labourers	IV—Non-cultivating owners of land; agricultural rent receivers
(1)	(2)	(3)	(4)	(5)
Madhya Pradesh..	65·14	5·88	26·85	2·13
North-West Madhya Pradesh Division.	66·19	6·30	24·75	2·76
East Madhya Pradesh Division.	75·24	3·77	19·70	1·29
South-West Madhya Pradesh Division.	41·31	10·20	45·11	3·38

3. This typical distribution agrees with the analysis which we will presently undertake about the distribution of agricultural holdings, which shows that there are larger holdings in the South-West Madhya Pradesh Division than elsewhere. We have already discussed in Chapter I, Section VI, the high percentage of agricultural labourers in the South-West Madhya Pradesh Division and have seen how cotton cultivation needs a large labour force. It is, therefore, clear that the livelihood pattern in the Divisions in respect of the agricultural classes I (owner cultivators) and III (cultivating labourers) is in accordance with the cropping pattern which exists there.

The Cultivators of Unowned Land

4. Table 93 given above shows that the largest percentage (10.2) of cultivators of unowned land are again to be found in the South-West Madhya Pradesh Division; while the smallest percentage (3.77) is noticed in the East Madhya Pradesh Division. In the North-West Madhya Pradesh Division, it is 6.3. In this connection it is to be noted that the land owners of the South-West Madhya Pradesh Division and the North-West Madhya Pradesh Division are comparatively better off than those in the Chhattisgarh Division, where the owners mostly cultivate their own small holdings.

5. On examining the district figures in Subsidiary Table 4.1 in Part I-B of the Report in respect of the percentage of cultivators of unowned land, it is found that very low percentages are noticed in the Raipur (1.18), Bilaspur (1.41) and Durg (2.28) districts of the Chhattisgarh Plain and the highest percentage (17.13) is found in the Yeotmal district of the South-West Madhya Pradesh Division. The Bastar district in the Chhattisgarh Plain and the Jabalpur district in the Nerbudda Valley attract particular attention because in the former district the percentage of cultivators of unowned land is as high as 10·13 compared to the average of 3.16 for the Chhattisgarh Plain. This phenomenon is connected with the land tenure system of this old integrated State, where obviously the custom of subletting agricultural land was common. The low percentage of 3.2 in the Jabalpur district compared to the average of 5.69 for the Nerbudda Valley is explained by the fact that in this district the percentage of owner cultivators is comparatively very high. In fact, in the Jabalpur district the percentage of owner cultivators is 71 compared to 63.7 for the Nerbudda Valley

Distribution of Agricultural Holdings by Size

6. Subsidiary Table 4.1 also deals with the distribution of 1,000 agricultural holdings by size of holdings. The best way of studying the distribution of the holdings is to first ascertain the lower

quartile size or the size of the 250th holding from the smallest holding, the median size or the size of the 500th holding and the upper quartile size or the size of the 750th holding. The simple method by which the lower quartile, median and upper quartile size of holdings are determined is given briefly in Annexure A to Subsidiary Table 4.1 in Part I-B of the Report. It may be noted that the median is the size of the middle individual holding in the group of 1,000 holdings all arranged in order of their size. The quartile sizes are similarly the sizes of the individual holdings half way between the extremes and the median, the lower quartile being less than the median which, in turn, is less than the upper quartile.

7. Table 94 given below is prepared from the details of the agricultural holdings given in Subsidiary Table 4.1 in accordance with the method explained in the Annexure mentioned above. It gives the size of the upper and lower quartile and the median holdings in Madhya Pradesh and the different Natural Sub-Divisons :—

Table 94

Size of holdings in acres.

State and Sub-Divisions	Lower quartile	Median	Upper quartile
(1)	(2)	(3)	(4)
Madhya Pradesh	1·8	5·0	12·7
Nerbudda Valley	1·4	4·3	10·0
Plateau	1·7	7·0	17·3
Chhattisgarh Plain ..	1·5	4·1	10·0
East Maratha Plain ..	1·5	4·0	8·7
West Maratha Plain ..	3·9	8·1	18·0

The Median Size Holdings

8. It will be observed that in the West Maratha Plain, the size of the median holding is 8.1 acres compared to 4 in the East Maratha Plain, 4.3 in the Nerbudda Valley and 4.1 in the Chhattisgarh Plain. One possible explanation is that the average farmer of the West Maratha Plain is in better circumstances and has a higher standard of living than the average farmer of the Chhattisgarh and the East Maratha Plains. Another possible explanation is that two acres of West Maratha Plain is as productive as one acre of East Maratha Plain. In fact both the factors are responsible for the difference in the size of the median holding.

9. The median holding in the Nerbudda Valley is of 4.3 acres, while that in the Plateau is of 7.0 acres indicating again that the land in the Valley is more fertile than that in the Plateau. As we will see later, the yield factor in the Nerbudda Valley in fact exceeds the yield factor in the Plateau.

10. The lower quartile and the upper quartile holdings, as given in the table above, reflect the same ratio as the median size holding and, therefore, do not call for further discussion.

11. The observations made above about the comparative size of holding in the different Natural Divisions and the obvious reasons for such distribution are borne out from the intensive survey made by the C. P. Banking Enquiry Committee in 1929-30. In their Report, the Committee observed, "From cultivation alone at present prices it appears that the average family in Berar could not be maintained on less than 15 acres. Undoubtedly many of them hold less than this, and as a matter of fact rely for their maintenance very largely upon their income from subsidiary sources, as is explained hereafter. On the other hand, as we have explained in the district notes, the net profits from rice cultivation, particularly in double-cropped areas, would make it possible for a family to be maintained from a holding of not more than 5 to 6 acres. In a holding of this size very little outside labour is required, and the costs of cultivation are therefore far less than the average cost estimated by us..... Our enquiries show that many of the small holdings in the rice zone are devoted purely to rice and are often double-cropped." In this connection attention might be invited to the question of yield factors discussed later. It will be noticed that the yield factor in respect of rice in the East Madhya Pradesh Division is almost double that for juar in the South-West Madhya Pradesh Division or wheat in the North-West Madhya Pradesh Division. Commenting on the profits of agriculture the Banking Enquiry Committee further observed. "It will be seen that the surplus or balance is considerably greater in Berar than in the rice zone, although the profits per acre from rice cultivation are considerably more. This is purely the result of the size of the holding, the holdings in the cotton zone being generally much larger than those in the rice zone proper. It should be noted that although the all round average in Berar works out at 34 acres per cultivating family, 11 per cent of the cultivators were found in our intensive surveys to have large holdings over 40 acres in area, while actually the most common holding is not much above 20 acres. It will be seen that in the villages in Berar surveyed

by us there are, if we exclude the small holdings below 5 acres, 655 holdings below 16 acres against 754 holdings of 16 acres and above."

12. It is to be noted that the "holding" referred to by the Banking Enquiry Committee is defined as the land held by a family of cultivators; whereas the 'holdings' given in Subsidiary Table 4.1 are the Land Records' holdings, where land held by the individual cultivator and entered in his account in the Village Papers or Jama Bandi is held to be a holding. Thus, if in a family land is recorded in a village in the name of two members, each of whom is shown to have a separate account in the Jama Bandi, we will have two land records holdings as against one for the family as a whole. Again, a cultivator may have land in more than one village and according to the land records there would be a separate holding in each village while actually all the land held by the cultivator in the different villages would be really only one holding. Similarly, the land records holdings are likely to be increased if a cultivator holds land in different rights and his account is separately shown in the Jama Bandi for each type of right in land. In 1929-30, therefore, the Banking Enquiry Committee observed that in the Central Provinces, *excluding* Berar, there were 2,330,854 land records holdings with a total area of 19,487,099 acres giving an average holding of 8½ acres; whereas the number of rent paying family cultivators was only 993,635 and, therefore, according to them the average holding was more likely to be 19.6 acres. An estimate of the number of agricultural families possessing agricultural holdings at the 1951 Census can be made by ascertaining the number of families amongst the agriculturists of Livelihood Class I and IV. The cultivators of own land of Class I include all tenants holding permanent tenancy right. The cultivators of unowned land have no permanent right and merely cultivate the holdings or parts of holdings held by the cultivators of Class I or IV.

13. Subsidiary Table 6.2 given in Part I-B of the Report shows the composition of the rural and urban families in the different districts. Assuming the composition of the rural families to be applicable generally to the agricultural classes and knowing the total population of the agricultural Livelihood Classes I and IV in the different parts of the State, as given in Economic Table B-I in Part II-B of the Report, we can arrive at an approximate number of agricultural families possessing agricultural holdings in a particular part. Table 95 given below is prepared on this assumption for the territory of the old Central Provinces and Berar, excluding the integrated States. The area figures represent the average for the quinquennium ending 1949-50 as given in the Season and Crop Report as the total occupied area. The integrated States are excluded because the cropped area for the quinquennium are not available :—

Table 95

Average occupied area per family of land-holders (i.e. of Livelihood Classes I and IV) in Madhya Pradesh and the Natural Divisions, excluding the integrated States.

State and Natural Divisions	Approximate number of families	Average occupied area for the quinquennium	Average area per family
(1)	(2)	(3)	(4)
Madhya Pradesh ..	1,849,642	32,384,130	17·51
North-West Madhya Pradesh Division.	606,807	11,651,668	19·20
East Madhya Pradesh Division.	866,379	9,588,644	11·07
South-West Madhya Pradesh Division.	376,456	11,143,818	29·60

14. It is of interest to mention that in 1929-30 the Banking Enquiry Committee gave the average area per family of rent paying cultivators for the different zones as follows :—

	Acres
(1) Cotton Zone— (including the districts of Amravati, Akola, Buldana, Yeotmal, Nimar, Wardha and Nagpur).	33
(2) Rice Zone— (including the districts of Raipur, Bilaspur, Durg, Balaghat, Chanda and Bhandara).	12
(3) Wheat Zone— (including the districts of Jabalpur, Sagar and Hoshangabad).	25
(4) Plateau Zone— (including the districts of Mandla, Chhindwara and Betul).	22

15. The Cotton Zone given above practically corresponds to the South-West Madhya Pradesh Division, while the Rice Zone is the same as the area included in the East Madhya Pradesh Division in Table 95 above. The North-West Madhya Pradesh Division of Table 95 includes the Plateau as well as the Wheat Zone of the Banking Enquiry Committee Report. It would be noticed that the area per family in the Rice Zone of the East Madhya

Pradesh Division has fallen by about an acre during the 20 years. It is 11.07 acres now compared to 12 acres in 1929-30. In the North-West Madhya Pradesh Division, it is now 19.20 acres against 25 acres and 22 acres in its two Sub-Divisions in 1929-30 showing a drop of about 4.3 acres over the average figure of the two Sub-Divisions. In the South-West Madhya Pradesh Division, the fall is of the order of 3.4 acres per family as the area per family now is 29.6 acres as against 33 acres in 1929-30. The figure for the old Central Provinces *including* Berar, as given by the Banking Enquiry Committee, was 21.15 acres per family; while the figure for the corresponding territory now is 17.51 acres showing a fall of 3.64 acres per family.

16. The study of the distribution of agricultural holdings by size of holding per family also, therefore, shows how the holdings in the cotton area are larger than those in the wheat area, which, in turn, are larger than those in the rice area, as found above while considering the median holdings in the different tracts on the basis of the land records holdings.

The Greatest of Our Agricultural Problems

17. Another significant point brought out by the study is that there is no doubt that our agricultural holdings are very small, and the question poses itself whether the smallness of holding is the most crippling handicap in our agriculture or whether it is that of few land owners holding all the land with vast majority of landless agriculturists ?

18. In Table 93 given above we have seen that of the agricultural population of Madhya Pradesh the great majority (65.14 per cent) belongs to the owner cultivator class, while the non-cultivating owners are almost negligible (2.13 per cent). The agriculturists of unowned land constitute a small proportion (5.88 per cent) while the labourers account for about 26.85 per cent. In Chapter I, Section VI we have given figures to show that while the proportion of the agricultural labourers has been falling from Census to Census, that of the cultivators (Livelihood Classes I and II) has been increasing. As we pointed out in 1921 the proportion of the cultivators to the total population was 45.8 per cent compared to 53.97 per cent now. The percentage of agricultural labourers in 1921 was 27 compared to 20.4 in 1951. At the 1931 Census, as we have said, the entire population was not classified but the percentage to total population of self-supporting persons and earning dependants amongst the cultivators of the 1951 Census, which is 30, can be compared with similar percentage of 20 at the 1931 Census. The corresponding percentages for the agricultural labourers are, as already pointed out, 20.8 and 13.74 during 1931 and 1951 Censuses, respectively.

19. The analysis of the distribution of the land in agricultural holdings of different sizes and that of the relative proportion of the different agricultural classes amongst our agricultural population of the 1951 Census and the comparison of the available data about their proportion in the total population during the Censuses of 1921, 1931 and 1951 bring out the outstanding fact that not only the vast majority of our agricultural population belongs to the category of owner cultivators but that their proportion is increasing during the last 30 years and that of the agricultural labour class is significantly falling and at the same time the size of the agricultural holding is dwindling down in spite of the efforts made in the State for consolidation of holdings as reviewed in the note very kindly furnished by the Director of Land Records and reproduced in Appendix H, Part II.

The Remedy

20. Comparing the size of the average agricultural holdings in U. S. S. R. of 1,600 acres, in Canada of 234 acres and in U. S. A. of 159 acres, Agrawal rightly deplores the existence of the tiny holdings in India varying from 3 acres in Bengal, Bihar and Orissa to about 12 acres in Bombay and points out how these "toy-size" holdings "are uneconomic even for a wooden plough and a pair of bullocks" and says : "the only feasible and effective alternative is, therefore, to try joint farming on co-operative basis." According to him, "joint farming is indispensable for us. In this we will find a solution for overcoming the evil effects of small and scattered holdings and for enabling the small farmers to obtain the benefits of large scale farming. By doing so, the unit of cultivation will increase in which case mechanisation will become easily possible, perhaps even necessary."*

21. Describing the fragmentary and small holdings as the bane of our agriculture, Bimal Ghose says : "Not only are holdings small and uneconomic for even the existing stage of agricultural development, but the methods of cultivation are also almost primitive. Little use is made of agricultural machinery, while tractors and harvesting machines are useless in the present stage of agriculture. In Truth, as Lenin said : ' small farming cannot extricate itself from poverty.' " Pointing

*"Indian Agriculture and its Problems" by A. N. Agrawal, pages 136—138 (Ranjit Printers and Publishers, Delhi).

out that the most effective means of increasing agricultural production is to replace the small-scale farming by large-scale co-operative or collective cultivation, Bimal Ghose sounds a note of warning and says, "The history of Russian agricultural development is witness to the necessity of proceeding gradually in the sphere of agriculture, of not attempting to transform it by decrees overnight."* While outlining the agricultural development in Soviet Russia, Ghose describes the difficulties in the initial stages of agricultural development and quotes Stalin to point out that in the beginning the only way out "is to unite the small and dwarf peasant farms gradually but surely, not by pressure, but by example and persuasion, into large farms based on common, co-operative, collective cultivation of the soil, with the use of agricultural machines and tractors and scientific methods of intensive agriculture."†

22. Explaining the difference between co-operative and collective farming, Bimal Ghose quotes Sir John Maynard and says, "Co-operators choose their own associates and presumably exclude the less promising of the applicants for admission, whereas every local peasant who is ready to pool his rights has a legal claim to membership of the collective farm, unless he is an impenitent enemy of the Soviet Government."‡

23. Co-operative farming is, therefore, probably the initial step indicated to increase the size of our agricultural holding. The history of co-operative effort amongst our cultivators has not been, on the other hand, very encouraging and it will require the utmost patience and careful handling of the problem before any appreciable progress is made on voluntary basis. Again, if compulsion in any form is resorted to, its repercussions are bound to be serious. Bimal Ghose says: "But collectivization will not be achieved without tears, for the simple reason that the peasantry, by its very position, is not socialistic."

24. It is, therefore, clear that while the fragmentation of the holdings is the biggest problem of our agriculture, the methods of resolving it will need the utmost caution and the closest consideration so that while its crippling effect on our agricultural production may be removed as soon as possible, it might not involve us in difficulties which might prove to be formidable not only administratively but also economically if in trying to get more production quickly we disturb the existing order and are not able to substitute a better machinery for handling agriculture efficiently. Our experience of Malguzari abolition and the handling of large scale problems arising therefrom would no doubt indicate caution and will guide us in taking the second more difficult and perhaps far more important step in rehabilitating our agriculture.

25. It is of interest in conclusion to refer to the movement about redistribution of land, particularly amongst the landless agriculturists. If it results in further fragmentation of holdings it might do more harm than good. On the other hand if by this voluntary method the land secured is formed into large holdings and cultivated on co-operative or collective basis it might serve as a pilot scheme of collectivization.

26. It is of interest to quote here the words of wisdom contained in the Independence Day Message of the 15th August 1952 of the Governor of Madhya Pradesh, Dr. Pattabhi Sitaramayya, on the land problem of the country:

> "The land problem is baffling. There is a vague and ill-understood cry for the redistribution of land. Immediately the question arises as to what constitutes an economic unit and whether any redistribution of land over 50 acres in extent will ensure to the tiller the equivalent of such economic unit, the existing land would not on redistribution work out even to an acre to each holder. Efficiency of production in the country requires a minimum holding of 12 to 15 acres. It is thus that between equity of ownership and efficiency of cultivation there is a vast gap and the problem is insoluble except by way of organising co-operative cultivation of large units of land measuring, say, a hundred or two hundred acres, by a Co-operative Society. The problem requires study, patience and wisdom."

*"Planning for India" by Bimal C. Ghose (Second Edition, July 1945), pages 30-31, (Humphrey Milford Oxford University Press).
†*Ibid*, page 73.
‡*Ibid*, page 68.

SECTION IV.—CULTIVATORS OF LAND WHOLLY OR MAINLY OWNED AND THEIR DEPENDANTS

As we have seen, the cultivators of land wholly or mainly owned and their dependants account for over 65 per cent of the total population of all the agricultural classes in Madhya Pradesh. Their actual number is about 10·52 millions and their distribution in the different parts of the State is given in Economic Table B-I given in Part II-B of the Report.

The Workers and Dependants

2. The distribution of 10,000 people of livelihood class I amongst the sub-classes is further given in Subsidiary Table 4.2 in Part I-B of the Report. The figures for the State, the Natural Divisions and Sub-Divisions are summarised in Table 96 below :—

Table 96

Distribution of 10,000 cultivators of land wholly or mainly owned and their dependants among sub-classes of economically active, semi-active and passive persons.

State, Natural Divisions and Sub-Divisions	Number per 10,000 of Livelihood Class I		
	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Madhya Pradesh ..	2,639	4,443	2,918
North-West Madhya Pradesh Division.	2,574	4,809	2,617
Nerbudda Valley ..	2,630	5,382	1,988
Plateau	2,507	4,116	3,377
East Madhya Pradesh Division.	2,708	4,091	3,201
Chhattisgarh Plain ..	2,777	4,101	3,122
East Maratha Plain ..	2,469	4,061	3,470
South-West Madhya Pradesh Division.	2,466	5,285	2,249

Definition of Earning Dependants

3. While considering the question of earning dependants particularly among agriculturists cultivating land jointly, it is necessary to bear in mind the definition of the term as used at the Census. An earning dependant for purposes of the Census was a person who secured a regular income even though small and not sufficient to support him or her. Where two or more members of a family household jointly cultivated land and secured an income therefrom, each of them was regarded as earning a part of the income None of them was, therefore, regarded as a non-earning dependant. Each of them was classed as either a "self-supporting person" or an "earning dependant", according to the share of income attributable to him or her by the head of the family. It was made clear to the Enumerators during the Census that this did not mean that every one who worked was necessarily a self-supporting person or an earning dependant. Thus, for instance, a housewife who cooked for the family, brought up the children, or managed the household was doing very valuable work but nevertheless, her economic status was that of a "non-earning dependant" if she also did not earn an income.

4. A perusal of the above figures shows that the Nerbudda Valley has a greater proportion of non-earning dependants and smaller proportion of earning dependants as compared to the State figures as well as figures of other Divisions and Sub-Divisions. The availability of the secondary means of income is obviously the main factor responsible for this difference, as also the fact that Livelihood Class I is perhaps relatively well off and does not put the dependants to work to the same extent as in other areas. Subsidiary Table 4·2 in Part I-B of the Report shows that in the Hoshangabad district the number of earning dependants of Livelihood Class I is least (1,692) and, as has been explained before in Section II above, one of the principal causes is that there is little work for this category of persons as there are more people than are required to handle the available cultivation.

5. The Balaghat district of the East Maratha Plain stands out conspicuously with the largest number (4,004) of earning dependants. It will be noticed from a perusal of the Subsidiary Table 4·2 that the number of earning dependants is comparatively large in all the backward districts of the Plateau Sub-Division and the East Madhya Pradesh Division. The number of earning dependants in the Bilaspur (3,684), Durg (3,040), Bastar (3,417), Chanda (3,125) and Bhandara (3,380) districts is also high. We have already seen in the previous section that in the East Madhya Pradesh Division the holdings are very small and the figures of earning dependants in Livelihood Class I shows how the people cultivate their own land with the members of their family and maintain themselves.

Secondary Means of Livelihood

6. Subsidiary Table 4·2 also gives the analysis of the secondary means of livelihood of 10,000 persons belonging to livelihood class I. While considering the figures of secondary means of livelihood in this table, it is necessary to point out that

during enumeration some of the earning dependants of a family of a cultivator were recorded as belonging to Livelihood Class I in certain places, while in some places they were recorded under Livelihood Class III. The instructions given were that such persons should be recorded under Livelihood Class I, if they had a legal right on the land, otherwise they were to be treated as ordinary agricultural labourers of Livelihood Class III because such persons could not be owners and again would also not be responsible for cultivation. In view of the fact that some of the enumerators could not appreciate the distinction there was the likelihood of recording the earning dependants of a cultivator either under Livelihood Class I or under Livelihood Class III according to the enumerator's interpretation of the instructions. It is, therefore, necessary to treat the figures of earning dependants shown under Livelihood Classes I and III in columns (6) and (10) of Subsidiary Table 4.2 together and if this is done the probable error in recording the earning dependants of the family of an agriculturist working in the field under Livelihood Class I or III would not matter.

7. The combined total of the earning dependants under Livelihood Classes I and III as given in columns (6) and (10) of Subsidiary Table 4·2 for the State as a whole shows that 2,562 persons out of 10,000 persons of Livelihood Class I are either working on their own or somebody else's land. Similarly in the Balaghat district the combined total of columns (6) and (10) shows that 3,415 persons are similarly engaged in agricultural work.

Almost Complete Dependence on Agriculture

8. Subsidiary Table 4·2 brings out another very significant point. It shows that amongst the people belonging to Livelihood Class I only 36·25 per cent have a secondary source of income including earning dependants, who form 29·18 per cent out of them. Again out of the 36·25 per cent of people who have a secondary means of income 29·12 per cent derive it from one of the agricultural sources and only 7·13 per cent of them get it from non-agricultural occupations. This again shows how this principal agricultural class which accounts for 65 per cent of the huge agricultural population is almost completely dependent on agriculture.

Sources of Secondary Income

9. The main source of secondary income other than that from agriculture is from production other than cultivation (Livelihood Class V). A perusal of columns (13) and (14) of Subsidiary Table 4·2. shows that about 3·23 per cent of the people including 1·82 per cent representing the self-supporting persons and 1·41 constituting the earning dependants derive their secondary income from this source which includes as we have seen before the industries of Division 'O' such as plantation, forestry, fishing, hunting and rearing of animals, etc.

10. Subsidiary Table 4·2 also shows that the largest proportion of persons deriving their secondary income from industries are to be found in the East Maratha Plain consisting of Chanda, Bhandara and Balaghat districts. This is because of the popular 'bidi' industry and also the fact that there are coal and manganese mines in the Chanda, Bhandara and Balaghat districts. The Nerbudda Valley comes next in importance in respect of secondary income from sources under Livelihood Class V and as we will see in Chapter V, this Sub-Division is comparatively rich in industries connected with plantation, fishing, hunting and forestry and also contains good mines.

SECTION V.—CULTIVATORS OF LAND WHOLLY OR MAINLY UNOWNED AND THEIR DEPENDANTS

1. The cultivators of unowned land and their dependants form only about 6 per cent of the total number of agricultural classes in the State. Their actual number is 949,762 and their distribution in the State is shown in Main Table B-I in Part II-B of the Report.

Workers and Dependants

2. Subsidiary Table 4·2 in Part I-B of the Report gives the distribution of 10,000 persons of Livelihood Class II into the sub-classes of self-supporting persons and earning and non-earning dependants. It is seen that in this livelihood class there are 40·79 per cent of non-earning dependants, 27·02 per cent of self-supporting persons and 32·19 per cent of earning dependants in the State. The distribution in the Natural Divisions and Sub-Divisions is given in Table 97 below :—

Table 97

Distribution of 10,000 *cultivators of land wholly or mainly unowned and their dependants into the sub-classes of economically active, semi-active and passive persons.*

State Divisions and Sub-Divisions	Number per 10,000 of Livelihood Class II		
	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Madhya Pradesh ..	2,702	4,079	3,219
North-West Madhya Pradesh Division.	2,681	4,299	3,020
Nerbudda Valley ..	2,647	4,807	2,546
Plateau	2,717	3,761	3,522
East Madhya Pradesh Division.	2,905	4,042	3,053
Chhattisgarh Plain ..	3,112	4,170	2,718
East Maratha Plain ..	2,550	3,821	3,629
South-West Madhya Pradesh Division.	2,546	3,972	3,482

3. These figures show that the number of earning dependants in this livelihood class also is the least in the Nerbudda Valley as in the case of Class I. A comparison of Table 97 with Table 96 given in the previous section shows that the proportion of earning dependants to non-earning dependants in Livelihood Class II is generally higher throughout the State than is the case for Livelihood Class I and this is natural because Livelihood Class I would be better off than Class II.

Secondary Source of Income

4. The overall percentage of the people of Livelihood Class II in Madhya Pradesh who have a secondary means of income is 40·86 including 32·19 per cent of earning dependants. Again out of 40·86 per cent of the people having a secondary source of income 33·59 per cent get it from one of the agricultural sources and only 7·27 per cent of the people derive it from non-agricultural occupations.

5. Production other than cultivation provides the secondary income to 3·7 per cent of the people out of 7·27 per cent mentioned above as will be seen from a perusal of subsidiary Table 4·3 in Part I-B of the Report. The largest proportion of people of Livelihood Class II who derive their secondary source of income from one of the occupations under Livelihood Class V is to be found in the East Maratha Plain followed by the Nerbudda Valley for reasons given in the previous section dealing with Livelihood Class I.

6. It is interesting to note the similarity in the distribution of persons belonging to Livelihood Class II and deriving their secondary income from "Productior other than cultivation" as given in Subsidiary Table 4·3 and those belonging to Livelihood Class I and having the same source of secondary income as shown in Subsidiary Table 4·2. Except that the proportion is higher, as expected, in the case of the people of Livelihood Class II, the distribution is otherwise similar to that for Livelihood Class I.

SECTION VI.—CULTIVATING LABOURERS AND THEIR DEPENDANTS

1. About 27 per cent of the total number of persons belonging to the agricultural classes are found to be agricultural labourers in Madhya Pradesh. Their actual number is about 4.336 millions and their distribution in the State, and the Natural Divisions and Sub-Divisions is given in Table 98 below. Main Economic Table B-I, given in Part II-B of the Report, contains the details of the actual number of the agricultural labourers in each district and Subsidiary Table 4·1 in Part I-B gives the respective number in each district per 10,000 persons of all agricultural classes :—

Table 98

Distribution of agricultural labourers.

State, Natural Divisions and Sub-Divisions	Actual number of agricultural labourers	Percentage of total agricultural population
(1)	(2)	(3)
Madhya Pradesh	4,336,281	26·85
North-West Madhya Pradesh Division.	955,234	24·75
Nerbudda Valley	612,157	27·86
Plateau	343,077	20·64
East Madhya Pradesh Division ..	1,676,909	19·70
Chhattisgarh Plain	1,232,382	19·13
East Maratha Plain	444,527	21·46
South-West Madhya Pradesh Division.	1,704,138	45·11

Workers and Dependants

2. Subsidiary Table 4·4 shows that amongst the agricultural labourers in Madhya Pradesh, the percentage of non-earning dependants is 32·67, that of earning dependants is 28·23 and that of the self-supporting persons is 39·1. The distribution amongst the Natural Divisions and Sub-Divisions is given in Table 99 below :—

Table 99

Distribution of 10,000 *agricultural labourers and their dependants into sub-classes of economically active, semi-active and passive persons.*

State, Natural Divisions and Sub-Divisions	Number per 10,000 of livelihood class III		
	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Madhya Pradesh ..	3,910	3,267	2,823
North-West Madhya Pradesh Division.	3,917	3,479	2,604
Nerbudda Valley ..	3,710	3,789	2,501
Plateau	4,288	2,925	2,787
East Madhya Pradesh Division.	4,391	3,099	2,510
Chhattisgarh Plain ..	4,697	3,013	2,290
East Maratha Plain ..	3,542	3,338	3,120
South-West Madhya Pradesh Division.	3,434	3,312	3,254

3. A perusal of the figures in Table 99 shows that the largest percentage of non-earning dependants in livelihood class III is to be found in the Nerbudda Valley. The Plateau and the Chhattisgarh Plain, which are the most backward parts of the State, have the smallest percentage of non-earning dependants in Livelihood Class III. Apart from the question of greater poverty in the backward parts, the problem of availability of employment, already referred to, is also an important factor to be considered while judging the comparative proportion of earning dependants in different parts.

4. It is interesting to compare Tables 96, 97 and 99 given above to see how the largest percentage (39·10) of self-supporting persons is to be found among the agricultural labouring class as compared to 26·39 per cent among the owner cultivators and 27·02 per cent among the tenant cultivators. The percentage of non-earning dependants is also smallest among the agricultural labourers. In considering this circumstance, the definition of self-supporting persons, as given in the Indian Census Economic Classification Scheme in Part II-B of the Report and as discussed in Appendices 'U' and 'P', might also be referred to. The agricultural labourer earning a comparatively small income may be a self-supporting person although with the same income a member of the class of owner cultivator might be classified as only an earning dependant. Therefore, as most of the people of Livelihood Class III, who can work, earn enough to support themselves, the percentage of earning dependants is found to be lowest (28·23) in this class compared to that among owner cultivators (29·18) and the cultivators of unowned land (32·19). But the overall percentage of dependency, that is the total of earning and non-earning dependants, is lowest among the agricultural labourers (60·90 per cent) compared to that among owner cultivators (73·61) and the cultivators of unowned land (72·98). This accords with expectations because poor people cannot afford to have a large number of non-earning dependants.

5. The fact that the proportion of dependants is least among the agricultural labourers is no indication of their standard of living which is, undoubtedly, of the lowest category. All that the figures bring out is that this class of agricultural population contains the largest proportion of economically active population.

Shortage of Agricultural Labour

6. One of the contributory causes of the fall in the area sown is, as we will see later in Section IX, the increasing difficulty in getting agricultural labour. In the Season and Crop Report for the

year ending 1950, the Director of Land Records refers in this connection to the "increasing inclination of the labour towards urban profession". In the Bhandara district the position was aggravated by the *Bidi* industry and the State Government were actually compelled to pass an enactment—The Central Provinces and Berar Regulation of Manufacture of Bidis (Agricultural Purposes) Act, 1948 (LXIV of 1948)—taking powers to requisition labour for agricultural purposes. This has now been held to be *ultra vires* of the Constitution by the Supreme Court of India and the difficulty in respect of getting labour for cultivation is a problem which is assuming greater importance.

Working Conditions of Agricultural Labourers

7. In Chapter I, Section VI, we have already pointed out how the percentage of agricultural labourers has been falling from Census to Census and now we find that in certain areas actual difficulty is also being experienced in getting an adequate labour force for agriculture. It is to be remembered that this class of people has been working under very adverse circumstances. Apart from the hard conditions of work, which mean considerable physical strain in inclement weather, their remuneration is hardly enough to enable them to keep fit. Even the methods of payments are in many places irregular and unsatisfactory. Again, the employment is seasonal and most of them have no employment for the rest of the year.

Secondary Means of Livelihood

8. A perusal of Subsidiary Table 4.4 shows that the percentage of agricultural labourers, who have a secondary source of income, is only 33.15, including the earning dependants who constitute 28.23 per cent. In other words, the self-supporting persons amongst the agricultural labourers, who have a secondary source of income, form only 4.92 per cent of the total population of the agricultural classes. The earning dependants among these people are also mostly engaged as agricultural labourers. In fact, out of 28.23 per cent of the earning dependants, 24.93 per cent get an income by working as agricultural labourers, that is to say only about 3.3 per cent have a real secondary source of income. It will, therefore, be seen that excluding the earning dependants who get their income by working as agricultural labourers, only 8·22 per cent of the people in Livelihood Class III have a secondary source of income. Even among these 8.22 per cent, 3.40 per cent get their secondary source of income from one of the agricultural occupations other than agricultural labour. Thus, only 4.82 per cent of the entire agricultural labour class in the State numbering about 4.336 millions have a secondary source of income other than that from the seasonal agriculture.

9. These are thought-provoking figures. They indicate (*a*) the plight of the agricultural labour classes and (*b*) the main cause of the shortage of this form of labour. Ninety-five per cent of 4·336 millions of people belonging to the class of agricultural labourers have no work for about six months and they have to depend for the whole year on the meagre seasonal earning of 39.1 per cent among them who are self-supporting persons and 28.23 per cent who are earning dependants. This mass of half-fed people is likely to fall an easy prey not only to any natural calamity but also to any mischievous propaganda calculated to stir up its feelings.

10. The main problems of the agricultural labour class are (*a*) improvement in their present conditions of work with ensured minimum wage and (*b*) provision of subsidiary work. The theory of improving their condition by redistribution of land, as we have seen, in Section III of this Chapter, is fraught with the danger of further fragmentation of holdings likely to affect adversely the agricultural economy.

11. Improvement in the present conditions of work cannot be brought about by mere legislation. If the agriculturist is himself half-fed on his uneconomic holding, he could hardly be bled further to feed his labour. The problem is in fact tied up with that of comprehensive development in agriculture, to which we will briefly refer in the concluding section of this Chapter, where we shall also point out how cottage industries need much greater emphasis than they have received so far and how the actual progress made in Japan in this connection has been encouraging.

12. We conclude the discussion on the agricultural labourers by quoting a pertinent passage about their condition from the summary of developments reviewed in the Report of the Sub-Committee of the National Planning Committee: "This labour i scattered, unorganised, ill-paid, ignorant, and very scantily nourished, clothed or housed. There is no organisation amongst them to fight for and safeguard their interests, secure decent conditions of work and living, including housing, hours of work, rates of wages, and a measure of social security which the industrial worker is now steadily attaining. The seasonal character of the occupation militates against any immediate improvement unless and until an all-round national policy concerning landholding and cultivation is adopted and carried into effect."*

*"National Planning Committee Series (Report of the Sub-Committee) Land Policy, Agricultural Labour and Insurance" by K. T. Shah, page 175 (Vora & Co., Publishers Ltd., Bombay-2).

SECTION VII.—NON-CULTIVATING OWNERS OF CULTIVABLE LAND; AGRICULTURAL RENT RECEIVERS; AND THEIR DEPENDANTS

1. The non-cultivating owners of agricultural land in Madhya Pradesh number only 343,708 or about 2 per cent of the total number of persons under all agricultural classes. Their distribution in the State is given in Economic Table B-I in Part II-B of the Report. The largest percentage (3.38) of these people among the agricultural classes is to be found in the South-West Madhya Pradesh Division and the smallest (1.29) in the East Madhya Pradesh Division, while the North-West Madhya Pradesh Division contains 2.76 per cent. It is interesting to observe how this percentage varies in the Natural Divisions according to its development. It is highest in the South-West Madhya Pradesh Division, which is the most developed part of the State, and is least in the most backward part.

WORKERS AND DEPENDANTS

2. Subsidiary Table 4.5 given in Part I-B of the Report shows, as would be expected, that the largest proportion of non-earning dependants is to be found in this livelihood class. Out of 10,000 persons of this class, there are as many as 4,631 persons in the State, who are non-earning dependants, and only 1,814 earning dependants. Thus, the percentage of earning dependants in this livelihood class comes to only about 18.

3. The distribution of the people of Livelihood Class IV according to their economic status is given in Table 100 below :—

Table 100

Distribution of 10,000 non-cultivating owners of land; agricultural rent receivers and their dependants into the sub-classes of economically active, semi-active and passive persons.

State, Natural Divisions and Sub Divisions.	Number per 10,000 of livelihood class IV		
	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Madhya Pradesh	3,555	4,631	1,814
North-West Madhya Pradesh Division.	3,682	4,717	1,601
Nerbudda Valley Sub-Division	3,692	5,127	1,181

Table 100—*concld.*

State, Natural Divisions and Sub-Divisions.	Number per 10,000 of livelihood class IV		
	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)
Plateau Sub-Division ..	3,668	4,159	2,173
East Madhya Pradesh Division	3,690	4,242	2,068
Chhattisgarh Plain Sub-Division.	4,105	4,567	1,328
East Maratha Plain Sub-Division.	3,387	4,004	2,609
South-West Madhya Pradesh Division.	3,332	4,895	1,773

4. This table brings out another interesting characteristic of the non-cultivating owners of land. Although, as pointed out above, the largest percentage of the people in the agricultural classes belong to this class in the South-West Madhya Pradesh Division, the proportion of self-supporting persons among them is the least in this very Division and it is the largest in the Chhattisgarh Plain of the East Madhya Pradesh Division. The non-earning dependants among the people of this livelihood class is the largest (51.27) in the Nerbudda Valley and is almost equally large (48.95) in the South-West Madhya Pradesh Division. It is least (40.04) in the East Maratha Plain where the percentage of earning dependants is highest (26.09) as against the Nerbudda Valley where it is lowest (11.81). With a view to appreciating clearly the economic status of these non-cultivating owners of land, we shall study their secondary source of income a little more closely.

SECONDARY MEANS OF LIVELIHOOD

5. Table 101 given below exhibits the secondary source of income of the non-cultivating owners of land and furnishes a clear picture of who they really are :—

Table 101

Secondary means of livelihood of 10,000 persons of livelihood class IV.

Nature of secondary activity	Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I.—Cultivation of own land—								
Self-supporting persons	48	43	50	33	60	105	28	41
Earning dependants	26	29	24	35	42	85	10	11
II.—Cultivation of unowned land—								
Self-supporting persons	18	17	19	14	14	14	15	23
Earning dependants	5	4	3	6	5	6	5	5
III.—Employment as cultivating labourers—								
Self-supporting persons	813	823	609	1,113	781	443	1,028	832
Earning dependants	1,414	1,247	790	1,867	1,381	739	1,849	1,583
IV.—Rent on agricultural land—								
Self-Supporting persons	..	..	..	..	..	..	..	..
Earning dependants	32	24	22	26	55	101	21	18
V.—Production (other than cultivation)—								
Self-supporting persons	252	252	263	238	410	172	583	115
Earning dependants	196	159	178	133	382	99	588	68
VI.—Commerce—								
Self-supporting persons	173	187	191	183	169	180	161	166
Earning dependants	44	50	48	54	54	66	45	30
VII.—Transport—								
Self-supporting persons	18	30	39	17	20	5	31	6
Earning dependants	9	15	24	3	7	5	9	7
VIII.—Other services and miscellaneous *sources*—								
Self-supporting persons	233	271	325	198	233	281	198	201
Earning dependants	88	74	91	50	144	228	82	52

The Status of the Non-cultivating Owners of Land

6. It will be seen that out of 10,000 persons of Livelihood Class IV in Madhya Pradesh, the largest number of earning dependants are to be found working as agricultural labourers, the number being 1,414. This would mean that these earning dependants of non-cultivating owners of land actually work as labourers. The figures against "Employment as cultivating labourers" reveal, true facts about this livelihood class of land owners. It shows that out of 10,000 persons in Madhya Pradesh as many as 813 self-supporting persons work as agricultural labourers to supplement their income. In other words, over 8 per cent of these rent receivers, as they are called, are not of that traditional category of big Malguzars and Zamindars but are petty land owners, who have to work as labourers to supplement their income to maintain themselves and their families.

7. It is to be noted while studying Table 101 that the largest number of non-cultivating owners of land, who work as cultivating labourers also, is to be found in the Plateau Sub-Division of North-West Madhya Pradesh Division. The East Maratha Plain comes next followed by the West Maratha

Plain. In the Chanda district, the largest number of self-supporting persons of livelihood class IV work as agricultural labourers to supplement their income. Their number is as large as 1,383 out of 10,000 persons of Livelihood class IV as shown in Subsidiary Table 4·5 given in Part I-B of the Report. In the Balaghat district, on the other hand, the largest number of earning dependants numbering 2,176 are found working as labourers in the fields while in the Chanda and Betul districts the numbers are 2,035 and 2,012 respectively.

8. The analysis of the figures of Table 101 above and the Subsidiary Table 4·5, therefore, tends to show that the non-cultivating owners of land and agricultural rent receivers are not all big land owners who thrive on the labour of the tillers of the soil by getting only rent from them, but that there is quite a reasonable proportion among them who are themselves compelled to work as labourers in the fields to supplement their income.

9. About 4·48 per cent of the people of livelihood class IV in Madhya Pradesh get subsidiary income from " Production other than cultivation " and about 2·17 per cent from " Commerce ". Here again, the East Maratha Plain has the largest percentage (11·7) of people belonging to livelihood class IV and getting subsidiary income from "Production other than cultivation".

10. The ' Bidi ' industry of the Bhandara district is mainly responsible for attracting under livelihood class V as many as 815 self-supporting persons and 847 earning dependants out of 10,000 persons of livelihood class IV, showing that this is a popular industry, which is taken up by people of all agricultural classes including the land owner class IV. It further throws light on the real status of these " receivers of rent ".

11. In considering the figures under livelihood class V, it is to be remembered that it includes, as we have pointed out, such industries as stock raising, rearing of small animals, poultry farming, lac propagation, plantation industries, forestry and wood-cutting, hunting and fishing. This will account for the larger figures in districts of the Plateau and some of the districts of the Nerbudda Valley and the Chhattisgarh Plain and further shows that among the people in livelihood class IV, there are not only agricultural labourers but also perhaps persons working in forests, etc.

12. It is also interesting to note in Table 101 and in Subsidiary Table 4·5 that quite a few non-cultivating owners of land get subsidiary income from transport activities. The largest figure is found in the Nimar district. Khandwa is a railway junction and it would appear that a number of non-cultivating owners of land probably join the railways to add to their income.

13. Table 101 further shows that about 2·33 per cent of persons of livelihood class IV in Madhya Pradesh, who are self-supporting persons, get a subsidiary income from other services and miscellaneous sources. That is to say, these "Land owners " contain actual serving-class people also.

14. A careful analysis of the figures given in Subsidiary Table 4·5 and Table 101 above, therefore, shows that in Madhya Pradesh over 25 per cent of the people of livelihood class IV belong to the category of persons who have to supplement their income by working as labourers or servants and that these 25 per cent include over 22 per cent of people who actually work as agricultural labourers.

SECTION VIII.—ACTIVE AND SEMI-ACTIVE WORKERS IN CULTIVATION

1. Subsidiary Table 4·6 shows that the total number of active and semi-active workers in cultivation in Madhya Pradesh is only about 9·45 millions. They include the self-supporting persons and the earning dependants of the agricultural classes engaged in cultivation work as well as self-supporting persons of non-agricultural classes and non-cultivating owners of land having cultivation as their secondary means of livelihood and also the earning dependants of the non-agricultural classes engaged in cultivation work. In other words, including the whole-time and part-time workers in cultivation, there are 9·45 millions people in Madhya Pradesh who are responsible for the entire agricultural production in the State. The total population of the State is 21·248 millions and, therefore, it is the actual full-time and part-time labour of 44·5 per cent of the people which produces the agricultural crops in the State. We will presently consider the problem of assessing the labour of the part-time workers to arrive at a tentative conclusion about the percentage of full-time workers which may be said to feed the people by producing food-crops for local consumption and for export.

2. It is interesting to note that of the total number of 9·45 millions active and semi-active workers in the State, over 57 per cent belong to the category of agricultural labourers. The percentages of these workers in the three agricultural classes in the State and the Natural Divisions are given in Table 102 below :—

Table 102

Percentage of active and semi-active workers in different agricultural livelihood classes in Madhya Pradesh and the Natural Divisions.

State and Natural Divisions	Percentage of active and semi-active workers in cultivation		
	I. Cultivators of owned land	II. Cultivators of unowned land	III. Agricultural labourers
(1)	(2)	(3)	(4)
Madhya Pradesh	38·9	3·5	57·6
North-West Madhya Pradesh Division.	39·8	3·9	56·3
East Madhya Pradesh Division ..	47·3	2·6	50·1
South-West Madhya Pradesh Division	19·2	5·1	75·7

3. These figures again bring out the contrast between the East and the South-West Madhya Pradesh Divisions connected with the agricultural economy of the two Divisions discussed in Section III above in connection with the nature of the holdings. Although in the South-West Madhya Pradesh Division 41 per cent of the people in the agricultural classes belong to Livelihood Class I, the actual active and semi-active workers are only 19 per cent of the total number of such people in the Division. Similarly, while the percentage of the agricultural labourers to the total number of people of all agricultural classes is 45 in the South-West Madhya Pradesh Division, their percentage among actual workers is as high as about 76. The figures for the East Madhya Pradesh Division are, on the other hand, remarkably different. In this Division, the actual workers are almost in the same proportion in Livelihood Classes I and III as is seen from the Table 102 given above, being in the neighbourhood of 50 per cent in each category, although the actual percentage of owner cultivators and labourers to the entire agricultural population is widely different being 75 and 20, respectively. This is due to the fact that the cultivator of class I in the East Madhya Pradesh Division has a small holding on which he has to work with his family to earn a living ; while in the South-West Madhya Pradesh Division, where the holdings are large and in the hands of comparatively few well-to-do owners, the position is different and a large number of economically inactive people depend upon each self-supporting person who engages a number of agricultural labourers in his fields.

Total Number of Effective Active Workers in Agriculture

4. Assuming that an earning dependant does the work equal to about 1/3rd of that done by a self-supporting person on an average and further assuming that the effort of a self-supporting person for earning his secondary means of livelihood is equivalent to about 1/6th of that required for earning the principal means of livelihood, we can ascertain the ratio of active workers in cultivation to the total population giving a rough idea of the number of persons fed by an active worker in cultivation. Subsidiary Table 4·10 in Part I-B of the Report is prepared on these assumptions from Subsidiary Table 4·6 and it will be observed that according to this table there are about 63 lakhs of effective active workers in agriculture in Madhya Pradesh. In other words, therefore, all the food in the State is produced by the labour of these 63 lakhs of people. The State population is about 212 lakhs showing

that one active worker produces food and other crops for approximately 3·4 persons in the population and also for meeting the exports from the State. The corresponding figures for the Natural Divisions are as follows :—

North-West Madhya Pradesh Division.	3·82
East Madhya Pradesh Division ..	3·02
South-West Madhya Pradesh Division.	3·81

5. In considering the above figures it is to be remembered that they give only an approximate idea of the actual workers in cultivation and the number of persons depending for their food on them. Thus for example the agriculturists in Nagpur district are not alone supporting the total population of the district. Considerable amounts of food are imported from other districts of the State. Similarly the figures of 3·82 for North-West Madhya Pradesh Division, 3·02 for the East Madhya Pradesh Division and 3·81 for the South-West Madhya Pradesh Division have to be considered in the light of these remarks to appreciate their meaning.

6. A perusal of Subsidiary Table 4·10 also shows that a pair of hands devoted to cultivation in the Raipur district produces food and other commodities for 2·6 persons, in the Bastar district a similar pair of hands produces food, etc., for 2·99 persons and in the Raigarh district for 2·52 persons. What these figures actually mean is that whereas the cultivators of Nagpur District do not feed the entire population of that district, the cultivators of Durg and Bastar not only feed their population, but also feed other people.

Efforts of Effective Workers in Agriculture in different parts compared with Export and Import of Foodgrains from these parts

7. It would be of interest to compare the figures in Subsidiary Table 4·10 with the known facts about export and import of foodgrains. With reference to the available statistics of movement of foodgrains under the basic plan during the last five years the export and import position in the different districts of the State is as follows :—

	Districts
(*a*) Net exporters	Chanda, Mandla, Raipur, Bilaspur, Durg, Balaghat, Yeotmal, Raigarh, Bastar and Sagar.
(*b*) Net importers	Nagpur, Wardha, Chhindwara, Jabalpur, Nimar, Amravati and Betul.
(*c*) Self-sufficient	Hoshangabad, Bhandara, Buldana, Akola and Surguja.

On similar considerations the East Madhya Pradesh Division alone is an exporter of foodgrains, while the remaining two Divisions are net importers.

8. Although from the study of the figures in the Subsidiary Table 4·10 and the facts about exports and imports of foodgrains mentioned above we get a rough comparative idea of the mouths to be fed in different areas and the number of people who produce the food and the net result of their efforts in making the area surplus, deficit or self-sufficient in foodgrains we cannot draw any specific conclusions, because food is not produced by labour alone. Other things such as land, water, etc., are also necessary for producing food and we will consider in the next section the question of actual production of food with reference to the progress of cultivation and the growth of population.

SECTION IX.—PROGRESS OF CULTIVATION CORRELATED TO GROWTH OF GENERAL POPULATION

1. Subsidiary Table 4.7 (Progress of cultivation during three decades), given in Part I-B of the Report, shows how the average net area sown has changed during the last thirty years. The position in respect of the State and the Natural Divisions is summarised in Table 103 given below:—

Table 103

Progress of cultivation during three decades.

(Figures in thousand acres)

	State, Natural Divisions and Sub-Divisions (1)	Average net area sown (2)	Average area sown more than once (3)	Average net area irrigated (4)	Average area irrigated more than once (5)
1951 ..	Madhya Pradesh	24,386.2	3,013.1	1,637.9	16.7
	North-West Madhya Pradesh Division	7,804.9	588.8	147.0	13.4
	East Madhya Pradesh Division	7,916.1	2,334.2	1,381.9	2.6
	South-West Madhya Pradesh Division	8,665.2	90.1	109.0	0.7
1941 ..	Madhya Pradesh	24,403.1	2,874.5	1,214.3	15.3
	North-West Madhya Pradesh Division	8,107.6	502.4	137.3	13.1
	East Madhya Pradesh Division	7,480.4	2,307.3	992.4	1.1
	South-West Madhya Pradesh Division	8,815.1	64.8	84.6	1.1
1931 ..	Madhya Pradesh	24,936.2	2,341.7	1,089.5	14.4
	North-West Madhya Pradesh Division	8,077.1	439.0	100.2	10.9
	East Madhya Pradesh Division	7,544.0	1,863.2	927.7	3.4
	South-West Madhya Pradesh Division	9,315.1	39.5	61.6	0.1
1921 ..	Madhya Pradesh	24,373.9	2,167.1	776.1	16.7
	North-West Madhya Pradesh Division	7,962.0	401.1	88.0	14.2
	East Madhya Pradesh Division	7,267.5	1,719.7	620.5	2.4
	South-West Madhya Pradesh Division	9,144.4	46.3	67.6	0.1

2. It will be observed that the average net area sown in the State was highest in 1931 and has shown a fall during the last two decades. It is, however, encouraging to find that the average net area irrigated has been constantly increasing. It was 776.1 thousand acres in Madhya Pradesh during the quinquennium ending 1921 and has now increased to nearly 1·638 million acres. It will be noticed that the remarkable increase in this intensive form of cultivation has taken place in the East Madhya Pradesh Division and the real cause is that water is more easily available in this area which has facilities for the extension of irrigation works. To a certain extent, favourable prices, when they existed, did encourage the cultivator to bring more land under irrigation but it is to be noted that the incentive of prices was favourable in all parts of the State; but the figures, as given in Table 103 above, show how it is the East Madhya Pradesh Division with its water facilities in which the maximum percentage of land has been brought under irrigation.

Water Scarcity in Berar

3. At one time, the districts of Berar, *viz.*, Amravati, Akola, Buldana and Yeotmal, were producing considerable quantities of wheat and gram. But, with increasing difficulties of irrigation and rainfall and with the rise in the prices of cotton, these crops have been replaced to a considerable extent by cotton cultivation as pointed out by the Central Provinces Banking Enquiry Committee in Appendix J-1 of Volume II of their Report (page 541), where the following table appears showing the cropping from 1876-77 up to 1928-29:—

Year (1)	Wheat (2)	Gram (3)	Juar (4)	Linseed (5)	Til (5)	Cotton (7)	Others (8)	Total (9)
	Acres	Acres	Acres	Acres	Acres	Acres	Acres	Acres
1876-77	537,831	215,129	2,251,678	303,862	132,987	2,024,806	847,268	6,413,561
	8.39	3.36	35.11	4.74	2.08	31·57	14.75	..
1882-83	746,391	177,893	2,276,220	397,639	147,391	2,139,188	355,396	6,240,119
	11.3	2.7	34.6	5.0	2.0	32.0	11.0	..
1893-94	928,481	256,236	2,105,016	578,428	85,309	2,184,770	320,794	6,450,034
	13.7	3.7	31.0	8.5	1.3	32.2	9.5	..
1923-24	244,210	80,498	2,327,005	29,518	54,253	3,333,435	885,291	6,556,000
	3.50	1.15	33.46	0.42	0.78	47.90	12.72	..
1928-29	292,466	95,431	2,136,443	25,340	409,656	3,428,999	531,665	6,920,000

4. The position after 1928-29 can be studied from Subsidiary Table 4·14 given in Part I-B of the Report, where the area under staple foodgrains and cotton during the quinquennia ending 1920-21 to 1950-51 are given. The position in Berar for the last three decades in respect of the important crops is summarised in Table 104 below :—

Table 104

Statement of cropping in Berar for the last three decades for important crops.

(In thousand acres)

Year	Rice	Wheat	Gram	Juar	Cotton	Ground-nut
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1920-21	36·32	266·04	91·34	2,332·40	3,090·20	3·38
1930-31	22·88	286·48	88·64	2,234·92	3,349·84	61·22
1940-41	43·64	371·80	101·70	2,292·92	2,518·52	155·94
1950-51	64·76	299·54	119·92	2,403·70	2,224·04	457·5

5. It may be noted that this table, which is prepared from "The statistics of rainfall, area, production and trade of agricultural commodities in Madhya Pradesh" published by the Agriculture Department gives the quinquennial averages and not the annual figures as given in the Banking Enquiry Committee Report.

6. Discussing the fall in the area of wheat and gram, the Banking Enquiry Committee observed, "It will be seen that there has been a very great increase in the cotton area by over 50 per cent since 1893, while the wheat and gram area has continued to decline from 924,284 acres to 387,897 acres. In 1893-94 the area under wheat and gram exceeded 50 per cent of the area under cotton. In 1928-29 the wheat and gram area together was approximately one-tenth of the area under cotton." Proceeding further they point out, "The increasing demand for, and rise in prices of, cotton in the past have however, to a great extent made up for the increasing difficulties in producing wheat, and have to a great degree obscured up to now the possible results of this increasing reduction in precipitation and in sub-soil moisture. Cotton and juar fortunately require much less rain and moisture than many other crops and, in fact, in the heavier soils of the Berar Valley, cotton probably gives the heaviest yield when the rainfall is light, provided the distribution is favourable."

7. Pointing out the water scarcity in Berar and the fall in the water table, the Banking Enquiry Committee observe, (Banking Enquiry Committee Report, Volume II, page 541), "As a result of the decrease in precipitation and of other causes, in the Central Valley there has been a continuous and marked fall in the water table or level of the sub-soil water. During the life time of many of the inhabitants, the general level is reported to have fallen in some places by 10 or 15 feet or even more. In consequence of the shrinkage of the sub-soil moisture, the chemical constituents of the heavier soils of the Purna Valley have affected the water-supply, the well water having become brackish in the tract known as the saline tract. In Amravati town itself, the continued fall in the water-supply, has given rise to great anxiety, necessitating special investigations into fresh sources of drinking water which have not up to now met with much success. It appears that the water table is now rapidly receding and some of the more pessimistic prognosticate the eventual dessication of Berar into desert similar to the deserts of Sind and Rajputana".

8. An attempt has been made to get the figures of rainfall in Berar for as many years as possible. With the help of the Director of Land Records, Climatological Table No. 15 given in Part I-B of the Report was prepared from the data available in his Office which gives the total rainfall in inches in the four headquarters towns of Amravati, Akola, Buldana and Yeotmal from the year 1865-66. From these figures given in Climatological Table No. 15, the summary for Berar is given in Table 105 below :—

Table 105

Average rainfall in Berar from 1865-66

Quinquennium ending with the year	Average rainfall in inches	Quinquennium ending with the year	Average rainfall in inches
(1)	(2)	(1)	(2)
1869-70	30·82	1914-15	35·17
1874-75	33·02	1919-20	37·81
1879-80	34·29	1924-25	29·66
1884-85	40·51	1929-30	31·88
1889-90	37·67	1934-35	39·62
1894-95	41·49	1939-40	39·93
1899-1900 ..	24·82	1944-45	38·11
1904-05	32·78	1949-50	41·36
1909-10	33·20		

9. It will be observed that although the figures of rainfall do not indicate any substantial reduction, they reveal wide fluctuations and the irregularity in the rainfall from year to year might be one of the

causes for the fall in the water table. In this connection, the following passage appearing in the Land Revenue Administration Report of Berar for the year 1921-22 is of considerable significance :—

> "In consequence of the short rainfall for three years in succession the sub-soil water level fell to a depth unheard of before and even hitherto unfailing sources of water-supply failed. The scarcity of water during the summer months was from all accounts worse than in 1899-1900."

The Famine and Scarcity Report of the Central Provinces and Berar for the year 1920-21 also contains interesting observations :—

> "Fodder and water were scarce all over the province, but nowhere was the scarcity of water so marked as in Berar. Scarcity of water in other parts of the province spelt inconvenience, in Berar it meant deep anxiety and even distress. The year 1920-21 was the fourth in succession of short rainfall and the water level had sunk to such a degree that it is anticipated that it must be some time before it can return to the normal. Land improvement loans were freely given for digging or deepening wells, and the District Boards made large grants in aid of private expenditure for the same purpose. On works the water-supply was the most jealously guarded. In the forest, dams were thrown across nalas wherever possible. In the large towns, such as Amravati and Akola, the inhabitants only just succeeded in tiding over the hot weather."

In addition to the vagaries of the monsoon there might be other reasons also for this phenomenon and it would be worthwhile investigating this problem intensively as Berar, which was known as the "Golden Bird", is undoubtedly one of the richest strips of fertile agricultural land in the country and it should be possible to prevent it from deteriorating for want of sub-soil water.

10. Describing the receding level of the sub-soil water in Uttar Pradesh similar to the phenomenon mentioned above in Berar Radha Kamal Mukerjee observes, "The Malthusian Law of Diminishing Returns is now operating not only by the soil but also by water acting as a limiting agent in agricultural development. In the United Provinces the limits of the flow irrigation have been nearly approached and in the future the Province will have to work more and more towards hydro-electric lift irrigation from tube-wells or low-level canals or rivers. It will have to utilise the sub-soil water reservoir to a greater extent than before. But even here the limits of well irrigation have been reached in some areas. A few of the eastern districts recorded phenomenally high percentages of 90 to 95 per cent of well irrigated to the total irrigable area in the last famine year, 1918. In the dryest zone in the United Provinces, the Muttra-Etawah region, little expansion of well irrigation is possible, due to the rapid fall of the sub-soil water level that is now putting too great a strain on the muscles of cattle and men, leading to a steady deterioration of agriculture. Throughout the plains of India, a striking change of hydrographical conditions is indirectly brought about by deforestation in the hill slopes and over-grazing, especially in the riverine areas."*

11. The heavy deforestation in Berar is therefore probably another reason for the water difficulty which is mainly responsible for the replacement of the more nutritious wheat by the inferior foodgrain juar. Deprecating the increase of area under inferior foodgrains at the cost of rice and wheat in the country Mukerjee remarks, "It is accordingly clearly evident that the food position of India is gradually becoming worse both with reference to the relative proportion of food production to mouths to feed and also with reference to the nutritive quality of the cereals".† The question of fall in the *per capita* production of food will be considered by us presently but here the significance of the loss of wheat crop from Berar needs emphasis to show how we have lost more nutritious food on account of the water difficulty created by the pressure of population in this part of the State and perhaps the consequent reckless destruction of forest to bring more land under cultivation.

Grain Yield Rate and Presence of Cotton

12. The history of cultivation in Berar from 1876 as traced above shows how food crops including wheat and gram were freely grown in this area when water was available and how with the increasing difficulty in getting water and with more attractive prices of cotton the wheat and gram area was converted into cotton area. The more recent history of this tract further shows that there is a shift towards growing of juar and groundnut on account of the food difficulties and pecuniary advantage of growing these crops. Up to 1913-14, hardly a couple of thousand acres of land used to be under groundnut, but now by 1949-50 over 500 thousand acres are under this crop. This typical history of Berar brings out how growing of food is the first concern

*"Food Planning for Four Hundred Millions" by Radha Kamal Mukerjee, page 11 (Macmillan and Co., Ltd., London, 1938).
†Page 21, *ibid.*

of a cultivator and that normally he grows other things according to the nature of profit he is likely to make. He will not grow cotton unless he finds it more profitable and convenient to do so and he will quickly withdraw cotton or reduce it if he finds it less profitable. In any case he will stop his cotton cultivation at a certain level in order to make sure of his food.

Scope of Irrigation in Chhattisgarh Plain

13. In the Chhattisgarh Plain Sub-Division, there is very great scope for irrigation, as mentioned already, and apart from State enterprise, there has been considerable private effort in constructing small irrigation tanks. In the Bilaspur District alone at the last Settlement there were as many as 7,080 tanks. As early as 1921, Shri Roughton made the following observations in his Census Report about the possibilities of irrigation in the rice areas of Chhattisgarh, "It is well-known that given the necessary capital, the extension of irrigation has enormous possibilities particularly in the rice areas." Referring to the same problem in his Report of 1931, Shri Shoobert stated, "Dr. Clouston, sometime Director of Agriculture in this Province, once stated, for instance, that if irrigated the *Bhata* waste of Chhattisgarh would provide some of the finest agricultural land in the province." Food production in the Chhattisgarh Plain would very considerably increase in a comparatively short period if concentrated efforts were made and large number of small. irrigation schemes are introduced with State aid. Large irrigation projects have their advantage, but they are costly, and as Chhattisgarh offers excellent opportunities for small irrigation schemes, advantage might be taken of these natural facilities to increase our food production at lesser cost and quicker pace.

14. As an insurance against famine and scarcity conditions the limited irrigation facilities in the State proved their value during the war years of 1918-19 as is pointed out in the Report on Famine and Scarcity in the Central Provinces and Berar, during these years :—

> Since the famine of 1907-08 there has been a large increase in the number of irrigation works. The irrigation budget of 1907 provided for an expenditure of 14 lakhs of rupees, while the actual expenditure of 1918-19 was about 26½ lakhs and the total capital expenditure on all irrigation works incurred up to date is over 3½ crores of rupees. The principal irrigation works are the Mahanadi canal in Raipur, the Tandula ıal in Durg, the Wainganga canal in Balaghat and Bhandara, the Ramtek reservoir in Nagpur and the Asola-Mendha tank in Chanda. Besides these, there are a large number of minor Government works in all the rice districts of the province. These Government sources of irrigation were of great value in the scarcity of 1918-19. The total irrigated area under rice from all sources was over one million acres out of a total area of five and a quarter million acres under that crop. Of this area, over three hundred thousand acres were irrigated from Government works, almost all of which have been completed since the last scarcity. When it is remembered that while the outturn of unirrigated rice was just above one-third of the normal, irrigated rice gave an outturn averaging about normal, the enormous value of irrigation in mitigating the distress will be realised. The superior outturn of rice on irrigated land added largely to the food-stocks of the country. The winter rains were as a rule favourable to the rabi crops, and only 42,000 acres under wheat was irrigated, of which more than 12,000 was from Government sources. Excluding Berar, where there is little irrigation and wher little is possible, the total irrigated area under all crops in the Central Provinces was over 1·25 million acres out of a total cropped area of 15 millions as compared with 0·86 million acres irrigated in 1907-08 out of a total cropped area of 14·69 millions. The small irrigation tanks in the Jabalpur district were disappointing, as they did not hold much water but in Damoh six out of the seven tanks gave good irrigation, and the cultivators reaped a crop which was three times better than the crop on unirrigated land. In arranging for extra work required for scarcity, special attention was paid to the improvement of existing tanks in the Jabalpur district and the construction of new sources of irrigation.

Irrigation in the North-West Madhya Pradesh Division

15. The progress of irrigation in the North-West Madhya Pradesh Division comes next to that in the East Madhya Pradesh Division, as is obvious from Table 103 given above. The question of irrigation in the wheat area of the North-West Madhya Pradesh Division is of a debatable nature as some people are of the opinion that irrigation encourages rust and is not desirable. With researches made in the rust resisting varieties of wheat, this belief, which is held to be a prejudice

by some people, might be overcome and the waters of the Nerbudda and the Tapti when properly harnessed might convert the Valley one day into another flourishing Punjab of India.

The Double Cropped Area

16. The average area sown more than once has also increased in Madhya Pradesh from 2·167 millions acres to 3·013 millions acres during the last thirty years, as is clear from Table 103 given above. Here again, the largest increase is in the East Madhya Pradesh Division. In this connection, Shri Roughton made the following observations in the Census Report of 1921 (page 26), "As regards the method of cultivation, it may be said with some confidence that the pressure of population has scarcely yet begun to cause intensive agriculture. The double cropped area is 5 per cent, and the largest figures come from the rice growing districts, where the second crop consists generally of a catch crop of linseed or pulse, sown shortly before the rice comes to maturity, and producing only a few pounds per acre. This is not, properly speaking, a second crop at all. Indeed, it is common knowledge that in the Chhattisgarh Division, after the monsoon crop is gathered, there is very little employment for the agricultural population until the approach of the next monsoon."

17. These observations made thirty years ago are materially true even now, but it must be noted that although the actual produce of the second crop is by itself not significant, the fact that this crop consists of the pulses is a circumstance of very considerable importance as the soil is enriched due to the fixation of nitrogen with the help of the root nodule bacteria. This recuperation of the soil without actual manuring has helped the Chhattisgarh area considerably in preventing the outturn of the main crop of rice from falling more than it has done. From this point of view, the increase in the double cropped area in the East Madhya Pradesh Division, as seen from Table 103 above, has its typical significance.

Average Net Area Sown

18. The figures of average net area sown, as given in Table 103 above, indicate that the position in 1951 in the State as a whole is practically the same as it was in 1921. It would be observed that as compared to the quinquennial average area of 1921, that of 1931 increased by about 562,000 acres and then continued to drop till 1951. The obvious causes for this rise and fall may be attributed to (*a*) fluctuations in prices, and (*b*) seasonal variations.

19. With a view to understanding the effect of prices on the area under cultivation, we give below in Table 106 the harvest prices of rice, wheat, juar and cotton in a representative district in each area in which these important crops predominate. The figures are obtained from "The Statistics of Rainfall, area, production and trade of Agricultural commodities in Madhya Pradesh", mentioned before :—

Table 106

Wholesale harvest prices per maund.

Year	Name of agricultural product and district and wholesale harvest price			
	Rice Raipur	Wheat Jabalpur	Juar Amravati	Cotton Amravati
(1)	(2)	(3)	(4)	(5)
	Rs. a.	Rs. a.	Rs. a.	Rs. a.
1909-10	3 1	3 3	2 12	26 9
1910-11	3 0	2 15	2 2	35 7
1911-12	3 6	3 7	2 4	21 11
1912-13	3 10	3 5	2 8	28 9
1913-14	4 6	4 1	2 14	20 14
1914-15	3 14	4 4	2 2	13 2
1915-16	3 10	3 5	2 3	22 4
1916-17	4 0	3 10	2 9	31 0
1917-18	3 8	4 9	4 0	.. ..
1918-19	**7 3**	**6 11**	**9 6**	**40 13**
1919-20	6 15	5 5	5 4	37 12
1920-21	6 6	6 15	6 4	19 6
1921-22	5 14	5 8	4 13	35 0
1922-23	4 8	4 3	3 6	42 13
1923-24	4 5	4 0	3 10	57 2
1924-25	5 1	5 8	4 0	42 14
1925-26	5 3	4 13	4 0	30 10
1926-27	5 2	4 8	4 0	25 8
1927-28	5 5	5 3	4 12	30 4
1928-29	5 13	5 8	3 12	28 9
1929-30	4 3	3 10	3 12	20 6
1930-31	**2 4**	**2 4**	**1 11**	**13 7**
1931-32	2 4	2 5	2 12	17 6
1932-33	2 1	2 12	2 6	14 1
1933-34	2 2	2 9	2 3	15 7
1934-35	2 4	2 5	2 6	20 10
1935-36	2 7	2 6	2 15	16 5
1936-37	2 6	3 13	2 3	21 7
1937-38	2 7	2 8	2 4	13 10
1938-39	2 8	2 8	2 4	11 3
1939-40	**3 3**	**3 5**	**2 12**	**21 6**
1940-41	4 2	4 0	2 2	10 3
1941-42	5 13	5 15	2 8	9 3
1942-43	8 4	11 0	6 8	39 0
1943-44	8 15	14 9	7 0	41 0
1944-45	8 10	9 2	6 13	36 12
1945-46	9 1	10 6	6 15	47 10
1946-47	8 4	10 8	6 12	48 0
1947-48	13 0	22 14	9 0	.. ..
1948-49	12 8	18 13	14 0	68 0
1949-50	14 0	16 0	16 0	.. ..

20. It is interesting to observe that in the case of rice the prices fluctuated between 3 and 4 rupees per maund between 1909-10 to 1917-18. From 1918-19 they suddenly jumped up and the high prices continued up to 1929-30, when the fall set in. Up to 1938-39, the prices remained low and from 1939-40 they began to recover and continued to go up till the close of the decade when they were as high as 14 rupees a maund—a figure never reached before during the century. The periods of rise and fall in the prices of wheat, juar and cotton are also practically the same as will be noticed from Table 106 given above. It is remarkable how the fluctuations in the average net area sown as given in Table 103 above, are connected with the rise and fall of prices to a certain extent. The peak net area sown during the quinquennium ending with the crop year 1931 is so closely associated with the rise in the prices that it can hardly escape notice. The big fall in the net area sown indicated during the quinquennium ending with the crop year 1941 is, again, corelated to the crash in prices. It is, however, of interest to note that although the average net area sown during the quinquennium ending with the crop year 1951, as shown in Table 103, has become steady to a considerable extent, it has not increased rapidly with the prices as happened during similar rise of almost cent per cent after 1917-18. One of the obvious reasons for this would be noticed from perusal of Subsidiary Table 4·13 given in Part I-B of the Report, which shows the value of the season and percentage increase or decrease in area under crops during the decades 1921—30, 1931—40 and 1941—50. It will be noticed that during 1921—30, the season value was as high as 86. During 1931—40 it was 88 and during 1941—50 it was as low as 72 for Madhya Pradesh as compared to the normal figure of 100. It is to be observed that although the season value was the highest during 1931—40, the prices were not favourable and the fall in the area has been very noticeable as mentioned above. During 1941—50, on the other hand, although the prices have been very favourable, the season value has been very low and the net result has been that the area sown has remained fairly steady. Amongst other reasons attributed to the low figure of net area sown at the close of the decade in spite of high prices of agricultural produce are "rising cost of cultivation and the increasing inclination of the labour towards urban profession."*

21. The efforts made by Government to prevent cultivators from allowing land to remain fallow are discussed in Appendix 'H', which contains a monograph on the progress of agriculture in Madhya Pradesh during 1941—51 very kindly prepared by the Secretary to the Government of Madhya Pradesh in the Agriculture Department. Tables III and IV at the end of the monograph give the outturn of crops in terms of percentage of the normal outturn from 1931 to 1951 for the old districts of Madhya Pradesh and a perusal of these tables along with diagrams I and II given there shows the character of the agricultural seasons with reference to the estimates of crop production and area under cultivation. The climatological Tables given in Part I-B of the Report contain particulars of rainfall, temperature, etc.

Variation in Area and Production of the Principal Crops in the State

22. While considering the question of the average net area sown, it is desirable to examine how the average area and production under the individual principal crops in the State has varied during the last thirty years. Subsidiary Table 4·14 shows the percentage variation of area under staple foodgrains and cotton for the quinquennia ending with the crop years 1920-21, 1930-31, 1940-41 and 1950-51. It shows that the wheat area in the State has dropped by almost 30 per cent during the last thirty years. The area under gram has increased by an almost equal percentage. Again, the area under cotton has shown a sharp fall of about 18 per cent and that under juar has gone up by about 8 per cent. In his note of 6th May 1952 on Agricultural Production in Madhya Pradesh, issued by the Agriculture Department of the State Government, Shri P. B. Dixit, Officer on Special Duty, Survey Reports, summarises the position in respect of the individual crops for the last four decades as follows :—

RICE.—Of all the crops grown in the State rice is the most important. Firstly, it covers more than one-fifth of the total gross-cropped area, which no other crop does. Secondly, it does not suffer from adverse climatic conditions as frequently as other crops do. Thirdly, it is the only crop which provides the largest quantity of one single cereal of about a pound per head per day to the entire population of the main rice zone, *viz.*, the districts of Chanda, Bhandara, Balaghat, Durg, Raipur, Bilaspur and all the merged territories. Fourthly, it also supplements the food-stuffs in other parts of the State. Fifthly, it is the main cash crop of the rice zone. Over and above these advantages, which the State reaps from this crop, it also meets the requirements of the other deficit parts of the country in sufficiently large quantities. The trend of area under rice, has in general shown a steady rise throughout the last four decades. In the year 1909-10

*"Season and Crop Report for Madhya Pradesh, 1950", page 11 (Government Printing, Madhya Pradesh, 1952).

it was 48·38 lakh acres, while in 1949-50 it stood at 63·39 lakh acres showing an increase of 30·8 per cent. Since 1943-44 onward, the increase has been mainly due to the "Grow More Food" campaign. Outturn of rice under the influence of climatic factors has varied considerably from year to year. It was only in one year, *i.e.*, 1919-20, that a full sixteen anna crop was harvested. In other years the outturn ranged between ten and fifteen annas. Only in five years during the four decades the crop was either eight annas or below. The total production has fluctuated within a wide range extending from about 7 lakh to 19 lakh tons. Whereas up to the year 1942-43 the total production depended mainly on seasonal factors, since 1943-44 onward the activities connected with the "Grow More Food" campaign also influenced the production to a great extent.

WHEAT.—For centuries past wheat cultivation in the Upper Nerbudda Valley has been of great importance. It provided a trade link between this and other parts of the country, large quantities being always exported to the deficit areas. The wheat tract comprising the districts of Sagar, Jabalpur, Mandla, Hoshangabad, Betul and Chhindwara was, till the year 1941-42, generally speaking, a net exporter of wheat in quantities varying from one thousand to one hundred thousand tons outside the State. During the last ten years, however, the position has deteriorated to such an extent that the State has to import from outside substantial quantities of this grain to meet its minimum requirements. Its share in the total gross-cropped area up to 1941-42 was 11 to 14·5 per cent, while during the last few years it has been about 6 to 10 per cent. In contrast to the upward trend in the rice acreage, wheat area has fluctuated over a wide range extending from 17 lakh to 37 lakh acres the trend in general being downward. Unfavourable monsoon involving unsatisfactory preparation of land before sowing, frosts, rust in epidemic form and hailstorms and also the spread of *kans* (weed) all together have contributed towards the shrinkage in wheat area. During the four decades under review only eleven harvests were just normal or above normal while the remaining were below normal, the one in 1946-47 being a complete failure. Since 1926-27 to date the seasons without exception have been so bad as would not allow a normal harvest in any year. The total production of wheat has fluctuated from a little more than one lakh tons in the year 1946-47 to more than eleven lakh tons in 1916-17. As already pointed out the production especially during the last ten years has been very unsatisfactory.

JUAR.—Juar is a very remarkable crop in many respects. It is very hardy, grows under all kinds of conditions and seldom completely fails. It is cheap to grow requiring only about 8 to 10 lbs. of seed per acre, which in normal times cost only a few annas. It is a prolific yielder and also gives large outturn of *kadbi*, which is a good fodder for cattle. In this State juar is next only to rice so far as the area is concerned, though it does not exhibit the same steady and upward trend. Juar area in Madhya Pradesh has varied from 33 lakh to 57 lakh acres representing 14 to 20 per cent of the gross-cropped area of the State. About 72 per cent of the total area under this crop lies in the districts of Berar Division, Nagpur, Wardha and Nimar, where it is the main rotation crop with cotton and forms the main article of food for a majority of the people. During the four decades under review five harvests of juar were between 13 to 14·8 annas 21 were between 10 and 13 annas, 12 were between 8 and 10 annas while only three harvests were below eight annas. Total production of juar has fluctuated between the minimum of about 5 lakh tons and the maximum of about sixteen and a half lakh tons.

KODON-KUTKI.—These lesser millets are well suited to the plateaus and the hilly tracts where rainfall is heavy and soil light and hence their cultivation is concentrated in the districts of Durg, Mandla, Chhindwara, Betul, Jabalpur and Hoshangabad. About three-fourth of the total area under these millets lies in these districts. These millets form the main staple food of the ryots in the areas, where they are grown. Being inferior foodgrain they are cheap and, therefore, preferred by the poor village people. Kodon-kutki are of little importance in the trade, there being no wholesale transactions or large-scale movements from the producing centres to other parts of the State.

Trend of area under kodon-kutki has in general been downward, though fluctuations were not so violent as in the case of wheat and juar. Area under these millets has varied from about 14 lakh to 21 lakh acres, representing 5 to 8 per cent of the total gross-cropped

area. Its outturn in general has been between 10 and 14·8 annas, while in some years it was 8 to 10 annas and only in two years it was as low as four annas. The total production has fluctuated from about one lakh to more than four lakh tons.

The four cereals and millets discussed above, *viz.*, rice, wheat, juar and kodon-kutki together occupy about 55 per cent of the total gross-cropped area. They constitute a major part of food of the people and hence their production affects the general economic condition of the masses. A bumper outturn provides enough food to the producers and the consumers at cheaper rate. If on the other hand the outturn is insufficient, the producer is unable to enjoy a full meal while the consumer has to pay more due to increase in prices caused by deficit production.

PULSES.—The area under pulses has, except in a few years of unfavourable seasons, steadily risen from 37·71 lakh acres in 1909-10 to 58·36 lakh acres in 1949-50, *i.e.*, it has increased by about 55 per cent. Area under pulses at present is about one-fifth of the total gross-cropped area of the State as against 14 per cent in the year 1909-10. Areas of concentration differ for different pulses. For example, *tur* (*arhar*) is grown more in the cotton-juar tract and gram more in the wheat tract, while *urid*, *mung*, *moth* and *lakh* (*tiura*) being suited for the rice tract are grown more in the Chhattisgarh and other rice growing districts. Pulses in the rice growing parts of the State play an important part in the economics of farming, where firstly, due to their being grown mostly as *utera* (catch crop) the cost of cultivation is reduced to the minimum and secondly, the soil is enriched due to the fixation of nitrogen with the help of root nodule bacteria. Area under *urid*, *mung*, *moth* and *lakh* (*tiura*) has shown a spectacular rise during the last 40 years the former from about 9 to 10 lakh acres in the beginning to about 16 lakh acres at present and the latter from about five lakh acres to 13 lakh acres. Area under other pulses has fluctuated from year to year according to the nature of seasons. The total production of tur, gram and masur (it is only for these pulses that the information is available) has fluctuated between the wide limits extending from 196 thousand tons in 1920-21 to 508 thousand tons in 1909-10 depending upon the nature of the season. The estimated production of the remaining pulses, *i.e.*, *urid*, *mung*, *moth*, *lakh* and peas in recent years may be put at about three lakh tons. The total production, therefore, of all the pulses at present is about seven lakh tons.

Though actual figures are not available it is estimated that the pulses contribute a substantial quota in the export trade of the State. For the recent past of about a decade the exports of all the pulses may be estimated at one and a quarter lakh tons to nearly two lakh tons. The remaining quantity of about five lakh tons is utilised within the State. Making due allowance for seed purposes the net availability for domestic consumption may be put at about three and a half to four lakh tons. Out of this about 15 to 20 per cent is used as cattle feed in the form of brokens (*chuni*) and husk (*phol*).

OIL-SEEDS.—Oil-seeds in this State are grown by the farmers more as a cash crop than for their nutritional value. Large quantities of these seeds especially linseed, til and rape and mustard are exported outside the State. Oil-seeds have also been responsible for the industrial development of the State inasmuch as a large number of oil mills have been established for extraction of oil all over the State. Recently concerns have been established for the manufacture of vanaspati and paints and varnishes and these have enhanced the chances of the primary producer getting a better return for his crop.

In addition to providing oils for edible as well as industrial purposes, oil-seeds are also a valuable source of cattle feed and manure in the form of oil-cakes, which are obtained in the process of oil extraction.

Oil-seeds (except cotton-seed) occupy only about nine per cent of the total gross-cropped area. Oil-seed acreage has shown more or less a steady trend between 20 to 24 lakh acres throughout the four decades. Only in a few years it expanded beyond the upper limit due to high prices coupled with favourable climatic conditions. Similarly, the shrinkage in area below the lower limit of 20 lakh acres was mainly due to bad seasons. Taking the individual oil-seeds into consideration it is observed that the area under linseed has been subject to extraordinarily violent fluctuations according to the nature of the season and prices. Favourable conditions at sowing time, failure or partial failure of kharif crops, non-availability of wheat-seed due to the failure of the crop in the previous year and high prices lead to expansion

in the area, while conditions opposite to these caused a shrinkage in area. Til area has declined considerably from 9·43 lakh acres in 1909-10 to a little more than three lakh acres at present. But the shrinkage in til area has been made good by groundnut, the area under which has expanded from 3 to 4 thousand acres in the early years to about 6 to 7 lakh acres at present. Area under other oil-seeds has not shown any spectacular rise or fall.

Production of linseed and til (the two oil-seeds for which information is available for the past 40 years) has fluctuated between one and two lakh tons. The present production of these oil-seeds along with that of others is estimated to be about three lakh tons. At present cotton-seed in this State is mainly used as a cattle feed. But its use as an oil-seed for extraction of oil would provide the crushing industry and other industries also ample scope for expansion without much loss in the availability of cattle feed. If the production of cotton-seed which is about two lakh tons is also taken into account, the total production of oil-seeds for the present may be put at about five lakh tons.

COTTON.—Cotton cultivation in the State is mostly confined to the cotton tract comprising the districts of Berar Division, Nimar, Wardha and Nagpur and parts of Betul, Chhindwara and Chanda districts. Area under cotton has fluctuated from a little more than 28 lakh acres to about 54 lakh acres representing 10 to 20 per cent of the total gross-cropped area. The history of cotton cultivation in Madhya Pradesh during the last 40 years can be divided into two periods. The first period from 1909-10 to 1929-30 was of a gradual expansion, the maximum acreage of about 54 lakh acres having been reached in the year 1925-26. The year to year fluctuations in area under this crop during this period moved within a narrow range of five lakh acres. During this period the seasons in general were favourable for cotton cultivation and the prices of cotton also were very remunerative. Only at times, *e.g.*, in the year 1918-19, the general shortage of food stocks in the main cotton tract caused a shrinkage in the cotton area. The second period starting from the year 1930-31 to the present days is a period of gradual shrinkage, though at times the fall was very abrupt, *e.g.*, in the year 1932-33, when it fell by about six lakh acres and in 1942-43, when again a fall occurred to the extent of about five lakh acres. Till the year 1941-42 the fluctuations were due to the nature of season and the prices of cotton. From 1942-43 onward the shrinkage was due to the "Grow More Food" campaign when subsidies were granted for reduction in the cotton acreage. Since 1950-51, however, the cotton cultivation is again being encouraged.

Production of cotton has fluctuated from year to year depending on the nature of the season. The highest production of a little less than 13 lakh bales was obtained in the year 1919-20, while the lowest production was only about 3 lakh bales in 1949-50 showing a difference of 10 lakh bales with the maximum. It has been especially very low since 1942-43."

Rate of Increase of Cultivation Outstripped by the Rate of Growth of Population

23. The discussion about progress of cultivation given above shows that at the end of the three decades the net area sown in the State has not materially changed. It was on an average 24,373.9 thousand acres during the quinquennium ending with the crop year 1919-20 and was 24,386.2 thousand acres during the quinquennium ending with 1949-50 as shown in Table 103 above. When we, however, come to consider the problem of *per capita* cultivation during the three decades and examine Subsidiary Table 4.9 given in Part I-B of the Report, we notice an alarming fall in cultivation per head of population in the State and its different parts. The position is summarised in Table 107 given below for the State and the Natural Divisions (excluding integrated states):—

Table 107

Trend of cultivation per capita *during three decades.*

State and Natural Divisions.	Area of cultivation *per capita* (in cents. 1 cent-1/100 acre).			
	1951	1941	1931	1921
(1)	(2)	(3)	(4)	(5)
Madhya Pradesh	135·1	145·1	160·8	175·3
North-West Madhya Pradesh Division.	142·5	157·1	171·2	184·7
East Madhya Pradesh Division.	112·7	115·7	128·1	138·8
South-West Madhya Pradesh Division.	155·8	170·0	190·2	211·2

24. It will be seen from Table 107 that in 1921 every man, woman and child had about 175 cents (1.75 acres) each of land to draw sustenance from. It was reduced to 161 cents in 1931 and was further reduced to 145 in 1941 and has since been reduced to 135 in 1951. In arriving at the figures, due allowance has been made for the fact that the growth of irrigation is a form of intensive cultivation even if it is not superficially extensive. In fact, the area of cultivation *per capita* as calculated in Subsidiary Table 4.9 from Subsidiary Tables 4.8 and 4.7 takes into account the area under irrigation. In spite of this, we find the poor result during the last three decades. The question of improvement of land by manuring, embankments, tractor ploughing, improved seed, etc., is discussed at length in Appendix "H" mentioned above, but here the significant point to be noted is the fall in the area under cultivation defined in the manner indicated above where the actual area under cultivation is duly weighted to take into account the benefits of irrigation.

25. A study of the old Census Reports shows that the 1st Census was taken in Madhya Pradesh as early as 1866 and the cultivated area in the different districts (as they existed at that time), as well as the population of each district were as given in the table below which is prepared from the data available in the Census Report of 1866 :—

Name of the district (1)	Population (2)	Total area in sq. miles (3)	Cultivated area in acres (4)
Nagpur	634,121	3,682	1,115,500
Bhandara	748,161	5,601	1,000,430
Chanda	537,295	10,000	696,291
Wardha	343,485	2,392	854,759
Jabalpur	620,201	4,856	1,079,645
Sagar	498,642	3,928	622,016
Damoh	262,641	2,457	377,960
Seoni	455,462	5,365	657,126
Mandla	187,699	5,134	396,764
Hoshangabad	427,418	3,997	786,482
Betul	244,854	3,600	631,470
Narsimhapur	336,796	1,916	558,644
Chhindwara	327,875	4,255	512,898
Nimar	226,969	3,584	280,611
Raipur	952,754	8,453	2,569,731
Bilaspur	699,468	5,873	1,045,993

26. It will be observed that the total cultivated area as estimated in 1866 was about 13.186 million acres and the population was about 7.504 millions. Roughly, therefore, in 1866 every inhabitant of the State had 175 cents of land to draw sustenance from.

27. The following table is reproduced from the Census Report of 1901 (page 29—Subsidiary Table V of 1901 Report, Part I) :—

District or State (1)	Density in 1901 (2)	Number of cultivated acres per head of: Total population (3)	Number of cultivated acres per head of: Rural population (4)	Density in 1891 (5)	Number of cultivated acres per head of: Total population (6)	Number of cultivated acres per head of: Rural population (7)
Sagar	117·6	1·9	2·2	147·7	1·7	2·0
Damoh	100·8	1·8	1·9	115·0	1·9	2·0
Jabalpur	174·0	1·8	2·1	191·3	1·8	2·0
Mandla	62·9	2·1	2·2	67·2	1·7	1·7
Seoni	102·2	2·5	2·6	115·7	2·3	2·4
Jabalpur Division	109·6	2·0	2·2	125·0	1·9	2·0
Narsimhapur	163·9	2·0	2·1	191·6	1·8	1·9
Hoshangabad	111·7	2·2	2·5	119·2	2·0	2·3
Nimar	83·2	2·0	2·4	72·7	1·9	2·3
Betul	74·6	3·1	3·3	84·5	2·3	2·4
Chhindwara	88·1	2·2	2·3	88·0	2·2	2·4
Nerbudda Division	96·5	2·3	2·5	101·8	2·0	2·3
Wardha	158·6	2·6	2·5	165·1	2·6	2·9
Nagpur	195·8	1·8	2·6	197·2	1·7	2·4
Chanda	56·0	1·6	1·7	64·8	1·2	1·3
Bhandara	167·2	1·5	1·6	187·2	1·3	1·3
Balaghat	*104·0*	*1·4*	*1·5*	*122·1*	*1·0*	*1·0*
Nagpur Division	113·1	1·7	2·0	123·6	1·6	1·8
Raipur	122·9	2·1	2·2	135·1	1·7	1·7
Bilaspur	121·4	1·9	1·9	139·5	1·4	1·4
Sambalpur	167·7	1·7	1·7	160·9	1·4	1·4
Chhattisgarh Division	133·1	1·9	2·0	141·7	1·5	1·6
British Districts	114·0	1·9	2·1	124·5	1·8	1·9

28. It will be observed that in 1891 each inhabitant of the State had 180 cents of land for his sustenance and in 1901 the figure was 190.

29. The Census Report of Berar for 1901 also contains an interesting table showing the density of the population on the cultivated and culturable area of Berar. This table is reproduced below :—

District	Total area in acres				Total of columns (2) and (3)	Percentage of columns (2) to (6)	Average No. of acres of cultivated land for each person	Average No. of acres of the total cultivable land for each person	Average density of total population to sq. miles
	Cultivated	Cultivable	Uncultivable	Total					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Amraoti	1,505,233	120	260,543	1,765,896	1,505,353	99·9	2·4	2·4	228·4
Akola	1,454,599	5,884	253,983	1,714,466	1,460,483	99·6	2·5	2·5	217·6
Ellichpur (without Melghat taluq)	560,352	165	63,064	623,581	560,517	99·9	2·1	2·1	277·1
Melghat taluq	92,772	36,081	922,374	1,051,227	128,853	70·4	2·5	3·5	22·5
Buldana	1,469,594	6,279	322,029	1,797,902	1,475,873	99·6	3·4	3·5	150·9
Wun	1,638,246	159,560	711,531	2,509,337	1,797,806	91·1	3·5	3·8	119·4
Basim	1,300,000	25,299	568,206	1,893,505	1,325,299	98·0	3·7	3·7	119·8
PROVINCE	8,020,796	233,388	3,101,730	11,355,914	8,254,184	97·2	2·9	2·99	155·5

30. Commenting on this table, the Superintendent, Shri Chinoy, made the following observations :—

"A reference to Subsidiary Table II will show that in Berar 97.2 per cent of its culturable land is already under cultivation as against 95.1 in 1891. On an average, each individual of the total population in Berar has 2.9 acres of cultivated land. Very nearly the same average comes also for the total culturable land. Of the districts, Amraoti, Akola, Ellichpur (without Melghat) and Buldana have hardly any land available for cultivation, the percentage of land under cultivation in them being from 99.6 to 99.9. The average number of acres of cultivated and also that of culturable land per head in the first three districts being 2.4, 2.5, and 2.1, respectively, any further increase in the agricultural population in them must, therefore, be attended by a decrease in the means of sustenance falling to the lot of each individual."

Pressure of Population Since 1921

31. Reference to the statistics of cultivated area per head of population from 1866 up to 1951 thus shows convincingly that the phenomenon of the growth of population out-stripping the progress of cultivation has become a problem for us and was not a problem for our fore-fathers. It is obvious that in the last century the growth of population and growth of cultivation went hand in hand and that the population began to out-strip food production during the last thirty years. Prior to 1920, the balance of population was maintained by periodical occurrences of famines and pestilence. The history of the distress and loss of life as a result of wars, scarcities and famines of the past have been briefly reviewed in Appendix 'I'. This review and the effect of the recent growth of population on means of sustenance will help us to appreciate that we cannot lull ourselves to sleep in the belief that the population and food problems have always existed and that we should not worry about them. The statistics mentioned above demonstrate that this is a fallacy and that the problem of the population out-stripping cultivation is not an age-old problem but is one which has arisen during our life-times and has to be faced by us.

The Yield Rate

32. Although the net area sown in the State now is very much the same as thirty years ago the yield of foodgrains per acre of the land is not encouraging. In fact, it is lower for the decennium ending with the crop year 1949-50 than it was at the end of the decennium in 1929-30 for various reasons connected with bad seasons and inefficiency in cultivation associated with financial resources of the agriculturists.

33. The Director of Land Records has very kindly prepared Subsidiary Table 4.15 showing the yield (less seed) in pounds on one cent of land (1/100th acre) in Madhya Pradesh, the Natural Divisions, Sub-Divisions and the Districts for the important food crops in the State during the last three decades. The method of preparing the table is explained in the fly-leaf attached to it.

34. Table 108 given below is derived from Subsidiary Table 4.15 mentioned above. It gives the yield rates (less seed) for the staple foodgrains wheat, rice and juar per cent of land for the decennia ending with the crop years 1921-30, 1931-40 and 1941-50 for the State and the Natural Divisions :—

Table 108

Yield rate (less seed) in pounds on one cent (1/100 th acre) of land.

Crops and decennium ending with		Madhya Pradesh		North-West Madhya Pradesh Division		East Madhya Pradesh Division		South-West Madhya Pradesh Division	
		Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated	Irrigated	Unirrigated
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Wheat	1921—30..	7·65	2·98	7·69	3·96	..	3·76	7·48	3·52
	1931—40..	6·88	3·52	6·84	3·55	..	3·64	7·03	3·32
	1941—50..	5·54	2·51	5·55	2·69	..	2·61	5·47	2·61
Rice	1921—30..	8·62	4·94	9·08	4·35	8·26	5·05	8·13	3·52
	1931—40..	8·58	5·34	8·80	4·54	8·56	5·47	8·95	3·94
	1941—50..	7·30	4·46	7·47	4·12	7·30	4·59	7·23	3·27
Juar	1921—30..	..	4·97	..	4·75	..	5·13	..	5·02
	1931—40..	..	4·95	..	4·44	..	4·98	..	5·12
	1941—50..	..	4·63	..	3·80	..	4·30	..	4·97

35. The statistics of yield rate given in Table 108 above bring out very clearly that during the last three decades the actual yield of foodgrains per acre has also diminished. The efforts made to increase agricultural production during the last decade, when unfortunately the fall in the yield rate is the heaviest, are discussed in the monograph given in Appendix 'H' and referred to above where it is also pointed out that " all the Grow More Food Schemes cover an insignificant fraction, being on an average 5.30 per cent of the total area under cereals". It is also pointed out in the monograph that the assumed increase in production on such area is not likely to be noticeable in the market arrivals, particularly if seasonal conditions are not favourable as the Grow More Food Schemes are so designed for economic reasons that they result in increased production provided that the "monsoon and the seasonal factors are reasonably favourable".

36. Subsidiary Table 4.17 gives the quinquennial gross outturn (including seed) beginning with the quinquennium ending 1914-15 for the three principal crops of the State—wheat, rice and juar. This table is prepared from the figures available in the Government of Madhya Pradesh, Department of Agriculture publication "Statistics of rainfall, area, production and trade of agricultural commodities in Madhya Pradesh, Volume II" referred to above. This table also brings out very clearly the fall in production per acre of land.

37. In the case of rice, the most important foodgrain of the State, the following estimated annual average yields per acre for the State as a whole are given from 1934-35 up to 1949-50 by Shri P. B. Dixit, Officer on Special Duty, Survey Reports, in the "Report on Marketing of Agricultural Commodities, No. 4—Rice", issued by the Agriculture Department of the State Government (1952 page 6) :—

Year	Yield per acre	Year	Yield per acre
(1)	(2)	(1)	(2)
	Lbs.		Lbs.
1934-35	734	1942-43	725
1935-36	588	1943-44	697
1936-37	702	1944-45	641
1937-38	609	1945-46	605
1938-39	667	Average	603
Average	660	1946-47	513
1939-40	552	1947-48	617
1940-41	420	1948-49	611
1941-42	346	1949-50	661

38. With regard to the fall in the yield of wheat, Shri K. R. Dubey, Officer on Special Duty, who prepared the Marketing Report of the Agriculture Department on Wheat (1949; pages 5-6) makes the following observations :—

" Production.—The standard or the normal yield per acre of wheat varies from 500 lbs. to 640 lbs.; the average for the whole province being 561 lbs. The yield from irrigated crop is high and is 1,000 lbs. in the different districts. The actual yield per acre in the pre-war quinquennium varied between 424 lbs. and 471 lbs., the average being 444 lbs. In the recent quinquennium ending 1945-46 it was between 313 lbs. and 450 lbs., the average being 368 lbs. This outturn is much lower than what has been obtained in many other provinces of India. It was 834 lbs. in Punjab, 855 lbs. in Bihar, 788 lbs. in United Provinces and 690 lbs. in Sind.

Wheat is subject to violent fluctuations in yield from year to year. In the past 37 years 6 crops were above normal, 11 crops were between 11 annas and 13.3 annas, 10 crops were about 10 annas, and the remaining 10 were either about 9 annas or below 9 annas.

The minimum, maximum and average production in different periods may be seen from the following table :—

Period	Production in lakh tons		
	Minimum	Maximum	Average
(1)	(2)	(3)	(4)
Quinquennium ending—			
1913-14	6·57	10·25	8·93
1918-19	6·86	11·29	8·52
1923-24	3·54	9·21	7·24
1928-29	5·16	9·19	7·56
1933-34	5·88	7·15	6·53
1938-39	6·00	7·63	6·72
1939-40—1940-41 (Transitional years).	5·72	6·14	5·93
1941-42 to 1945-46 ..	3·70	5·11	4·42

Although, during the 10 years before the recent war the production of wheat fluctuated within very narrow limits and averaged about 6½ lakhs tons, *the general history reveals decreasing trend.* The human population in the province has gone up by 18 per cent in 1941 over that of 1911, but the production of wheat has fallen by about 50 per cent. Strains of wheat which can withstand the great enemies of the crop, *viz.*, cold, frost, hailstorm, and rust are imperatively needed.

The major producing districts of Saugor, Jubbulpore, Hoshangabad and Chhindwara together contribute 55.4 per cent (60.9 per cent) of the total production. The fall in their contribution is mainly due to the heavy drop in production in the Saugor district. Before the war Saugor's share was 26.1 per cent or over a fourth of the total production of the province; but during the war period it was only 21.0 per cent or about a fifth of the total production."

The Grain Production Capacity of Cultivation *Per Capital*

39. The statistics of yield of foodgrains discussed above has made it clear that although the overall net area under cultivation has not much changed, the yield factor has for various reasons shown a downward trend during the last three decades, at a time when the population has been increasing fast. The effect of the growing population on the food position can be best demonstrated by comparing the grain production capacity of cultivation *per capita.* In calculating the grain production capacity of cultivation *per capita* for the Natural Divisions, it is assumed for simplifying the calculations that the weight in pounds of the net yield (less seed) per acre for all the important foodgrains in each Natural Division is roughly represented by the net yield (less seed) of the principal foodgrain of that Division. For these calculations, the principal foodgrains for the North-West, East and South-West Madhya Pradesh Divisions are taken to be wheat, rice and juar, respectively. The yield rates for 1931-40 have been adopted in the calculations as the representative rates during three decades.

40. On the assumptions made above, the grain production capacity of cultivation *per capita* is worked out in Appendix 'J', and it will be seen how significantly it is reduced in the State as a whole from 824 lbs. in 1921 to 649 lbs. in 1951 per head per year. In other words, the food production per individual in Madhya Pradesh has diminished by 175 lbs. per year during the last 30 years.

41. Table 109 given below compares the fall in the grain production capacity in the State and the Natural Divisions excluding the integrated States :—

Table 109

Grain production capacity of cultivation per capita *in Madhya Pradesh and the Natural Divisions for the quinquennium ending 1921 and 1951.*

State and Natural Divisions	Grain production capacity in lbs. *per capita*		Net fall in lbs.
	1921	1951	
(1)	(2)	(3)	(4)
Madhya Pradesh	824	649	175
North-West Madhya Pradesh Division.	662	514	148
East Madhya Pradesh Division	789	676	113
South-West Madhya Pradesh Division.	1,073	788	285

42. In the above analysis as pointed out the net yield (less seed) per acre for all the important foodgrains in each Natural Division was assumed to be equal to the net yield (less seed) of the principal foodgrain of the particular Natural Division. Calculations have also been made by arriving at the average net yield (less seed) for wheat, rice and juar taken together in each Natural Division. In Subsidiary Table 4·15 the average yield (less seed) for each of the three crops, wheat, rice and juar has been calculated. The average area sown under each of these three crops in each Natural Division was multiplied by this yield factor for the individual crop and the total production during the decade for each of the three crops was obtained. The sum total of the production of all the three crops for each Natural Division was next divided by the sum total of the average net area sown under each of the three crops in the particular Natural Division to get the yield (less seed) for wheat, rice and juar taken together. On the basis of the yield factors calculated in the manner described above the grain production capacity *per capita* for the Natural Divisions and the State work out as shown below. The calculations are made exactly in the same way as explained in Appendix 'J' :—

Grain production capacity per capita.

State and Natural Divisions	Year				Net fall in lbs. between 1921 and 1951
	1951	1941	1931	1921	
(1)	(2)	(3)	(4)	(5)	(6)
Madhya Pradesh	671	712	785	848	177
North-West Madhya Pradesh Division	572	630	683	736	164
East Madhya Pradesh Division	656	657	724	762	106
South-West Madhya Pradesh Division	747	814	910	1,011	264

It will be observed that the fall in the grain production capacity for Madhya Pradesh is shown to be slightly more by these detailed calculations than that arrived at from the simplified method.

43. These are thought-provoking figures and the gravity of the situation can hardly be overstated. The growth of population running ahead of cultivation is bound to run into a situation which must entail serious consequences, as explained in the concluding part of Chapter I, unless on a governmental scale action is taken in time.

Effect of the Fall in the Grain Production Capacity *Per Capital*

44. The fall in the grain production capacity *per capita* between 1921 and 1951 is likely to be accompanied by one or other of the following three possible changes during this period :—

(i) The proportion of area under cultivation devoted to foodgrains may have decreased.

(ii) Imports into the State/Division from outside may have increased ; or exports from the State/Division to outside may have decreased.

(iii) The average annual rate of consumption *per capita* may have decreased (this may be caused by an increase in the relative proportion of those classes of the population whose annual rate of consumption *per capita* is below normal).

The details of the percentage variation of area under staple foodgrains are given in Subsidiary Table 4.14 referred to above. It will be noticed that the total average area under the important foodgrains (rice, wheat, juar and gram) in Madhya Pradesh, excluding the integrated States for the quinquennium ending 1920-21 was 13,756.72 thousand acres, while for the quinquennium ending 1950-51 the corresponding area was 14,982.34 thousand acres indicating that there was an overall increase of about 8.91 per cent in the area under the principal food crops. It will, therefore, be seen that there is no diminution in the area under staple foodgrains during the last 30 years resulting in the significant fall of *per capita* production. Actually, there has been an increase of 8.91 per cent.

45. The Food Department of the Government of Madhya Pradesh have very kindly furnished the available statistics of Exports and Imports with them and they are summarised below in Table 110:—

Table 110

Net export and import of principal foodgrains in Madhya Pradesh from 1931-32.

(Figures in thousand tons)

Year	Net exports (—) and imports (+)			
	Rice	Wheat	Juar	Total
(1)	(2)	(3)	(4)	(5)
1931-32	—146	—1	—7	—154
1932-33	—140	—55	..	—195
1933-34	—127	—42	+21	—148
1934-35	—164	—56	..	—220
1935-36	—162	—68	..	—230
1936-37	—210	—1	..	—211
1937-38	—178	—21	—2	—201
1938-39	—186	—13	+13	—186
1939-40	—209	—30	+9	—230
1940-41	—125	—30	—22	—177

Table 110—*concld.*

Year (1)	Net exports (—) and imports (+) Rice (2)	Wheat (3)	Juar (4)	Total (5)
Average	—165	—31	+1	—195
1944	—197	+80	—57	—174
1945	—203	+38	—64	—229
1946	—141	+50	—2	—93
1947	—39	+61	+142	+164
Average	—145	+57	+5	—83
1948	—160	+56	—15	—119
1949	—79	+68	+46	+35
1950	—145	+12	+23	—110
1951	—23	+55	+24	+56
Average	—102	+48	+19	—35

46. It is interesting to observe how during 20 years the export of rice, which is the most important crop in the State, has dwindled from an average of 165 thousand tons at the end of the decade 1931—40 to 102 thousand tons at the end of the last decade.

47. The State as a whole is undoubtedly a surplus area, but among the Natural Divisions it is the East Madhya Pradesh Division alone which is a net exporter of foodgrains ; while the other two Natural Divisions are net importers, being fed with the rice from the East Madhya Pradesh Division and other foodgrains imported from outside the State as judged from the available statistics of movement of foodgrains under the basic plan during the last five years.

48. In his note on Agricultural Production in Madhya Pradesh, referred to in paragraph 22 above, Shri P. B. Dixit, Officer on Special Duty in the Agriculture Department on Survey Reports, has furnished the following extremely interesting and instructive analysis of the production, imports, exports, seed requirements and net available quantities of principal foodgrains in the State for the last four decades. According to these statistics, the net annual available quantity of foodgrains during the decade 1911—20 was 3,062 thousand tons compared to 2,824 thousand tons during the last decade showing a fall of about 8 per cent. Again, it is to be noted that these calculations do not take into account wastage of foodgrains in storage, markets, etc., nor do they include such items as cattle feed, etc., and the quantity shown in the calculation as "Net available for domestic consumption, etc." must be taken to be inclusive of these items of wastage, etc. Shri Dixit has very kindly prepared a separate note at my instance showing the quantities which should be allowed for the different items of wastage, etc., in this State and it is reproduced in part III of Appendix 'H'. It will be noticed that about 6.25 per cent of the quantity shown as available for domestic consumption, etc., in the following analysis must be written off on account of these items to arrive at the net available quantity for human comsumption :—

Analysis of average annual production, imports, exports, seed requirements and available quantity of foodgrains during the last four decades in Madhya Pradesh excluding integrated States.

(Figures in thousand tons)

Particulars (1)	Decennium First 1910-11 to 1919-20 (2)	Second 1920-21 to 1929-30 (3)	Third 1930-31 to 1939-40 (4)	Fourth 1940-41 to 1949-50 (5)
A.—Production.				
Rice	1,303	1,443	1,625	1,573
Wheat	863	706	664	400
Juar	1,037	988	991	1,031
Kodon-kutki	239	304	166	143
Total ..	3,442	3,441	3,446	3,147
B.—Imports.				
Rice	33	24	5	3
Wheat	29	34	26	41
Juar	14	12	12	13
Kodon-kutki	..	..	..	..
Total ..	76	70	43	57
C.—Exports.				
Rice	50	46	166	106
Wheat	127	78	58	10
Juar	16	14	5	15
Kodon-kutki	..	..	..	..
Total ..	193	138	229	131
D.—Net imports (+) or exports (—) (Difference of B and C).				
Rice	—17	—22	—161	—103
Wheat	—98	—44	—32	+31
Juar	—2	—2	+7	—2
Kodon-kutki	..	..	..	..
Total ..	—117	—68	—186	—74
E.—Net Supplies— A plus D.				
Rice	1,286	1,421	1,464	1,470
Wheat	765	662	632	431
Juar	1,035	986	998	1,029
Kodon-kutki	239	304	166	143
Total ..	3,325	3,373	3,260	3,073
F.—Seed requirements.				
Rice	130	144	163	175
Wheat	108	88	83	50
Juar	17	16	17	19
Kodon-kutki	8	11	6	5
Total ..	263	259	269	249
G.—Net available for domestic consumption, etc.— E minus F.				
Rice	1,156	1,277	1,301	1,295
Wheat	657	574	549	381
Juar	1,018	970	981	1,010
Kodon-kutki	231	293	160	138
Total ..	3,062	3,114	2,991	2,824

49. Discussing the figures in the above analysis, Shri Dixit observes, "It will be seen from the above that production during the first three decades was almost steady at 34.42 to 34.46 lakh tons. In the last decade (1940-41 to 1949-50), however, it was reduced by about three lakh tons or nine per cent. Imports of these food-stuffs, which were reduced from 76 thousand tons in the first decade to 43 thousand tons in the third again rose to 57 thousand tons in the last decade while the exports which had reached the maximum of 229 thousand tons in the third decade were reduced to the minimum at 131 thousand tons in the last decade (1940-41 to 1949-50). In the first three decades the State was throughout a net exporter of all the foodgrains except juar to a little extent. But in the last decade the State became a net importing area in wheat also. Thus the net exports of 186 thousand tons during the period 1930-31 to 1939-40 were reduced to 74 thousand tons during the years 1940-41 to 1949-50, *i.e.*, by about 60 per cent. The net availability for domestic consumption, etc., with the exception of the second decade (1920-21 to 1929-30) has been downward and during the last decade (1940-41 to 1949-50) it stood at about 92 per cent of what it was in the first decade."

50. After making the deductions of 6.25 per cent for wastage, etc., as mentioned above the quantities available for domestic consumption, etc., in the above analysis, the net quantity available for human consumption during the last four decades is given in column 2 of Table 111 below which also gives the mean population of the decades for Madhya Pradesh, excluding integrated States, as it existed during those decades and the quantity of foodgrains in ounces available per head of population per day :—

Table 111

Net available quantity of foodgrains during the last four decades in Madhya Pradesh (excluding integrated States).

Decade	Net quantity of foodgrains available for human consumption (figures in thousand tons)	Mean population during the decade	Quantity available for consumption *per capita* per day (in ounces)
(1)	(2)	(3)	(4)
1911—20	2,847	13,914,534	20·1
1921—30	2,899	14,710,242	19·4
1931—40	2,776	16,160,654	16·9
1941—50	2,627	17,432,075	14·8

51. It will be noticed how the quantity of food-grains including the major cereals and even minor millets. available for consumption *per capita* per day has diminished by about five ounces per day per head of population during the last 40 years.

52. The Food Department of the State Government have arrived at the *per capita* consumption of major cereals only (wheat, rice and juar) for the average decennium ending with 1940-41 and for the average periods of four years ending with 1947 and 1951. These figures are given in Table 112 below :—

Table 112

Per capita *consumption for specific periods in respect of major cereals only.*

Serial No.	Particulars	Average 10 years ending 1940-41	Average 4 years ending 1947	Average 4 years ending 1951
(1)	(2)	(3)	(4)	(5)
1.	Production	3,253	3,064	3,536
2.	Seed requirements	310	295	375
3.	Net production	2,943	2,769	3,161
4.	Net exports (—) or imports (+) ..	—195	—83	—35
5.	Total availabilities for consumption [col. (3) *minus* or *plus* col. (4)].	2,748	2,686	3,126
6.	Estimated population on Census figures (in thousands.	16,068	17,300	21,000
7.	*Per capita* consumption, *i.e.*—			
	(*a*) Consumption of cereals per head per day in ozs.	16·78	15·24	14·57 ozs.
	or			
	(*b*) Consumption of cereals per head per year in mds.	4·655	4·226	4·052 mds.

NOTES.—(1) Figures in columns (3) and (4) are for Madhya Pradesh excluding merged territories.
(2) Figures in items 1 to 5 are in thousand tons.

53. The above discussion clearly shows that the effect of the fall in the grain production capacity *per capita* has been that the food exports are reduced and the quantity available for consumption per individual has also gone down.

REQUIREMENTS OF CEREALS FOR MADHYA PRADESH ON THE BASIS OF THE 1951 POPULATION

54. "The Nutrition Advisory Committee of the Indian Research Fund Association has suggested the following composition of a balanced diet to provide the various nutrients in sufficient quantities, taking into consideration the Indian dietary habits"*:—

Requirements per day in a balanced diet for an adult man.

	Ozs.		Ozs.
Cereals	14	Milk	10
Pulses	3	Sugar and jaggery ..	2
Green leafy vegetables ..	4	Vegetable oil, ghee, etc.	2
Root vegetables	3	Fish and meat ..	3
Other vegetables.. ..	3	Eggs	1 egg.
Fruits	3		

* "Population and Food Planning in India" by Baljit Singh, page 25 (Hind Kitabs Limited, Bombay).

55. The balanced diet of the type mentioned above is an ideal which is of theoretical value. In actual practice, the vast majority of our people have to depend mostly on cereals. " In the absence of any scope for an increase in the intake of other constituents in the diet for the country as a whole, adequacy of cereal consumption is important not only for efficiency of the worker but for maintaining life itself. While the rich and the well-to-do can replace a certain portion of cereals in their diet by fruits, milk, vegetables, meat, fish and eggs, the vast majority of the population, who are notoriously poverty-stricken, have no access to such substitutes. In their case, therefore, a minimum supply of 16 ounces of cereals per day per man is absolutely essential. If they get less there is a serious set-back in their efficiency, which is already low as the full quota of 2,800 calories is seldom available. But what is more tragic is the fact that any diminution in cereal consumption below a certain limit means actual starvation and death ".*

56. Discussing the food habits of the people in different parts of the country, Pravakar Sen points out, " The wide diversity of soil and climate in the country makes for a large diversity in the types of food produced in its different parts. Broadly speaking, as we go from east to west in the country or from south to north, rice-eating gradually yields place to wheat-eating. An average Assamese takes 80 per cent of his diet by weight in the form of rice; an average Bengalee, 75 per cent rice and 5 per cent wheat; an average Behari, 70 per cent rice, 10 per cent wheat and maize; *and an average inhabitant of C. P., 40 per cent rice, 25 per cent wheat and 15 per cent millets.* An average Madrassi takes 35 per cent rice and 45 per cent ragi; an average person in the province of Bombay, 30 per cent rice, 35 per cent wheat and 10 per cent millets; an average resident of the U. P., 10 per cent rice, 60 per cent wheat and 10 per cent millets; finally, an average Punjabi takes 75 per cent of his diet by weight in the form of wheat. "†

57. As the food requirements of the adults and young and of males and females differ, it is necessary to calculate the food requirements for a community on the basis of consumption units to be arrived at by assigning proper weights for sex and age differences. There are different formulae suggested by different authors and Lusk has suggested the following formulae.‡ The food consumption by the adult male is taken as the standard consumption unit and females and young persons are converted into adult equivalents at the rates of one female = 0.83 adult male and one young person = 0.7 adult male, a young person being defined as a boy or girl aged 15 or less.

58. Table 113 given below gives the calculation of the consumption units for Madhya Pradesh on the basis of the above formula :—

Table 113

Consumption units on the basis of the 1951 population of Madhya Pradesh.

Age-groups	Consumption units per individual	Population (in thousands)	Total number of consumption units for the population in column (3) (in thousands)
(1)	(2)	(3)	(4)
0—15	0·7	8,139	5,697
Males 15 and upwards ..	1·0	6,523	6,523
Females 15 and upwards ..	0·83	6,567	5,451
Age not stated..	1·0	19	19
Total ..		21,248	17,690

Instead of 14 ounces of cereals per consumption unit recommended by the Nutrition Advisory Committee if the figure of 16 ounces were adopted the total requirements of cereals for Madhya Pradesh would work out at about 2·883 million tons. It may be pointed out that the average cereal output available per adult in the Indian Union during 1946-47 and 1948-49 was only 13 and 13.1 ozs. per day.§

59. The net available quantity of the cereals including rice, wheat, juar and minor millets (kodon-kutki) in Madhya Pradesh including the integrated States during the last three years is given in Table 114 below. The average available quantity during the three years comes to about 3·383 million tons, showing that the State is now surplus to the extent of only about 0.5 million tons even after the addition of the integrated States. The figures of production are, again, taken from the " Statistics of rainfall, area, production and trade of agricultural commodities in Madhya Pradesh, Volume II " issued by the Department of Agriculture and mentioned above. The deductions in column (3) are based on the note given in Appendix ' H ' and the analysis made in paragraph 48 above.

* "Population and Food Planning in India" by Baljit Singh, page 31 (Hind Kitabs Limited, Bombay).
† "The Food Problem in India" by Pravakar Sen, pages 12-13 (Khoj Parishad, Calcutta.)
‡ " Food Planning for Four Hundred Millions" by Radha Kamal Mukerjee, page 11 (Macmillan & Co., Ltd., London, 1938).
§ "The Food Problem in India" by Pravakar Sen, page 3 (Khoj Parishad, Calcutta).

Table 114

Analysis of net available quantity for human consumption of cereals (rice, wheat, juar and kodon-kutki) in Madhya Pradesh including integrated States.

(Figures in thousand tons)

Year	Production	Deduct at 14 per cent for seed and wastage	Available for human consumption
(1)	(2)	(3)	(4)
1947-48	.. 3,970·5	555·9	3,414·6
1948-49	.. 3,667·3	513·4	3,153·9
1949-50	.. 4,161·7	582·6	3,579·1

60. Table 115 given below shows the food position in the State (excluding the integrated States) during the last four decades:—

Table 115

Theoretical analysis of cereal requirements (rice, wheat, juar and kodon-kutki) and quantity available in Madhya Pradesh excluding integrated States during the four decades on the assumption of 16 *ounces of consumption of cereals and minor millets per consumption unit.*

Decade	Age-groups	Consumption per individual	Mean population of decade in thousands	Total number of consumption units for the population in col. (4)	Quantity required @16 ozs. per day per consumption unit	Net available produce (in thousand tons) for human consumption	Difference between colums (6) andn (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1911—20	0—15 persons	.. 0·7	5,491	3,844	626	..	..
	Males 15 and upwards ..	.. 1·0	4,160	4,160	678	..	..
	Females 15 and upwards	.. 0·83	4,263	3,538	577	..	..
		Total ..	13,914	11,542	1,881	2,964	1,083
1921—30	0—15 persons	.. 0·7	5,891	4,124	672	..	..
	Males 15 and upwards ..	.. 1·0	4,382	4,382	714	..	..
	Females 15 and upwards	.. 0·83	4,437	3,683	600	..	..
		Total ..	14,710	12,189	1,986	2,967	981
1931—40	0—15 persons	.. 0·7	6,258	4,381	714	..	..
	Males 15 and upwards ..	.. 1·0	4,932	4,932	804	..	..
	Females 15 and upwards	.. 0·83	4,971	4,126	672	..	..
		Total ..	16,161	13,439	2,190	2,962	772
1941—50	0—15 persons	.. 0·7	6,606	4,624	753	..	..
	Males 15 and upwards ..	.. 1·0	5,379	5,379	877	..	..
	Females 15 and upwards	.. 0·83	5,437	4,513	735	..	..
	Age not stated	.. 1·0	10	10	2	..	..
		Total ..	17,432	14,526	2,367	2,701	334

61. In the above table, the figures in column 7 are obtained from the production data analysis in paragraph 48 above and briefly recapitulated below :—

(1)	1911—20 (2)	1921—30 (3)	1931—40 (4)	1941—50 (5)
Total production of cereals and minor millets (rice, wheat, juar and kodon-kutki) in thousand tons.	3,442	3,441	3,446	3,147
Deduct seed requirement	263	259	269	249
Balance	3,179	3,182	3,177	2,898
Deduct 6·25 per cent on production for losses due to wastage, etc. ..	215	215	215	197
Balance	2,964	2,967	2,962	2,701

62. The difference between the above figures which are given in column 7 of Table 115 above and the quantity required at 16 oz. per day per consumption unit given in column 6 of the table shows roughly the quantity available for export.

63. The actual net exports during the three decades ending with the year 1940-41 are given in the analysis made in paragraph 48 above. The actual exports and the theoretical exportable surplus during the three decades may therefore be now shown as follows :—

(Figures in thousand tons)

Decade (1)	Net actual export (2)	Theoretical exportable surplus (3)
1911—20	117	1,083
1921—30	68	981
1931—40	186	772

64. The figures of actual export and import are based on the rail-borne trade statistics and may therefore be taken as reliable. The result of the analysis therefore shows how futile it is to attempt to fix net import or export quotas of a State directly on the basis of estimates of production and consumption. If in fact there was really as much exportable surplus as theoretically calculated the figures of net export during the three decades when there was no restriction on export would hardly be so low as was actually the case. It is obvious, therefore, that the sources of error lie in making assumptions (*a*) with regard to the consumption rates and (*b*) the actual production estimates.

65. That the theoretical basis of assuming 16 oz. of cereals per adult man per day or 13·1 oz. *per capita* (or 3¾ maunds per annum per man) is obviously too low for this State is borne out by different considerations. As early as 1870 it was pointed out to the Famine Commission by the Local Government that the consumption rate for the Province was 5 maunds per annum per head. This estimate might have been somewhat on the higher side and again there might have been some decline of consumption standard since then. Even so there could be no justification for adopting the usually accepted standard of 16 oz. per consumption unit equivalent to 3¾ maunds per head per annum, although it is much more than what is issued in ration shops these days in the country where rationing is in force.

66. The Indian Council of Medical Research recently published results of diet survey in Madhya Pradesh and although the figures are very divergent they never the less indicate that the estimate of 16 oz. of cereals and millets per consumption unit per day is indeed too low for the State. The estimate of 16 oz. might probably be correct for the urban intelligentsia and on the low side for the urban manual workers, but it would be definitely too low for farmers and farm labourers living in areas where there is no food shortage in normal years. In fact the figures of the diet survey mentioned above show consumption of 25.8 to 31·4 oz. of rice per consumption unit in rural areas of the Raipur district, the poor agricultural labour class consuming 31·4 oz., agriculturists 26·6 oz. and the poor middle class 25·8 ozs. In the Mandla district the rural consumption of rice, wheat and other cereals taken together varies between 32·86 for poor agricultural classes to 45·83 oz. for aboriginal Koles per consumption unit per day. In the Nagpur district the consumption of rice, wheat and millets in the rural areas is shown to be 17·6 oz. for the agricultural labour class and petty landholders and the figure for Bhandara district is given as 22·5 oz. per consumption unit per day for the mine labourers. In the Chanda district in the rural areas the figures for the poor agricultural labourers and students are 27·3 and 23·8 oz. respectively, while for the Chhindwara district for the rural areas the figures for the poor agricultural labour class vary between 22·1 and 22·5. In the Amravati district the figure for rice, wheat, millets and other

cereals is as high as 30·4 oz. per consumption unit per day for the agricultural labour class in the rural areas. In the urban areas of the Jabalpur city the consumption per unit per day of rice and wheat is shown to be 16·7 for orphans while in the Nagpur city it is 19 oz. per unit per day for the Cotton Mill workers, 17·6 oz. for students and 12 oz. for middle class lodging and boarding houses. Thus although the figures of the diet survey as pointed out are very divergent and it is difficult to draw any specific conclusions from them, they clearly show that the assumption of 16 oz. of cereals per consumption unit is too low a figure for Madhya Pradesh.

67. In Table 111 given above where we have calculated the *per capita* consumption of the cereals and minor millets during the decades 1911—20 to 1931—40 when there was no food control and when exports were freely allowed on the basis of the available foodgrains for consumption we find that the *per capita* quantity available for consumption varied between 20·1 oz. during the decade 1911—20 to 16·9 oz. *per capita* per day during the decade 1931—40. It is, therefore, clear that the theoretical assumption that the cereal and millet requirements should be at the rate of 14 oz. or even 16 oz. per consumption unit per day is too low a figure for this State.

68. If we assume the figure of 16 oz. of consumption of cereals and minor millets *per capita* which is indeed on the low side as will be seen from the actual consumption estimates discussed above, the requirements of the State including integrated States on the basis of the population as at the 1951 Census would be 3·462 million tons while the available quantity of cereals and millets in the State including the integrated States during the last three crop years as given in table 114 has only been 3·414, 3·153 and 3·579 million tons, respectively.

69. We have already discussed the source of error in assessing actual consumption. The second source of error already referred to above is involved in estimating the production. In actual practice a slight error in estimating the rate of production might result in such a difference between the actual quantity produced and the actual quantity estimated as having been produced that any attempt to fix net import or export quotas directly on the basis of estimates of production and consumption must fail. Such estimates can and should only be used as corroborative of conclusions reached on the basis of information on actual stocks and off-take. Direct use must fail as we have seen because the magnitude of the net import/export is usually smaller than the unavoidable range of error in estimates of production as well as consumption.

70. Again it is not correct to suppose that (even if correctly determined) net export must be exactly equal to the excess of net production over consumption. For, up to a point, the quantity which comes into the market depends on what the producers choose to retain and this varies with the pressure on them to sell. This pressure is heavy when prices are low, and light when prices are high. Hence the need for Government procurement in these days. Again out of the grain which comes into the market how much is consumed by the townsmen or landless villagers within the State, and how much is exported, depends not on needs, but on effective demand. If the ban on export were to be removed at present, exports would increase enormously from the State because a deficit State like Bombay would naturally offer more money than our own people.

71. A third source of error in estimating the net quantity of grain available for human consumption lies in determining the seed requirements and wastage including cattle feed, etc. In 1870 the Local Government assumed the seed deductions to be one-seventh of the total yield; and the other deductions to be one-third of the seed deductions. In the calculations made use of by us above perhaps less margin is allowed for seed and cattle feed and more for wastage. There is some justification for the difference, and, on the whole, the combined allowance for all three is not perhaps far out.

CONCLUSIONS

72. We have seen that although the exact quantity of foodgrains needed and the exact quantity produced cannot be determined with the data at our disposal we are reasonably sure of the reliability of (*a*) the population figures, (*b*) the acreage figures and (*c*) the export-import figures. They suffice to show clearly (whatever allowance be made for the margin of doubt which must necessarily exist as regards the production rates and consumption rates) *that the* per capita *availability of grain must be steadily diminishing from decade to decade.*

SECTION X.—CONCLUDING REMARKS

Abnormal Dependence on Agriculture

1. In this Chapter we have seen that 76 per cent of the population of Madhya Pradesh belongs to the agricultural classes, of whom about 41 per cent are economically completely inactive, about 30 per cent are actual self-supporting persons and about 29 per cent are earning dependants. We have also seen that about 36 per cent of the agricultural classes have a secondary source of income, of whom 7 per cent are self-supporting persons, the remaining 29 per cent being earning dependants. Taking into consideration the secondary agricultural occupations of people belonging to the agricultural and non-agricultural classes, we find that it is the effort equivalent to that of about 63 lakhs of active workers in agriculture in Madhya Pradesh which produces all the agricultural commodities for the whole population of about 212 lakhs and for export, showing that one active worker produces food and other crops for about 3·4 persons in the population and also for meeting the exports from the State.

2. While 76 per cent of the entire population of Madhya Pradesh belongs to the agricultural classes, over 85 per cent of the people living in the rural areas depend on agriculture for their sustenance. This vast majority of people depending upon the vagaries of the monsoon have, again, to crowd their activities into a limited period of time and have no work for the rest of the year. Under-employment amongst these people is, therefore, obvious and is only underlined by the Census figures already discussed.

3. In the concluding paragraph of Section II of this Chapter, we have noticed how only 60 per cent of the working population among the agricultural classes have a secondary means of livelihood. This figure of 60 per cent comprises nearly 49 per cent who have, for their secondary means of livelihood, one of the agricultural activities, and only 11 per cent who have a secondary occupation other than agriculture. As a percentage of the total population of the agricultural classes, we have seen that only 7 per cent of them have a secondary source of income other than agriculture and of these 7 per cent only about 3 per cent get a subsidiary employment in some kind of industry of Livelihood Class V which includes among other industries, such industries as plantation, stock-raising, forestry, breeding of small animals, etc., which are again akin to agriculture. In other words, the Census figures show that the vast majority of the people belonging to the agricultural classes have little or no employment other than agriculture and that a very small fraction of them are able to supplement their income from other sources. The necessity of introducing cottage industries and other non-agricultural occupations as secondary means of livelihood amongst the agricultural classes can, therefore, hardly be overstressed.

4. The progress made in providing supplementary jobs to the cultivators in the vicinity of their homes in Japan, which is an essentially agricultural country like India, is well described by Chamanlal, "Home Industries have been fast converting Japan, an agricultural country, into an industrial country. The farmers who mainly depend on meagre agricultural incomes have been able to improve remarkably their standard by devoting their spare time to home industries and small industries. The following data shows the progress of the scheme to provide supplementary jobs to farmers in the vicinity of their homes :—

1937	..	25 per cent had supplementary jobs.
1938	..	54·3 per cent had supplementary jobs.
1941	..	58·1 per cent had supplementary jobs.
1942	..	61·5 per cent had supplementary jobs (Peak industrial and war production year).
1946	..	46·4 per cent had supplementary jobs (After the war).
1947	..	52 per cent had supplementary jobs (After the war).

Many war workers have again become farmers after war. The decrease in supplementary jobs is natural."*

The Surplus Agricultural Population

5. Although it is not possible to calculate the exact surplus population in agriculture, we can give an approximate idea of the alarming position by referring to the size of the economic holding referred to in the Governor's Independence Day message quoted in Section III of this Chapter. Assuming the economic holding to be 15 acres and the average cultivator's family to consist of 4·65 persons as pointed out there, and further assuming that the economic holding visualised for this State is so proposed that the relation between land, labour and capital are ideal in the sense that the labour of the family alone with a pair of bullocks and a plough would be able to get the best income under the existing circumstances without employing outside labour, we can calculate the population

* Cottage Industries and Agriculture in Japan by Chamanlal, page 72 (New Book Co., Ltd., Bombay).

which can economically be supported on 38,013,903 acres of land in holdings in Madhya Pradesh according to the Season and Crop Report for the year ending May 1950.* The figure of population works out to about 11,784,310. The actual agricultural population of Madhya Pradesh according to Economic Table B-I given in Part II-B of the Report is 16,148,879. In other words, we have about 4·365 million people more among our agricultural classes than we need for economic management of our cultivation. The proportion of persons between 20 to 60 in the population of Madhya Pradesh is about 47·7 per cent as shown in Subsidiary Table 1·18 in Part I-B of the Report. Assuming that these persons can be employed in industries, we find that over two million able-bodied persons, men and women, or about a million able-bodied men are wasting their time and energy and are an unnecessary burden on agriculture.

6. We may examine the question of the excess population in agriculture from another point of view by assuming the average size holding to be one that could conveniently be worked by a cultivator and his family with a pair of bullocks and a plough. Let us say it is one and a quarter times the present average holding whatever its exact size might be. This would mean a quarter reduction in the population dependent on agriculture which is over 16 millions. Again, we find that we have a surplus of over four millions.

7. These figures, though undoubtedly very rough, illustrate the magnitude of the surplus population in our agriculture and again bring home the nature of under-employment among our agricultural classes. In other words, they show what tremendous man-power is being wasted and how precarious the whole position is when such huge numbers fall back on agriculture as practically their sole occupation. Drawing attention to the tragedy which occurs due to almost complete dependence on agriculture when the crops fail, the Famine Commission observed as early as 1880 as follows :—

> "A main cause of the disastrous consequences of Indian famines and one of the greatest difficulties in the way of providing reliefs in an effectual shape is to be found in the fact that the great mass of the population directly depends on agriculture and that there is no other industry from which any considerable part of the community derives its support. The failure of the usual rains thus deprives the labouring classes as a whole not only of the ordinary supplies of food obtainable at prices within their reach, but also of the sole employment by which they can earn the means of procuring it. The complete remedy for this condition of things will be found only in the development of industries other than agriculture, and independent of fluctuations of seasons. With a population so dense as that of India, these considerations are of the greatest weight and they are rendered still more serious by the fact that the numbers who have no other employment than agriculture are in large parts of the country greatly in excess of what is really required for the cultivation of the land. So far as this is the case, the result must be that the part of the population which is in excess of the requirements of agriculture eats up the profit that would otherwise spring from the industry of the community. It is not surprising in a country thus situated that material progress is slow."

8. In the above paragraphs we have considered the question of the surplus population among the agricultural classes. The question of under-employment amongst the agriculturists is yet another very significant matter, to which attention has been pointedly drawn by the Grow More Food Enquiry Committee presided over by Shri V. T. Krishnamachari. The Report emphasises that in unirrigated areas the agriculturists can find work in farming operations for three to four months in a year. In irrigated areas, the period of employment is from six to eight months. The result is that roughly 4/5ths of the agricultural population is unemployed or under employed for nearly 2/3rds of the year and the remaining 1/5th is idle for nearly 1/3rd of the year. The Committee have also referred to the large number of agriculturists who are surplus to the land and are attached to it merely because there are no other occupations. Suggesting remedies for this alarming position, the Committee observe—

> "A solution for this evil, so deep-seated in our economy, has to be sought in the concurrent adoption of two-fold programme : first, rationalization of agriculture, *i.e.*, maximization of production in terms of yield per acre by steady improvement in agricultural methods and promotion of intensive cultivation and secondly, drawing away of surplus labour force from land into industries—cottage, small-scale and large-scale industries and tertiary occupations."

* The Season and Crop Report gives 29,669,963 acres as the area of all land in holdings in Madhya Pradesh, excluding Berar, and 8,343,940 as the occupied area in Berar.

Stressing the urgency of the problem, the Committee further observe, "And the time factor is vital. Action has become urgent and cannot be delayed any longer."

9. Pointing out the difficulty of absorbing the surplus population into industries and the urgent need of controlling population growth, Gorwala makes the following interesting analysis :—

> "Again, in this country 75 per cent of the people earn their living from the land, as compared with 25 per cent in England and 35 per cent in some other countries. Even the present number is a burden on the land and one of our principal needs is to reduce it by absorbing a fair proportion of the people constituting it into industries, large and small and into services, meaning thereby not merely employment under government, but all incidental occupations. Assuming however that all that we aim at is not to allow this percentage to increase, the additional population must clearly find room in the two channels already mentioned. Is this possible ? At present, the total factory strength in the country is 3 millions. It is sometimes held that for one new man in industry, three can find occupation in services. Now merely to double the existing factory population in the next 10 years would mean tripling existing industrial equipment, for new design equipment needs a much smaller labour force and most Indian factories carry some surplus labour. If indeed this increase could be brought about within the time stated and it must be remembered that even physically, it is a tremendous task, 12 million people at the most would be absorbed in industry and service as against an increase of 49 millions in the same period. The cost too must be counted. It has been estimated that a capital investment industry of Rs. 14,000 per worker is not in present circumstances too large. The absorption of 3 million extra workers in 10 years means provision of Rs. 4,200 crores. It will be seen that the problems of the absorption of even a small portion of the increase of population are of such dimensions that the most strenuous efforts seem unlikely to produce satisfactory results.
>
> The figures of additional population can be considered in relation to several other necessities, clothing, housing, education and the results will invariably be such as to reduce the calculator to despair. All in all, there can be no doubt that with the estimated population increase, a considerable lowering of the already low standard of living is inevitable, despite every possible effort. Such a lowering, even if it were desirable, a proposition to which no sensible person would agree, must lead to a state of instability ending in destruction and chaos. The submerged 90 per cent is rightly not content to continue today in its present deteriorated condition."*

Occupational Distribution in 1866

10. It may be pointed out here that in 1866, when the first Census of the old Central Provinces was taken, the agricultural population formed only 57 per cent of the entire population as against 76 per cent now. The following passage from the Census Report of 1866 is of considerable interest: "These figures show that 57 per cent of the population is engaged in agriculture. In the Punjab the proportion of agriculturist is 56 and in the North-West Province 64 per cent of the whole population. This comparison would tend to confirm the hitherto received opinion that the trading, manufacturing and artisan classes bear in these provinces a larger proportion to the total population than in some parts of India."

11. Describing the causes of the occupational unbalance and crowding in agriculture, Radhakamal Mukerjee says, "In India during the last three decades there has been a decline in the relative proportion of industrial employment in relation to the total number of workers, this accompanying a process which may be described as de-industrialisation. Between 1911 and 1931 the number of persons employed in industries declined by 2·2 millions, most industries, including textiles and industries of dress and toilet, having suffered loss of numbers of workers. The decline of village arts and handicrafts, coupled with the decrease of employment in large-scale organised industries, due to the depression, have increased the occupational unbalance in the country and the pressure on the impoverished soil. Not merely a forward programme of industrial planning, with the aid of a more vigorous tariff policy, but also systematic effort for the encouragement of inter-provincial migration and overseas settlement will contribute to mitigate the present overcrowding in agriculture."† Proceeding further he says, "But sooner or later

* "Report of the First All-India Conference on Family Planning", page 53 (Associated Advertisers and Printers, Ltd., Bombay : 1951).

† "Food Planning For Four Hundred Millions, by Radhakamal Mukerjee", pages XII--XIII (Macmillan and Co., Ltd., London, 1938).

India will have to adopt the ideal of the small family system which did exist in the past in order to prevent the appalling waste of life now apparent on all sides."

Distribution Amongst Livelihood Classes and the Uneconomic Holdings

12. While considering the relative proportion of different agricultural classes, we have noticed that about 65 per cent of the people belonging to the agricultural classes are owner-cultivators, about 27 per cent are agricultural labourers, about 6 per cent are cultivators of unowned land and about 2 per cent are non-cultivating owners of land. It is further noticed that in the backward part of the State, consisting of the East Madhya Pradesh Division, there is the largest percentage (75) of owner-cultivators with the smallest size of holdings; while in the most backward part of the State in the South-West Madhya Pradesh Division, the percentage of owner-cultivators is the least (41) and the size of holdings is largest. We have also seen how the agricultural holdings are on an average very small and uneconomic and how the history of the last 30 years shows that the size is unfortunately falling in spite of the efforts at consolidation of holdings. The imperative necessity of increasing the size of the holdings and the danger of further reduction in size as a result of the movement of redistribution of land have been stressed and the need of cautious approach to the problem has been pointed out.

Dependency

13. While analysing the economic status of the people of different agricultural livelihood classes, we found that the largest percentage of economically inactive people was to be noticed amongst the non-cultivating owners of land, the percentage being as high as 46. Among the owner-cultivators, the percentage of non-earning dependants was about 44, while amongst cultivators of unowned land it was about 41 and it was found to be the lowest being about 33 amongst the cultivating labourers.

Progress of Cultivation

14. During our discussion on progress of cultivation in relation to growth of general population, we have noticed the alarming fall in the area of cultivation *per capita* as well as in the production in the State as a whole, and in the Natural Divisions. We have noticed that for each individual in the State, the cultivation has diminished by 40·2 cents in thirty years. In the North-West Madhya Pradesh Division the reduction is 42·2 cents and in the East Madhya Pradesh Division it is 25·1. The largest reduction is in the South-West Madhya Pradesh Division, where the area of cultivation *per capita* has been reduced by 55·4 cents and where there is very little scope for extending cultivation. In fact in Berar, as we observed, 97·2 per cent of the culturable land was cultivated as early as 1901.

15. It has been pointed out that there has been little change in the net area sown as it existed at the end of the quinquennia 1921 and 1951 although it went up and again came down during the intervening period for reasons connected with fluctuations in prices and the nature of the seasons. The main cause of the abnormal fall in *per capita* cultivation during the three decades is, therefore, the rapid increase in population and failure of cultivation to keep pace with the growing population.

16. Reclamation and colonization of culturable land in our backward and undeveloped districts of Bastar, Surguja, Raigarh, Mandla and Chanda could perhaps be investigated side by side with the schemes for the amelioration of the backward classes in these areas. A survey of our forest land fit for cultivation is also overdue. Surprising as it may sound, but it is nevertheless true, that we have no specific districtwise figures of forest area suitable for cultivation.

17. The State contains about 62,442 square miles of forest land, which constitutes about 48 per cent of the total area of the State. According to Mukerjee, "for the needs of agriculture, 20 per cent of the land area is usually considered as proper amount of forest." Local estimates made by the Secretary of the Madhya Pradesh Forest Policy Committee show that one acre *per capita* should be adequate to meet the fuel and fodder needs of the village with an average population of 1,000 persons and 800 heads of cattle, cultivating about, 1,500 acres intensively. On the basis of the 1951 population of Madhya Pradesh, the forest land *per capita* comes to 1·88 acres. Apart from supply of timber, fuel, fodder and other forest produce to meet the requirements of the agriculturists and the general public and raw material for a number of industries and employment to a large population, the forests have very considerable importance in preserving the physical features, moderating the climate and minimising soil erosion. In fact, the protective functions of the forest are indispensable for conserving the fertility of the land and ensuring water-supply. Kingsley Davis rightly observes, "It must be remembered that the sub-continent has a tropical climate, with a combination over much of its area of strong sunshine and alternating torrential rains and drought. This is the sort of climate that quickly ruins soil after its natural covering has been

removed. In the Indian region, because of the growth of population, the expansion of cultivation, the excessive grazing of goats and cattle, and the demand for wood, drastic deforestation has occurred. Despite conservation measures taken in 1855 and 1878 the process has gone so far that cowdung must generally be used for fuel rather than for fertilizer. The loss of the forest cover on mountains and hills has brought increasingly destructive floods and has worsened the effects of drought."*

18. While, therefore, there is no doubt that in Madhya Pradesh there are extensive areas of valuable reserve forests particularly in the remote tracts, which are potential cultivable lands and some of which could be turned to agriculture, the need of undertaking a proper survey and marking out such areas with the utmost caution was perhaps never so great as it is now when all efforts are needed to increase food by extending and intensifying cultivation, but at the same time ensuring that in our anxiety to extend cultivation we do not diminish our forest area to such an extent that not only might there be a danger of shortage of essential forest produce but cultivation itself might be very adversely affected.

19. We conclude this discussion on the possibilities of extending cultivation by excising the forest land by referring to Subsidiary Table 4·18, which gives the agricultural land, the forest land and details of old fallow and similar culturable land, etc., in Madhya Pradesh and its different parts. The Deputy Commissioners were requested to report the probable area of land other than new and old fallow land suitable for cultivation in their districts and the figures received from them on the basis of their and their officers' general knowledge are also included in this table. These figures should be regarded only as illustrative of the actual area which could be brought under cultivation in these districts after adequate survey and after ascertaining the desirability of reducing the forest area in the particular districts. For the State and the Natural Divisions, the figures are summarised in Table 116 below :—

Table 116

Distribution of agricultural, forest, probable culturable and other lands in Madhya Pradesh and the Natural Divisions.

Nature of land	Madhya Pradesh	North-West Madhya Pradesh Division	East Madhya Pradesh Division	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)
gricultural land (in acres)	33,362,060	9,280,401	13,556,906	10,524,753
Forest land (in acres)	39,963,178	10,491,716	25,920,344	3,551,118
Not available for agriculture or forestry (in acres)..	3,036,201	941,757	1,539,900	554,544
Old fallow land and unallotted survey numbers (in acres)	4,485,961	2,448,056	1,498,995	538,910
Hills and rocks (in acres)	2,381,816	919,240	1,256,807	205,769
Total area in acres	83,229,216	24,081,170	43,772,952	15,375,094
Total area in square miles	130,046	37,627	68,395	24,024
Approximate area other than old fallow land and unallotted survey numbers believed to be fit for cultivation (in acres)	4,761,845	2,193,284	2,300,075	268,486

THE GRAIN PRODUCTION CAPACITY *Per Capita*

20. The actual reduction in the grain production capacity in pounds *per capita* during the last 30 years in the State as a whole has been as high as 175 lbs. In the North-West Madhya Pradesh Division, it has been 148 lbs ; in the East Madhya Pradesh Division 113 lbs; and in the South-West Madhya Pradesh Division, the reduction is as high as 285 lbs.

THE GRAVITY OF THE SITUATION

21. The grave consequences of the rapid population growth outstripping progress in cultivation have been discussed at length in the concluding

* "Population of India and Pakistan" by Kingsley Davis, *ibid*, page 208.

section of Chapter I, as well as in Section IX of this Chapter. That this is a phenomenon of recent years, has been established from the agricultural population statistics available from 1866 and summarised in Table 117 below :—

Table 117

History of cultivation per capita.

Year (1)	Cultivation in cents *per capita* (1 cent = 1/100 acre) (2)
1866	175
1891	180
1901	190
1921	175·3
1931	160·8
1941	145·1
1951	135·1

22. It will be seen that in the old Central Provinces we had 175 cents of land per individual in 1866, 180 cents in 1891 and 190 cents in 1901. In Berar, we had 290 cents of cultivation per individual in 1901. In other words, up to 1921 a balance was maintained between the growth of population and cultivation, but since 1921 the population is growing much faster than the progress of cultivation, threatening us with dire consequences as already explained. "The terrors and splendours of history are, in a way, stories of food. For instance, there is considerable justification in saying that 'had the feeding arrangements of Bourbon, France given satisfaction, the Bastille would probably never have been stormed, or had the steppes of Central Asia been able to feed all their rapidly breeding tribes, neither the Aryan nor the Moghul invasions of India might have occurred'. As such there is no disentangling of this theme from the future politics and economics of a country. The link between diet and destiny is, indeed, very close and direct—a link which the leaders of India can illafford to ignore."* Viewing with alarm the increasing population of India, Dr. Gyanchand said a decade ago, "With increasing population it is almost certain that either they will continue to starve as they are starving now, if food production and population increase at the same rate, or suffer from even worse pangs of hunger if they do not. Dr. Aykroyd, in the Health Bulletin referred to above says, 'experience has shown that human beings can adapt themselves at a low level of vitality, and with their powers impaired, to an insufficient ration and scarcely realize that they are underfed.' People in India have suffered a lot in pathetic contentment and still are suffering. They attribute the inhumanity of man to man to acts of God and watch passively the procession of death which daily passes before their eyes and which they themselves join long before their appointed time. 'They scarcely realize that they are underfed.' But they are underfed, and the cause of this is that the output of food is not enough to meet the minimum physiological requirements. There are clear signs that some of them are realizing rather acutely that they are underfed and the proportion of such people is bound to grow. This makes the whole economic and social position precarious, and economic and social changes involving removal of all obstacles which impede progress will have to be made much sooner than most people realise. But even when such changes do come and the discontent born of hunger can be directed into constructive channels—a task which will require the highest qualities of social craftsmanship-raising the 400 millions to a level at which there may be practically no under-feeding is going to be an enormous undertaking, which will be rendered almost impossible of accomplishment if the number of half-starved people goes on increasing. Is there over population in India ? The answer to the question is given by the facts which prove that semi-starvation exists in India on a vast scale and all that we can do at present can only mitigate it to a small extent. It is extremely dangerous in existing circumstances to make this state more acute by adding to our numbers."†

The Future Outlook

23. For the present Madhya Pradesh is in the happy position of being a surplus State and we are not in that difficult position as our neighbours in Bombay or Madras are. In Madras the area of cultivation *per capita* was 0·78 acre in 1921 and is now 0·54 acre compared to the corresponding figures of 1·75 and 1·35 in Madhya Pradesh. But, as we have seen, unless we are careful and prompt in resorting to appropriate measures in time we will not continue to remain in the happy position much longer. As we have seen, our yield rates of staple foodgrains have been deteriorating ; but even on the basis of the present production and the growth rate of population, it could be safely pointed out that the State would be deficit in her staple foodgrains within two decades unless an all-out effort is made to increase food production and to control population growth.

* "Indian Agriculture and its Problems" by A. N. Agrawal, page 101 (Ranjit Printers and Publishers, Chandni Chowk, Delhi).
† "India's Teeming Millions" by Gyan Chand (London : George Allen and Unwin).

Intensive Cultivation

24. We have already referred to the possibilities of extending cultivation. Intensification of agriculture is another remedy to increase our production. It is clearly indicated by the following comparative figures of outturns quoted by the Madhya Pradesh Forest Policy Committee :—

	Yield per acre in pounds		
	Wheat	Rice	Cotton
Madhya Pradesh ..	305	496	55
Uttar Pradesh	786	629	..
Bombay	447	967	80
Madras	..	1,048	88
India	636	829	89
Italy	1,383	2,963	170
Japan	1,713	2,053	..
U. S. A.	846	1,413	268
China	989	2,433	204

25. While these figures indicate the great difference in the outturns, they do not by themselves indicate that we could also produce 2,963 lbs. of rice per acre instead of 496 lbs. as we do. Agricultural development depends on social, economic and technical factors. Thus, for example, if the soil is extremely poor or the climatological circumstances are adverse, a farmer could hardly hope to reach the Italian standard even if he were able to bring all the resources of the Italian farmer to bear on his soil. The economic and social factors have been referred to by us to some extent in the previous sections. They include the excessive dependence of our population on agriculture, the uneconomic size of holdings, which are multiplying with increase in population, universality of marriage and the application of the law of inheritance, fluctuating prices, lack of adequate credit and marketing facilities, the primitive ways of cultivation, apathy towards co-operative principles and co-operative or collective farming and a number of other defects in our agricultural economy. Kingsley Davis observes, "India's disadvantage in this matter is *not* due to the natural deficiency of the land itself. As previously noted, the sub-continent includes great tracts of the richest land in the world. The low productivity is due rather to the way the land is handled—to the low proportion of capital invested in it—and hence is correlated with the farmers' poverty and density on the land. The smallness of the capital investment in farming is shown in numerous ways—in the absence or inadequacy of conservation measures, in the primitive techniques of cultivation, in the non-use of both natural and artificial fertilizers, in the failure to improve the breeds of plants and animals. The inevitable consequence is that the land does not produce as much as it otherwise could."*

26. Agricultural development has, therefore, to be comprehensive if it is to be successful. That a comprehensive agricultural development programme can succeed in intensifying cultivation is pointed out by Bimal Ghose, who says, "In Russia, for example, the yield per hectare of all grains increased in 1937 by 33 per cent over the average yield during 1928–32."†

Protective Foods

27. We will deal with dairy and poultry farmings, pisciculture and plantation of fruits, etc., in Chapter V, dealing with the industrial population, but here it is necessary to refer to these sources of protective food and the great necessity of developing them. It is true that most of our people are faced with the problem of getting some kind of food to keep body and soul together and our first effort is, undoubtedly, to make sure of our minimum requirements of the staple foodgrains. Kingsley Davis rightly remarks, "It seems hardly an exaggeration to say that lack of calories, vitamins and essential nutrients is the greatest single source of death in Indian sub-continent. It produces specific dietary diseases that are fatal, it lowers resistance to most other diseases, and it lessens the strength, incentive, and effective intelligence which are necessary if the people are to remedy their situation."‡ We cannot ignore the vital relation between dietary deficiencies and the high mortality and morbidity rates. The Health Survey and Development Committee have pointed out the nature of the diet of our millions, "An insufficient and ill balanced diet giving only about 1,750 calories per day (as against the needed 2,400 to 3,000 calories) is typical of diets consumed by millions in India."§ Pointing out the deficiency in food supply, Kingsley Davis remarks, "The deficiency in food supply has been estimated as 17 per cent in terms of calories, 38 per cent in terms of proteins and 64 per cent in terms of fats. Between a third and a half of Indian families are undernourished."‖ Again, the Public Health Commissioner to the

* "Population of India and Pakistan" by Kingsley Davis, *ibid*, page 208.
† "Planning For India" by Bimal C. Ghose, page 84 (Second Edition, Humphrey Milford, Oxford University Press).
‡ "The Population of India and Pakistan" by Kingsley Davis, (*op. cit.*) page 59.
§ Quoted in *ibid*, page 206.
‖ *Ibid*, page 206.

Government of India rightly remarked in his Report for 1935, "No preventive campaign against malaria, against tuberculosis or against leprosy, no maternity relief or child welfare activities, are likely to achieve any great success, unless those responsible recognise the vital importance of the factor of defective nutrition and from the very start give it their most serious attention. Abundant supplies of quinine and the multiplication of tuberculosis hospitals, sanatoria, leprosy colonies, maternity and child welfare centres are no doubt desirable, if not essential, but none of these go to the root of the matter. The first essentials for the prevention of disease are a high standard of health, a better physique and a greater power of resistance to infection. These can only be attained if the food of the people is such as will give all the physiological and nutritional requirements of the human frame."

THE NEED OF CONTROLLING POPULATION GROWTH

28. The problem of controlling population growth with its different implications has been examined in the concluding section of Chapter I and the discussion in this Chapter relating to the food resources further shows the need of promptly adopting a progressive social policy of birth-control. According to Harold L. Ickes, we are at least 10 per cent short of our food needs in the whole world.* Discussing the relation between population and food supply in Asia, Radhakamal Mukerjee refers to the increase in cultivation all over and points out, "These increases have not mitigated the enormous pressure of population on available subsistence, even with a low standard of living among the Asiatics. Its magnitude will be realized if we remember that half the human race has run short of cultivated land to the extent of at least 20 per cent, and that, as estimated at the United Nations Conference on Food and Agriculture at Hot Springs, 'three quarters of the inhabitants of Asia were living below decent health standards'."† Describing the position in India, Mukerjee says, "From the year 1930-31, the margin between food supply and population began steadily to decrease, until in 1937-38 food production was less by 15 per cent and food supply available for consumption by 7 per cent, as compared with the population growth since 1910 – 15."‡ Proceeding further, he says, "The chronic underfeeding of *at least one-third of the population* is at the root of India's low standard of health and inefficiency in every field."§

29. We have already referred to the great necessity of increasing our food supply and developing our industries. Considering the population question in all its aspect, it is in our own interest and the interest of humanity that we also realise the importance of controlling the growth of our numbers and are not swayed by false notions of increasing the manpower to increase our strength, because the fast growing population will undo our efforts to raise our standard of living and instead of building up a healthy and powerful nation to withstand any aggression, we will have semi-starving people who will fall an easy prey not only to famine or disease but even to an organised aggressor or a mischief-maker.

30. Describing the need of countrywide Birth-control propaganda, Shri Radhakamal Mukerjee says, "A rational family planning and education of the masses in birth-control must be accepted as the most effective means of combating population increase. The small family system, deliberately planned and integrated with other habits and traditions which regulate different sides of domestic life, must now be adopted in India as the social and ethical norm, and such a custom as polygamy, which, by encouraging a large family, has become an obvious economic misfit, must be declared illegal."‖

* "Races, Lands and Food" by Radhakamal Mukerjee, page 3 (Dryden Press, New York, 1946).
† *Ibid*, page 65.
‡ *Ibid*, page 48.
§ *Ibid*, page 51.
‖ "Food Planning For Four Hundred Millions" by Radhakamal Mukerjee, page 217 (Macmillan and Co. Ltd., London, 1938).

CHAPTER V

Non-Agricultural Classes

SECTION I.—PRELIMINARY REMARKS

1. In this Chapter we will deal with the distribution of the non-agricultural classes and their economic classification.

Reference to Statistics

2. The main economic tables for the 1951 Census are contained in Part II-B of the Census Report. As pointed out before they are based on the Indian Census Economic Classification Scheme, 1951, prepared by the Registrar-General of India, and reproduced in the same volume. As mentioned in paragraph 2 of Sectior VI (Livelihood Pattern) of Chapter I it is of the utmost importance to study the economic classification scheme and its elucidation as given in Appendices 'U' and 'P' to appreciate the definitions of the terms used and the significance of the data reviewed in the report and also to guard against the possibility of erroneous comparison of figures with figures collected in different economic surveys in the Country and not really comparable with the figures collected at the 1951 Census.

3. Subsidiary tables of the fifth series given in Part I-B of the Report form the basis of the review contained in this Chapter. Subsidiary Table 5·1 gives the proportion of non-agricultural classes in the State and the different districts and also shows the classification of 10,000 persons of all non-agricultural classes into each class and sub-class. The classification of employers, employees and independent workers is for the first time undertaken during the 1951 Census and is included in Subsidiary Table 5·1.

4. Two additional tables 5·1 (A) and 5·1 (B) have been included in the series giving the details of the distribution of the rural and urban non-agricultural population in the State and its different parts. They contain the same information for the rural and urban areas which is included in Subsidiary Table 5·1 for the general population.

5. Subsidiary Tables 5·2 to 5·5 deal with each of the non-agricultural livelihood classes separately and show the number per 10,000 persons of each livelihood class in each sub-class. The number per 10,000 self-supporting persons of each livelihood class, who are employers, employees and independent workers, is also given in these Subsidiary Tables which further contain a complete analysis of the secondary means of livelihood of 10,000 persons of each livelihood class belonging to the non-agricultural category.

6. Subsidiary Tables 5·7 to 5·17 give the territorial distribution of 10,000 self-supporting persons of the different industries and services in the State by divisions and sub-divisions.

7. The District Index of Non-Agricultural Occupations given in Part I-B of the Report gives the details of the actual number of persons engaged in the different divisions, sub-divisions and groups of all Industries and Services in the State, the Natural Divisions and the Districts.

Reliability of the Data

8. The actual economic information collected at the Census and reviewed here gives as pointed out before (Chapter I, Section VI, paragraphs 3 and 4) a good and reliable picture of the condition of the people of the State in respect of the enquiries made of them.

Comparability of the Statistics with those of the Previous Censuses

9. The question of comparison of economic data collected at the different Censuses has been discussed already (Chapter I, Section VI, paragraphs 21 to 25,) and need not be repeated here. But the caution given in paragraph 2 of this section above should be borne in mind so that the danger of trying to compare incomparable figure and drawing erroneous conclusions might be avoided.

SECTION II.—NON-AGRICULTURAL POPULATION RATIOS; SELF-SUPPORTING PERSONS AND DEPENDANTS; SECONDARY MEANS OF LIVELIHOOD OF NON-AGRICULTURAL CLASSES.

1. The non-agricultural population of Madhya Pradesh is less than a quarter of the entire population of the State. Subsidiary Tables 5·1, 5·1 (A) and 5·1(B) given in Part I-B of the Report give the proportions of the non-agricultural population in different parts of the State. The position is summarised in Table 118 below in respect of the State and the Natural Divisions :—

Table 118

Distribution of non-agricultural population in Madhya Pradesh and the Natural Divisions and Sub-Divisions.

State, Natural Divisions and Sub-Divisions	Non-agricultural classes per 1,000 of		
	General population	Rural population	Urban population
(1)	(2)	(3)	
Madhya Pradesh	240	146	843
North-West Madhya Pradesh Division.	297	185	916
Nerbudda Valley	356	201	934
Plateau	201	163	811
East Madhya Pradesh Division.	165	124	854
Chhattisgarh Plain	136	98	874
East Maratha Plain	245	195	821
South-West Madhya Pradesh Division and West Maratha Plain.	320	152	795

2. It will be noticed that in the rural areas of the State only 14·6 per cent of the general population belongs to the non-agricultural classes, while in the urban areas the percentage is 84·3. It is interesting to note that the actual population of non-agricultural classes living in urban areas is 2,424,337, while that living in the rural areas is 2,674,317.

Ratios in the Natural Divisions

3. Among the Natural Divisions and Sub-divisions of Madhya Pradesh, the highest percentage (35·6) of non-agricultural classes is to be found in the Nerbudda Valley, where again their percentage in the rural area (20·1) as well as in the urban area (93·4) is the highest. The West Maratha Plain comes next to the Nerbudda Valley in respect of the percentage (32) of the non-agricultural population, although the percentages in the rural (15·2) and urban (79·5) areas are lower than the corresponding percentages in the East Maratha Plain for the rural (19·5) and urban (82·1) parts. The districts, which have a high percentage of non-agriculturists in the general population compared to the figure for the State and Natural Divisions, are Nagpur (57·0), Jabalpur (42·7), Wardha (34·8), Hoshangabad (34·0), Nimar (33·2), Sagar (30·7) and Bhandara (29·0). Nagpur and Jabalpur are obviously at the top on account of the industrial activities in the cities as well as in the rural areas of the districts as already mentioned in Chapter II. Wardha and Nimar have their well-known textile industries. Bhandara and Sagar have the flourishing 'Bidi' Industry. Bhandara has also the rich manganese mines as already referred to in Chapter II. In Hoshangabad the percentage is high not only on account of the relatively greater percentage of people engaged in commerce and transport, as will be seen from a perusal of Subsidiary Table 5·1, but also on account of the rural industries already described in Chapter II. As has been remarked, the Railway line passes through the entire district placing almost all the villages within easy reach.

Dependency

4. Among the non-agricultural classes in the State about 54 per cent are economically inactive being non-earning dependants. The corresponding percentage for agricultural classes is about 41 as we have seen in Subsidiary Table 4·1. The percentage of earning dependants amongst the non-agricultural classes is also lower being about 14·4 compared to 28·9 for the agricultural classes. The dependency ratios in the State and its different parts is summarised in Table 119 given below:—

Table 119

Self-supporting persons and dependants in Madhya Pradesh and the Natural Divisions and Sub-Divisions.

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of all Non-Agricultural classes in sub-classes of								
	General Population			Rural Population			Urban Population		
	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	3,115	5,442	1,443	3,249	4,648	2,103	2,966	6,319	715
North-West Madhya Pradesh Division.	3,131	5,714	1,155	3,194	5,084	1,722	3,062	6,414	524
Nerbudda Valley	3,121	5,855	1,024	3,172	5,154	1,674	3,081	6,417	502
Plateau	3,160	5,303	1,537	3,230	4,966	1,804	2,935	6,395	670
East Madhya Pradesh Division ..	3,375	4,748	1,877	3,415	4,291	2,294	3,282	5,838	880
Chhattisgarh Plain	3,414	4,851	1,735	3,467	4,405	2,128	3,299	5,830	871
East Maratha Plain	3,317	4,591	2,092	3,340	4,130	2,530	3,251	5,853	896
South-West Madhya Pradesh Division and West Maratha Plain.	2,852	5,852	1,296	3,012	4,726	2,262	2,765	6,463	772

Dependency in the Natural Divisions

5. Amongst the Natural Divisions the highest percentage of non-earning dependants (58·52) is to be found in the general population in the South-West Madhya Pradesh Division, while among the sub-divisions the Nerbudda Valley tops the list with 58·55 per cent non-earning dependants. The percentage of non-earning dependants is the lowest in the Nerbudda Valley, being only 10·24. A perusal of Subsidiary Table 5·1 in Part I-B of the Report shows that among the districts Nimar in the Nerbudda Valley Sub-Division and Akola in the West Maratha Plain stand out as those having the largest percentage of non-earning dependants. In Nimar about 63 per cent of the non-agricultural classes in the general population do nothing and only about 9 per cent are working dependants while in Akola the corresponding figures are 60 and 11.

Dependency in Urban and Rural Areas

6. Table 119 shows that the percentage of non-earning dependants among the non-agricultural classes in the urban areas is as high as 63·19 per cent compared to 46·48 per cent in the rural parts of the State. Similarly, the earning dependants in the urban areas are hardly 7 per cent, while in the rural areas they are about 3 times in proportion, the percentage being about 21. One obvious reason for this is that in towns and cities the dependants of well-to-do people do not work partly because of social customs and want of adequate facilities and partly due to the fact that they do not find it necessary to work. In the rural areas on the other hand the social barriers are less effective and facilities (although grossly inadequate) do exist to a certain extent to enable the dependants of non-agriculturists also to take up subsidiary employments.

7. The discussion about non-earning and earning dependants given above in respect of the general population holds good generally for the urban population. In the rural areas the position (as revealed by Subsidiary Table 5·1 (A) and Table 119 given above) is a little more encouraging, although the comparative differences between the Natural Divisions in respect of dependency are of the same nature as in the case of the general population. Thus for example the highest percentage of non-earning dependants in the rural area is to be found in the Nerbudda Valley (51·54), while the lowest percentage is in the East Maratha Plain (41·3). As has been pointed out, in this Sub-Division, which consists of Chanda, Bhandara and Balaghat there are the mining activities and also the 'bidi' industry in the Bhandara and Balaghat districts which provide non-agricultural employment to the people to a certain extent. The number of earning dependants is again lowest (16·74) per cent in the Nerbudda Valley in the rural areas and highest (25·30) per cent in the East Maratha Plain.

Distribution in Livelihood Classes

8. Table 120 given below shows that the bulk of the people in the non-agricultural classes (about 44 per cent) in the general population in Madhya Pradesh belong to Livelihood Class V (Production other than cultivation) and about 32 per cent to Livelihood Class VIII (Other services and miscellaneous sources). Thus about 76 per cent of the people belong to these two livelihood classes. Of the remaining 24 per cent, commerce claims about 18 per cent and transport about 6 per cent.

Table 120

Distribution of the people belonging to the non-agricultural classes in the different livelihood classes in Madhya Pradesh and its several parts.

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of all Non-Agricultural classes in each livelihood class of											
	General Population				Rural Population				Urban Population			
	V—Production other than cultivation	VI—Commerce	VII—Transport	VIII—Other Services and miscellaneous sources	V—Production other than cultivation	VI—Commerce	VII—Transport	VIII—Other Services and miscellaneous sources	V—Production other than cultivation	VI—Commerce	VII—Transport	VIII—Other Services and miscellaneous sources
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh	4,417	1,829	612	3,142	5,427	1,345	363	2,865	3,303	2,363	886	3,448
North-West Madhya Pradesh Division.	4,165	1,856	716	3,263	5,106	1,452	468	2,974	3,118	2,305	992	3,585
Nerbudda Valley ..	3,946	1,933	753	3,368	4,840	1,495	463	3,202	3,229	2,285	985	3,501
Plateau	4,803	1,630	609	2,958	5,558	1,379	475	2,588	2,357	2,443	1,043	4,157
East Madhya Pradesh Division.	5,286	1,479	505	2,730	6,138	1,094	314	2,454	3,248	2,399	962	3,391
Chhattisgarh Plain ..	4,663	1,562	580	3,195	5,553	1,133	374	2,940	2,711	2,504	1,033	3,752
East Maratha Plain ..	6,228	1,354	391	2,027	6,969	1,040	228	1,763	4,200	2,213	836	2,751
South-West Madhya Pradesh Division and West Maratha Plain.	3,824	2,136	617	3,423	4,515	1,674	314	3,497	3,450	2,387	781	3,382

9. It has to be remembered that Livelihood Class V contains people engaged in Primary Industries not elsewhere specified (Division 'O') including stock raising, rearing of small animals, plantation, industries, forestry, hunting and fishing. Subsidiary Table 5·7 gives the distribution of the self-supporting people in the non-agricultural classes according to Natural Divisions. Division '0' claims 9·21 per cent of the people. We might, therefore, get a better picture of the people depending on the industries other than those of Division '0' in the State by deducting about 10 per cent from the 44 per cent mentioned above. This means that of the people in the non-agricultural classes only about one-third derive their principal means of livelihood from these industries.

Distribution by Livelihood Classes in Natural Divisions

10. Table 120 given above also shows that among the Natural Divisions the South-West Madhya Pradesh Division has the largest percentage of people (21·36 per cent) in Livelihood Class VI (Commerce) compared to the State average of 18·29 per cent and that of 18·56 for North-West Madhya Pradesh Division and 14·79 for the East Madhya Pradesh Division in the case of the general population. Subsidiary Table 5·1 given in Part I-B of the Report shows that among the districts the largest percentage of commercial people (about 26) is to be found in Akola. Amravati (24·96) and Buldana (24·91) are also districts of Berar where commercial activities are brisk.

11. About one-third of the total non-agricultural population of the State belongs to Livelihood Class VIII (Other services and miscellaneous sources). The highest percentage (34·23) is to be found in the South-West Madhya Pradesh Division and the lowest (27·30) in the East Madhya Pradesh Division as is clear from Table 120 given above.

12. Livelihood Class VII (Transport) claims 6·12 per cent of the non-agricultural population. The reasons for the low percentage of people in this Livelihood Class have already been discussed in Chapter I, Section VI, paragraph 9, where the scheme of classification has been explained. Among the Natural Divisions the highest percentage (7·16) is to be found in the North-West Madhya Pradesh Division and the lowest (5·05) in the East Madhya Pradesh Division. The Nerbudda Valley Sub-Division through which the Central Railway passes and in which some of the big Railway centres are situated, tops the list with a percentage of 7·53.

Distribution of Non-Agricultural Classes into Livelihood Classes V to VIII in Rural and Urban Areas

13. Table 120 above also gives the distribution of 10,000 persons of the non-agricultural classes of rural and urban areas among the four non-agricultural livelihood classes. While discussing the Subsidiary Tables 2·4 and 3·7 in Chapters II and III the distribution of the general population in rural and urban areas has already been considered and we will now examine the distribution in the individual livelihood classes.

Distribution in Rural Areas in Livelihood Class V

14. While referring to Subsidiary Table 2·4 in Chapter II (Section VI, paragraphs 12 to 27), the districts in which the rural population contained more than 10 per cent of people of the general population in Livelihood Class V were individually considered. These districts included Jabalpur, Hoshangabad, Chhindwara, Chanda, Bhandara and Nagpur. A perusal of Subsidiary Table 5·1(A) in Part I-B of the Report shows that in addition to the above-mentioned districts several other districts also contain a relatively high proportion of the people of the non-agricultural classes in rural areas in Livelihood Class V. Thus, all the districts of the East Madhya Pradesh Division, in which stock raising and forestry as well as mining and processing of foodstuffs are very important industries, as seen from Subsidiary Table 5·7 in Part I-B of the Report, have almost all over 50 per cent of the non-agricultural classes in Livelihood Class V in the rural areas. Bastar and Surguja claim almost 70 per cent of the people in this class. Surguja has a thriving coal mining as well as lac industry, which are clearly indicated in Subsidiary Tables 5·7 and 5·8; while Bastar has the highest figure in the Division in respect of stock raising. The grain processing industry and the cottage industry of smelting iron-ore and making implements is also noteworthy in the Bastar district. We will discuss the question of rich iron deposits of the Bastar district in Section V. The Bhandara district stands at the top in the whole State with over 74 per cent of the non-agricultural classes in rural areas belonging to Livelihood Class V. The 'Bidi' and mining industries, which are reflected in Subsidiary Table 5·7, are mainly responsible for this phenomenon.

15. In the South-West Madhya Pradesh Division, the high percentage in Livelihood Class V in the rural areas is due to the manganese mining industry of the Nagpur district, the coal mining in the Yeotmal district and miscellaneous industries of division 4 including brick and tile-making, pottery, carpentry,

basket making, etc., and also due to the primary industries of division 'O' including stock-raising, forestry, etc., which are common in the hilly districts of Buldana and Yeotmal and the Melghat area of the Amravati district. A perusal of Subsidiary Table 5·8 shows that forestry figures in Amravati, Yeotmal and Buldana are the highest in the Division. A perusal of the District Index of Non-agricultural Occupations, given in Part I-B of the Report, also shows the existence of the above industries.

16. In the North-West Madhya Pradesh Division apart from Jabalpur, Hoshangabad and Chhindwara already referred to in Chapter II as pointed out in paragraph 3 above of this Section, the districts of Sagar, Mandla and Betul also attract attention. Subsidiary Table 5·8 shows that figures of stock-raising are the highest in Mandla in the division followed by Betul. In the Nerbudda Valley, Sagar similarly tops the list. In the Plateau Sub-Division, the forestry figures are the highest for Betul. Subsidiary Table 5·10 clearly shows how Sagar tops the list in the Division in its tobacco and 'bidi' industry. In fact it is second only to Bhandara in the State as a whole.

Distribution in Livelihood Class VIII in Rural Areas

17. Livelihood Class VIII (Other services and Miscellaneous sources) is next in importance to Livelihood Class V in the rural areas, as will be seen from Table 120 above and Subsidiary Table 5·1 (A). The largest percentage (about 35) is to be found in the South-West Madhya Pradesh Division. This is the richest division in the State and the rural population is also comparatively better off and can afford to engage servants. Subsidiary Table 5·7 also shows that the percentage under health and educational services is also high in the South-West Madhya Pradesh Division. Akola with its flourishing trade in the rural areas tops the list not only in Livelihood Class VI (Commerce), but also in this Class VIII. The North-West Madhya Pradesh Division is second in claiming about 30 per cent of people in Livelihood Class VIII followed by the East Madhya Pradesh Division with about 24·5 per cent.

Distribution in Livelihood Class VI (Commerce) and VII (Transport) in Rural Areas

18. A comparison of Subsidiary Table 5·1 (A) in Part I-B of the Report (or Table 120 given above) with Subsidiary Table 2·4 (discussed in Chapter II already) shows that the pattern of distribution of the non-agricultural classes in the rural areas under Livelihood Class VI (Commerce) and VII (Transport) is as follows :—

State and Natural Divisions	Percentage of entire rural population in Livelihood Class		Percentage of non-agricultural classes only in rural areas in Livelihood Class	
	VI	VII	VI	VII
	Commerce	Transport	Commerce	Transport
(1)	(2)	(3)	(4)	(5)
Madhya Pradesh ..	1·96	0·53	13·45	3·63
North-West Madhya Pradesh Division.	2·68	0·87	14·52	4·68
East Madhya Pradesh Division.	1·35	0·39	10·94	3·14
South-West Madhya Pradesh Division.	2·55	0·48	16·74	3·14

19. It will be observed that as far as Livelihood Class VII is concerned, the pattern of distribution in the Natural Divisions is similar. The highest percentage in each case is to be found in the North-West Madhya Pradesh Division, while in the case of the East and South-West Madhya Pradesh Divisions, the proportions are of practically a similar order. In the case of Livelihood Class VI, however, the percentage in the South-West Madhya Pradesh Division is the highest when considered with reference to the non-agricultural classes alone, but when considered with reference to the entire rural population the highest percentage is found in the North-West Madhya Pradesh Division. The difference is due to the fact that the proportion of traders relative to the number of people in the non-agricultural classes is higher in the South-West Madhya Pradesh Division than with reference to the people of all the livelihood classes. The discussion in Chapter II, Section VI, with regard to the general distribution of the people of Livelihood Classes VI and VII would generally hold good when the distribution is considered with reference to the non-agricultural classes only.

Distribution of People of Livelihood Class V (Production other than cultivation) in Urban Areas

20. Subsidiary Table 3·7 in Part I-B gives the distribution of 10,000 persons of all livelihood classes of the urban areas. Table 120 above and Subsidiary Table 5·1 (B) give the distribution of 10,000 persons of all non-agricultural classes only who reside in the urban areas. It is observed from Subsidiary Table 3·7 that the largest percentage (28·57) of people of all livelihood classes in urban

areas belonging to Livelihood Class V are to be found in the North-West Madhya Pradesh Division followed by East Madhya Pradesh Division with 27·75 per cent and South-West Madhya Pradesh Division with 27·43 per cent. Table 120 given above as well as Subsidiary Table 5·1 (B), however, show that the largest percentage (34·5) of people of agricultural classes residing in the urban areas are to be found in the South-West Madhya Pradesh Division. This is followed by the East Madhya Pradesh Division (32·48) and the North-West Madhya Pradesh Division (31·18). The East Maratha Plain Sub-Division with the districts of Chanda, Bhandara and Balaghat has got 42 per cent of the urban non-agricultural population in Livelihood Class V. This Sub-Division tops the list even in Subsidiary Table 3·7 for the urban population and the reason is clearly associated with the extensive 'bidi' industry even in the urban areas. The mining activities in these districts have also helped in increasing the percentage. It is interesting to notice that the percentage of the non-agricultural classes belonging to Livelihood Class V in the urban areas of the Balaghat district is as high as 45·48 compared to 40·96 for Nagpur—the most industrialized district of the State. In the Bhandara district the percentage is 41·74 and in Chanda 41·05.

21. The reason for the very high percentage of people in Livelihood Class V in the urban areas of the Balaghat district are that the urban population is very small and the head offices of the flourishing mining and 'bidi' industries are all located in the urban areas. Of late Balaghat town as we have already seen in Chapter III has rapidly grown for the same reason. The favourable prices of manganese have increased the rush in Balaghat.

Distribution in the Urban Areas under Livelihood Class VI

22. The Chhattisgarh Plain with its flourishing grain and forest produce trade stands out first in Table 120 above and Subsidiary Table 5·1 (B) with 25·04 per cent of people in Livelihood Class VI, followed by the Plateau with 24·43 per cent. The West Maratha Plain (23·87) per cent and the Nerbudda Valley (22·85 per cent) come next in order of importance.

23. Among the districts of the State, Buldana (30·30), Yeotmal (29·93) and Akola (29·86) have the largest percentage of non-agricultural people in Livelihood Class VI. Akola is well known for its all-round commercial activities. The high figure in Buldana and Yeotmal is due to the important trade in forest produce, grain and cotton. Amravati (28·09) is almost as important as Akola in its commercial activities.

24. In the East Madhya Pradesh Division the Bastar district possesses the largest percentage of non-agricultural people in Livelihood Class VI in the urban areas. Actually in this district Jagdalpur and Kanker are the only two towns with population of 13,793 and 4,924 respectively. These towns have a flourishing trade in forest produce and grain which accounts for the high percentage in Livelihood Class VI. Raipur, Bilaspur, Durg and Raigarh are all very important districts from the point of view of trade in grain and forest produce.

25. In the North-West Madhya Pradesh Division again the Mandla district stands out with 27·73 per cent of the non-agricultural classes belonging to Livelihoood Class VI in the urban areas consisting of the town of Mandla only. This small town does important trade in forest produce and grain. The Chhindwara district (25·65 per cent) stands next to Mandla in the Plateau Sub-Division and its commercial activities in the urban areas are connected with the trade in forest produce, grain and minerals.

26. In the Nerbudda Valley the Hoshangabad district (28·16 per cent) has a very flourishing trade in pulses and wheat and also in forest produce. The grain market of Piparia and the timber markets of Harda and Timarni are well known in the State.

Distribution in Livelihood Classes VII and VIII in Urban Areas

27. The distribution of the non-agricultural people of the urban areas into Livelihood Classes VII (Transport) and VIII (Other services and miscellaneous sources) as given in Subsidiary Table 5·1 (B) follows the pattern as given in Subsidiary Table 3·7 for the people of all livelihood classes in the urban areas which is already discussed in Chapter III.

Livelihood Class V (Production other than cultivation).—Economic Analysis

Dependency

28. The examination of Subsidiary Table 5·2 in Part I-B of the Report shows that in Livelihood Class V (Production other than cultivation) about 49·4 per cent of the people are non-earning dependants in the State. In other words, about half the population of this livelihood class is economically inactive. The break-up for the rural and urban areas further shows that the proportion of non-earning dependants is much higher (about 60 per cent) in the urban areas than in the rural areas (about 43 per cent). The position is summarised in Table 121 given on next page.

Table 121

Proportion of self-supporting persons and dependants of Livelihood Class V in Madhya Pradesh and its different parts.

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of Livelihood Class V in each sub-class								
	General population			Rural population			Urban population		
	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	3,144	4,940	1,916	3,234	4,343	2,423	2,981	6,021	998
North-West Madhya Pradesh Division.	3,147	5,327	1,526	3,187	4,838	1,975	3,072	6,218	710
Nerbudda Valley	3,134	5,481	1,385	3,157	4,865	1,978	3,106	6,222	672
Plateau	3,178	4,959	1,863	3,232	4,800	1,968	2,762	6,178	1,060
East Madhya Pradesh Division ..	3,350	4,283	2,367	3,353	4,036	2,611	3,340	5,395	1,265
Chhattisgarh Plain	3,291	4,401	2,308	3,306	4,159	2,535	3,223	5,487	1,290
East Maratha Plain	3,417	4,149	2,434	3,405	3,897	2,698	3,473	5,290	1,237
South-West Madhya Pradesh Division and West Maratha Plain.	2,872	5,414	1,714	3,002	4,367	2,631	2,779	6,157	1,064

DEPENDENCY IN THE NORTH-WEST MADHYA PRADESH DIVISION IN LIVELIHOOD CLASS V

29. The percentage of non-earning dependants in Livelihood Class V in the North-West Madhya Pradesh Division is as high as 53·27 per cent. It is also noticed that in this Natural Division there are nearly 62 per cent of the people of this livelihood class in the urban areas who are completely dependent, the corresponding proportion in the rural area being about 48 per cent. The Nerbudda Valley of this Natural Division has the highest figure of about 55 per cent of people doing nothing. The percentage in the rural areas is 48·65 and in the urban area it is as high as 62·22. The Nimar district of the Nerbudda Valley tops the list in Madhya Pradesh with nearly 60 per cent of the general population in Livelihood Class V being entirely dependent.

DEPENDENCY IN THE SOUTH-WEST MADHYA PRADESH DIVISION IN LIVELIHOOD CLASS V COMPARED WITH OTHER DIVISIONS

30. In the South-West Madhya Pradesh Division consisting of the West Maratha Plain the percentage of non-earning dependants of Livelihood Class V is the highest being nearly 54, the percentage in the urban areas is nearly 62 and that in the rural areas about 44. In this connection, it is interesting to refer to Subsidiary Table 5·7, giving the distribution of self-supporting persons of all industries and services. Livelihood Class V consists of Division 'O' to '4' and a perusal of the columns pertaining to these Divisions in Subsidiary Table 5·7 shows that the comparative proportion in Division 'O' is least in the Nerbudda Valley and the South-West Madhya Pradesh Division, while it is heaviest in the Plateau and East Madhya Pradesh Division. The non-earning dependants are most numerous in the Nerbudda Valley and in the South-West Madhya Pradesh Division, while they are least numerous in the Plateau and the East Madhya Pradesh Division. This clearly shows that the industries grouped under Division 'O' and consisting of stock raising, rearing of small animals, plantation, forestry, hunting and fishing provide employment to a much larger proportion of people in the Plateau and the East Madhya Pradesh Division than in the Nerbudda Valley and the South-West Madhya Pradesh Division.

31. The figures for earning dependants also present the same picture as in the case of non-earning dependants in Subsidiary Table 5·2. Their number is least in the Nerbudda Valley and the South-West Madhya Pradesh Division.

Secondary Means of Livelihood of People Belonging to Non-Agricultural Class V

32. Subsidiary Table 5·2 gives the distribution of 10,000 people of Livelihood Class V, who have a secondary means of livelihood also. It shows that there are about 31 per cent of the people of Livelihood Class V, who are self-supporting, of whom only 7 per cent have a secondary means of livelihood. Of this 7 per cent, about 2 per cent work part-time as field labourers and about 1·84 per cent get a supplementary income from cultivation of their own land. The position in respect of the secondary means of livelihood in Madhya Pradesh and the Natural Divisions is summarised in Table 122 below :—

Table 122

Secondary means of livelihood of 10,000 *persons of Livelihood Class V.*

Secondary Means of Livelihood		Madhya Pradesh	North-West Madhya Pradesh Division	Ner-budda Valley	Plateau	East Madhya Pradesh Division	Chhattis-garh Plain	East Maratha Plain	South-West Madhya Pradesh Division and West Maratha Plain
From	Of								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cultivation of owned land.	Self-supporting persons.	184	128	131	120	302	393	199	84
	Earning dependants	55	45	46	44	95	155	27	11
Cultivation of Un-owned land.	Self-supporting persons.	51	47	48	46	61	79	40	43
	Earning dependants	12	15	17	1	14	20	7	6
Employment as cultivating labourers.	Self-supporting persons.	205	186	184	191	278	145	428	128
	Earning dependants	896	668	516	1,032	1,055	846	1,290	916
Rent on agricultural land.	Self-supporting persons.	55	53	39	9	53	26	83	59
	Earning dependants	5	6	5	9	4	2	6	4
Production other than cultivation.	Self-supporting persons.	82	95	97	89	99	71	131	46
	Earning dependants	694	561	539	616	868	829	913	597
Commerce	Self-supporting persons.	32	37	33	44	32	22	43	27
	Earning dependants	73	69	70	65	88	82	95	57
Transport	Self-supporting persons.	4	5	5	4	3	2	4	3
	Earning dependants	11	16	17	13	8	9	7	10
Other services and miscellaneous sources.	Self-supporting persons.	53	62	66	54	59	80	35	36
	Earning dependants	172	146	177	74	236	366	90	112

33. It is interesting to observe from Table 122 above that out of 10,000 persons of Livelihood Class V in Madhya Pradesh there are only 666 self-supporting persons who have a secondary source of income. In Table 121 we noticed that the percentage of all self-supporting persons in Livelihood Class V is 31·44 and Table 122, therefore, shows that this 31·44 per cent includes only 6·66 per cent of people who have a secondary source of income. It is further interesting to note from Table 122 that the percentage of 6·66 mentioned above includes 2·05 per cent of the self-supporting persons who work as agricultural labourers to supplement their income while 1·84 per cent out of the 6·66 per cent get a secondary income from cultivation of their own land. Actually agricultural sources provide a secondary income to the bulk of the 6·66 per cent of self-supporting persons having a secondary source of income. In fact nearly 5 per cent of the self-supporting persons get a secondary source of income from the four agricultural sources.

34. The position with regard to earning dependants as revealed by Tables 121 and 122 is also very interesting. It will be observed that out of 19·16 per cent of the people of Livelihood Class V (Production other than cultivation) who are earning dependants, about 9·68 per cent get their income

from agricultural sources, the most important of them being employment as cultivating labourers which absorbs 8·96 per cent of the earning dependants.

35. Table 122 further shows that apart from the agricultural sources the earning dependants are mostly engaged in one of the occupations falling under Livelihood Class V itself. That means that in all probability they merely help in the economic activity of the people who support them. The percentage of such earning dependants out of the total percentage of 19·16 is 6·94.

36. It is, therefore, clear that excluding the earning dependants engaged in agriculture and those who help in family undertakings we are left with only 2·54 per cent (19·16—9·68—6·94) of the people of Livelihood Class V, who are earning dependants and engaged in other non-agricultural activities.

Livelihood Class VI.—Economic Analysis

DEPENDENCY

37. A perusal of the Subsidiary Table 5·3 in Part I-B of the Report and Table 123 given below shows that nearly 62 per cent of the people in Livelihood Class VI in Madhya Pradesh are non-earning dependants. The percentage of non-earning dependants in the rural areas of the State is about 54 and in the urban areas is nearly 68. Similiarly, the figures of earning dependants show that only 9 per cent of the people of this livelihood class in the State belong to this category. The percentage in the rural areas of the State is 15, while in the urban areas it is as low as 5·5. Dependency in this livelihood class is, therefore, very high and particularly in the urban areas where the dependants of the well-to-do trader obviously do not work :—

Table 123

Proportion of self-supporting persons and dependants in Madhya Pradesh and its different parts in Livelihood Class VI—Commerce.

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of Livelihood Class VI in each sub-class of								
	General population			Rural population			Urban population		
	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	2,844	6,233	923	3,114	5,368	1,518	2,674	6,776	550
North-West Madhya Pradesh Division.	2,802	6,443	755	2,995	5,784	1,221	2,668	6,904	428
Nerbudda Valley.	2,742	6,593	665	2,920	5,898	1,182	2,648	6,958	394
Plateau	3,013	5,924	1,063	3,132	5,575	1,293	2,797	6,563	640
East Madhya Pradesh Division..	3,215	5,603	1,182	3,410	4,921	1,669	3,003	6,347	650
Chhattisgarh Plain	3,327	5,635	1,038	3,570	5,011	1,419	3,088	6,253	659
East Maratha Plain	3,019	5,549	1,432	3,164	4,782	2,054	2,832	6,534	634
South-West Madhya Pradesh Division and West Maratha Plain.	2,633	6,479	888	2,888	5,428	1,684	2,535	6,879	586

The highest percentage (64·79) of non-earning dependants in the general population is to be found in the South-West Madhya Pradesh Division. In the North-West Madhya Pradesh Division also, it is almost equally high (64·43). In the East Madhya Pradesh Division, the percentage is 56·03. The lowest percentage (7·55) of earning dependants of Livelihood Class VI in the general population is to be found in the North-West Madhya Pradesh Division. In the South-West Madhya Pradesh Division, it is 8·88 and in the East Madhya Pradesh Division 11·82.

38. It is interesting to notice in Subsidiary Table 5·3 that the highest percentage of non-earning dependants and the lowest percentage of earning dependants are to be found in the Nimar district. A similar pattern of high dependency in this livelihood class is noticed in almost all cotton-growing districts of the South-West Madhya Pradesh Division and the districts of the Nerbudda Valley, in which again Nimar and part of the Hoshangabad district are good cotton-growing areas.

39. In the East Madhya Pradesh Division, Surguja district attracts attention as it has the highest percentage of non-earning dependants with a fairly low percentage of earning dependants. This is probably due to the fact that the commercial community in this backward district consists of immigrants from other places who do not generally bring their families with them and also do not find it necessary to allow their dependants to work.

40. In the rural areas of the Natural Divisions the percentage of non-earning dependants in Livelihood Class VI is the highest (57·84) in the North-West Madhya Pradesh Division which has also the highest percentage (69·04) in the urban areas. The South-West Madhya Pradesh Division, has also a similar picture to offer with 54·28 per cent in the rural and 68·79 per cent in the urban areas. The proportion of non-earning dependants is least in the rural (49·21) as well as in the urban (63·47) areas of the East Madhya Pradesh Division which is comparatively poor and the petty traders cannot afford to have many non-earning dependants.

Secondary Means of Livelihood of People of Class VI

41. Subsidiary Table 5·3 shows the distribution of the secondary means of livelihood of the people of Livelihood Class VI. Table 124 given below summarises the position for the State and the Natural Divisions :—

Table 124

Secondary means of livelihood of 10,000 *persons of Livelihood Class VI (Commerce) in Madhya Pradesh and the Natural Divisions and Sub-Divisions.*

Secondary Means of Livelihood		Madhya Pradesh	North-West Madhya Pradesh Division	Narbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division and West Maratha Plain
From	Of								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cultivation of owned land.	Self-Supporting persons.	142	118	110	144	209	220	190	116
	Earning dependants	27	21	17	36	60	73	36	10
Cultivation of Unowned land.	Self-supporting persons.	41	26	21	44	45	49	37	49
	Earning dependants	13	5	3	11	32	42	14	7
Employment as cultivating labourers.	Self-supporting persons.	84	62	50	104	129	96	187	73
	Earning dependants	361	184	111	435	420	237	738	463
Rent on Agricultural land.	Self-supporting persons.	85	79	62	138	66	43	105	103
	Earning dependants	5	4	3	11	7	6	8	4
Production othre than cultivation.	Self-supporting persons.	49	61	60	61	68	57	89	28
	Earning dependants	116	120	125	106	154	106	239	86
Commerce	Self-supporting persons.	104	119	114	136	135	154	104	70
	Earning dependants	286	306	288	369	349	383	291	228
Transport	Self-supporting persons.	9	14	14	13	11	14	5	4
	Earning dependants	12	10	10	11	14	18	7	11
Other services and miscellaneous sources.	Self-supporting persons.	56	62	62	63	61	67	49	47
	Earning dependants	105	104	110	85	146	172	99	80

42. It will be seen from Table 124 that out of 10,000 persons of Livelihood Class VI in the State there are only 570 self-supporting persons who have a secondary means of livelihood. Table 123 shows that the percentage of all self-supporting persons in Livelihood Class VI is 28·44. It is, therefore, clear that this percentage of 28·44 includes only 5·70 per cent of the self-supporting persons who have a secondary source of income. Of these 5·70 per cent, 1·42 per cent get a secondary income from cultivation of their own land; 1·04 per cent are again engaged in other commercial activities to supplement their income and the remaining 3·24 per cent derive a supplementary income from various other sources.

43. People of Livelihood Class VI contain 9·23 per cent of earning dependants, of whom 3·61 per cent work as agricultural labourers, and 2·86 per cent are engaged in commercial activities indicating that they render help in the business of the people who support them. Production other than cultivation and miscellaneous sources provide income for the remaining 2·21 per cent of the earning dependants.

44. While examining the secondary source of income of the earning dependants, Bastar and Balaghat districts attract attention in Sudsidiary Table 5·3. Bastar has the largest percentage (22·22) of earning dependants while Balaghat (20·13) comes next. The earning dependants of the Bastar district mostly derive their income from agricultural sources and from production other than cultivation, as well as from commerce. About 4 per cent of them are engaged in Livelihood Class I (Cultivation of owned land), about 2 per cent in Livelihood Class II, (cultivation of unowned land), about 4 per cent in Livelihood Class III (agricultural labourers) and about 2 per cent in production other than cultivation. The largest percentage (about 6) is engaged in commercial activities and about 2 per cent derive their secondary source of income by working as servants, or from miscellaneous sources. In the Balaghat district, about 10 per cent of the earning dependants are agricultural labourers, about 2 per cent are engaged in production other than cultivation, about 4 per cent in commerce and about 3 per cent get their income from miscellaneous sources.

Livelihood Class VII—Economic Analysis

45. The total number of people belonging to Livelihood Class VII—(Transport) in the State as a whole is only 311,818. The reasons for this low figure are given in Chapter I, Section VI (Paragraph 9), and as pointed out they are associated with the system of classification adopted.

Dependency

46. In Livelihood Class VII also, the percentage of dependency is very large. There are about 64 per cent non-earning dependants and only about 7 per cent earning dependants in the whole State, as will be seen from Table 125 given below :—

Table 125

Proportion of self-supporting persons and dependants in Madhya Pradesh and its different parts in Livelihood Class VII (Transport).

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of Livelihood Class VII in each sub-class of								
	General population			Rural population			Urban population		
	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	2,923	6,364	713	3,121	5,745	1,134	2,833	6,643	524
North-West Madhya Pradesh Division.	3,012	6,404	584	3,131	5,896	973	2,950	6,670	380
Nerbudda Valley	3,027	6,419	554	3,186	5,809	1,005	2,967	6,649	384
Plateau	2,959	6,350	691	3,040	6,041	919	2,840	6,807	353
East Madhya Pradesh Division ..	3,212	5,876	912	3,389	5,395	1,216	3,074	6,250	676
Chhattisgarh Plain	3,331	5,820	849	3,553	5,462	985	3,154	6,104	742
East Maratha Plain	2,946	6,001	1,053	3,008	5,240	1,752	2,899	6,569	532
South-West Madhya Pradesh Division and West Maratha Plain.	2,603	6,700	697	2,591	6,102	1,307	2,605	6,830	565

47. It will be noticed that the largest percentage (67) of non-earning dependants in this livelihood class, in the general population is to be found in the South-West Madhya Pradesh Division, in which the percentage in the rural and urban areas comes to 61·02 and 68·30, respectively. In the North-West Madhya Pradesh Division the percentage of non-earning dependants in this livelihood class is as high as 64·04 in the general population and 58·96 and 66·70 in the rural and urban areas, respectively. In this class also the percentage of non-earning dependants is least in the

East Madhya Pradesh Division being 58·76 in the general, 53·95 in the rural and 62·50 in the urban population. The Amravati and Yeotmal districts of the South-West Madhya Pradesh Division and the Nimar district of the North-West Madhya Pradesh Division attract particular attention while going through Subsidiary Table 5·4 in Part I-B of the Report. The percentage of non-earning dependants in these districts in this livelihood class is over 68. In the Nimar district, the percentage of earning dependants is very small being only 4·85.

Secondary Means of Livelihood of People of Class VII (Transport)

48. In Livelihood Class VII (Transport), there are about 29·23 per cent self-supporting persons including about 3·31 per cent who have a secondary means of livelihood in the State. Of these, about 1·54 per cent get their secondary income from cultivation of their own land and the rest from various other sources, as shown in Table 126 below :—

Table 126

Secondary means of livelihood of 10,000 *persons of Livelihood Class VII (Transport) in Madhya Pradesh and the Natural Divisions and Sub-Divisions.*

Secondary Means of Livelihood		Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division and West Maratha Plain
From	Of								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cultivation of owned land.	Self-supporting persons.	154	64	59	82	429	575	100	37
	Earning dependants	19	25	12	70	30	31	26	45
Cultivation of unowned land.	Self-supporting persons.	29	23	22	28	44	47	37	23
	Earning dependants	7	7	6	11	10	12	6	3
Employment as cultivating labourers.	Self-supporting persons.	37	40	41	37	61	43	99	16
	Earning dependants	243	178	131	344	294	210	482	274
Rent on Agricultural land.	Self-supporting persons.	35	29	18	70	48	37	72	30
	Earning dependants	7	48	3	11	10	5	19	6
Production other than cultivation.	Self-supporting persons.	23	24	25	20	37	35	42	11
	Earning dependants	112	106	122	46	159	130	223	81
Commerce	Self-supporting persons.	16	19	17	27	18	21	9	11
	Earning dependants	58	58	60	55	65	70	54	51
Transport	Self-supporting persons.	10	10	11	6	14	16	9	6
	Earning dependants	99	85	94	56	103	116	75	111
Other services and miscellaneous sources.	Self-supporting persons.	27	28	28	29	34	42	16	21
	Earning dependants	170	120	126	99	242	274	168	165

49. There are only 7 per cent earning dependants in Livelihood Class VII (Transport) in the State and of these 2·43 per cent are agricultural labourers, 1·12 per cent are engaged in production other than cultivation and 1·7 per cent in other services and miscellaneous sources.

Livelihood Class VIII (Other Services and Miscellaneous Sources).—Economic Analysis

Dependency

50. In this livelihood class, nearly 55·09 per cent of the people of the State are non-earning dependants in the general population, and

the percentage of earning dependants is 12·23. In the rural population of the State the percentage of non-earning dependants is 47·47 while in the urban area it is as high as 62·08. Similarly, the percentage of earning dependants in the urban areas is only 6 while in the rural areas it is 19 as will be seen from Table 127 below :—

Table 127

Proportion of self-supporting persons and dependants in Madhya Pradesh and its different parts in Livelihood Class VIII (Other Services and Miscellaneous Sources).

State, Natural Divisions and Sub-Divisions	Number per 10,000 persons of Livelihood Class VIII in each sub-class of								
	General population			Rural population			Urban population		
	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	3,268	5,509	1,223	3,358	4,747	1,895	3,185	6,208	607
North-West Madhya Pradesh Division.	3,325	5,642	1,033	3,311	5,038	1,651	3,337	6,200	463
Nerbudda Valley	3,346	5,744	910	3,310	5,151	1,539	3,372	6,180	448
Plateau	3,255	5,303	1,442	3,312	4,801	1,887	3,139	6,315	546
East Madhya Pradesh Division..	3,541	4,975	1,484	3,575	4,507	1,918	3,482	5,785	733
Chhattisgarh Plain	3,652	4,948	1,400	3,720	4,500	1,780	3,534	5,719	747
East Maratha Plain	3,278	5,039	1,683	3,233	4,522	2,245	3,356	5,945	699
South-West Madhya Pradesh Division and West Maratha Plain.	3,012	5,797	1,191	3,123	4,729	2,148	2,950	6,396	654

51. The highest percentage (57·97) of non-earning dependants in the general population is to be found in the South-West Madhya Pradesh Division. The lowest percentage (49·75) is in the East Madhya Pradesh Division as in the other livelihood classes. The percentage of non-earning dependants in the rural population is the highest (50·38) in the North-West Madhya Pradesh Division. The corresponding percentage in the South-West and East Madhya Pradesh Divisions are 47·29 and 45·07, respectively. In the urban population on the other hand, the highest percentage (63·96) is to be found in the South-West Madhya Pradesh Division and the corresponding figures for the North-West and East Madhya Pradesh Divisions are 62·00 and 57·85, respectively. It is to be remembered that the South-West Madhya Pradesh Division is the most urbanised part of the State.

52. On going through Subsidiary Table 5·5 the Nimar district and the Nagpur district attract attention in respect of the dependency ratio. Nimar (62·3) and Nagpur (60·9) districts have the highest percentage of non-earning dependants in this livelihood class. The number of earning dependants is less in Nagpur being 9·3 per cent, while in Nimar also the figure is almost equally low being about 9·9 per cent.

53. A reference to Table 1·8 shows that the largest percentage of general population in Livelihood Class VIII is to be found in the Nagpur district in the whole State. This is not surprising as the district contains the capital of the State and is also the seat of the University and various other institutions. Dependants of people engaged in such services do not normally have any employment and the large dependency ratio is thus obvious.

Secondary Means of Livelihood of People of Livelihood Class VIII (Other Services and Miscellaneous Sources)

54. Subsidiary Table 5·5 shows that 32·68 per cent of the people of Livelihood Class VIII are self-supporting persons, including 5·58 per cent who have a secondary means of livelihood also. Of these, 1·85 per cent derive a secondary income from cultivation of their own land, while about 0·99 per cent get rent on agricultural land and about 0·98 per cent work as agricultural labourers. Out of the 12 per cent of earning dependants of this livelihood class, about 6·17 per cent are engaged as agricultural labourers, 1·14 per cent in production other than cultivation and about

4 per cent in other services and miscellaneous sources. The position in the State and the Natural Divisions and Sub-Divisions is summarised in Table 128 below :—

Table 128

Secondary means of livelihood of 10,000 persons of Livelihood Class VIII (Other Services and Miscellaneous Sources) in Madhya Pradesh and the Natural Divisions and Sub-Divisions.

Secondary Means of Livelihood		Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division and West Maratha Plain
From	Of								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cultivation of owned land.	Self-supporting persons	185	153	140	196	326	365	233	107
	Earning dependants	43	42	31	78	87	108	39	11
Cultivation of Unowned land.	Self-supporting persons	36	29	25	40	48	53	35	35
	Earning dependants	9	7	5	12	16	16	16	6
Employment as cultivating labourers.	Self-supporting persons	98	99	92	122	103	82	154	93
	Earning dependants	617	423	293	856	672	537	994	746
Rent on Agricultural land.	Self-supporting persons.	99	110	95	161	77	52	136	106
	Earning dependants	7	8	6	15	7	5	12	6
Production other than cultivation.	Self-supporting persons.	43	54	58	41	48	37	75	28
	Earning dependants	114	132	145	90	133	95	224	84
Commerce ..	Self-supporting persons.	24	28	26	35	21	19	25	22
	Earning dependants	40	36	32	48	52	55	45	36
Transport	Self-supporting persons.	4	8	9	3	3	3	2	2
	Earning dependants	15	13	14	8	11	12	11	18
Other services and miscellaneous sources.	Self-supporting persons.	69	73	75	67	76	85	53	60
	Earning dependants	377	373	384	335	504	571	343	284

55. It will be observed that among earning dependants in Livelihood Class VIII (Other services and miscellaneous sources) also the most important occupation is field labour. In the East Maratha Plain Sub-Division the largest percentage (9.94) of earning dependants is engaged in this occupation. It is only in the Chhattisgarh Plain and the Nerbudda Valley that the percentage of earning dependants of Livelihood Class VIII is somewhat lower under agricultural labour occupation than in the miscellaneous occupations under Livelihood Class VIII itself. In the Chhattisgarh Plain the percentage (5·37) of earning dependants engaged in fields as labourers is practically the same as that of earning dependants having occupations grouped under Livelihood Class VIII itself (5·71). In the Nerbudda Valley the corresponding figures are 2·93 and 3·84, respectively.

56. It is also interesting to note in Table 128 above that in all the Natural Divisions and Sub-Divisions also the most important secondary source of income of the self-supporting persons belonging to Livelihood Class VIII is cultivation of their own land. The highest percentage (3·65) is to be found in the Chhattisgarh Plain where as we pointed out in Chapter IV, Section III, tiny holdings predominate.

57. The next most important source of secondary income of self-supporting persons in Livelihood Class VIII in the natural divisions is rent from agricultural land. This is again an important circumstance which shows how these petty land holders have to serve to earn their principal means of livelihood and how the income from land is only of secondary importance. In Chapter IV, Section VII (paragraph 6), we have already referred to the question of the status of the non-cultivating owners of land and there we noticed how a substantial percentage of them had to work as labourers or servants to supplement their income. Here we notice the other type of these petty land owners whose income from the land is even less than the income they get as servants.

SECTION III.—EMPLOYERS, EMPLOYEES AND INDEPENDENT WORKERS; AND EMPLOYMENT IN FACTORIES AND SMALL-SCALE INDUSTRIES

1. In 1951 for the first time, the figures of employers, employees and independent workers have been collected at the Census for the self-supporting persons in the non-agricultural classes engaged in industries and services.

2. A person was recorded as an "employer" at the Census who had necessarily to employ another person or persons in order to carry on the business from which he secured his livelihood. Thus if a person employed a cook or other person for domestic service, he was not recorded as an employer merely for that reason. An "employee" for purposes of the Census figures is a person who ordinarily works under some other person for a salary or a wage in cash or kind, as a means of earning his livelihood. There may be persons who are employed as managers, superintendents, agents, etc. and in that capacity control other workers. Such persons are also employees only and are not recorded as employers. An "independent worker" similarly means a person who is not employed by anyone else and who also does not employ anybody else in order to earn his livelihood. The practical difficulties encountered by the enumerators in collecting the information and the way in which they were removed are discussed in Section III Part B of Appendix 'U'.

Proportion of Employers, Employees and Independent Workers amongst the Non-Agricultural Classes in General

3. Subsidiary Table 5·1 in Part I-B of the Report gives the figures of employers, employees and independent workers per 10,000 of self-supporting persons of all non-agricultural classes. We will not be seriously wrong if we suppose that these figures give the same proportion for the entire category of non-agricultural classes. Broadly, the ratio between the self-supporting persons on the one hand and the earning dependants plus the non-earning dependants on the other is in the neighbourhood of 3:7 and it might be made use of to estimate the number of dependants corresponding to the distribution of employers, employees and independent workers among the self-supporting persons.

Approximate Distribution of 10,000 Persons of All Non-Agricultural Classes amongst Employers, Employees and Independent Workers and Others in Madhya Pradesh

4. On the basis of the assumptions made above the distribution in the case of Madhya Pradesh may be shown as follows :—

Employers			Employees			Independent workers			Others
Total	Self-supporting persons	Dependants	Total	Self-supporting persons	Dependants	Total	Self-supporting persons	Dependants	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
304	91	213	4,566	1,370	3,196	4,836	1,451	3,385	294

5. In considering the figures of employers and employees, it has to be remembered that there is a marginal zone of persons who are genuinely independent workers as well as employees. The manner in which we are classifying them is, therefore, accidental but there is no bias and the figures on the whole duly represent the actual proportions. It will be observed from Subsidiary Table 5.1 that there are 46 per cent of employees and 48 per cent of independent workers amongst the non-agricultural classes.

Examination of the Ratio of Independent Workers and Employees

6. A study of Subsidiary Table 5.1 shows that the ratio of independent workers to employees is very interesting in some cases. In the Bhandara district of the East Madhya Pradesh Natural Division, where the *Bidi* cottage industry is very prominent, it is interesting to notice that the ratio of independent workers to employees is of the order of 6.8 : 2.8. This is a genuine home-industry phenomenon. In the Surguja district, on the other hand, where the forest industries are in the hands of large contractors, the ratio of independent workers to employees is of the order of 3.5 : 6.2.

The Unproductive Self-Supporting Persons

7. While examining the figures of employers, employees and independent workers in Subsidiary Table 5.1, it will be noticed that there is a significant proportion of the self-supporting persons who are classed under the category "others". These are the economically unproductive self-supporting persons and a perusal of the fly-leaf to Main

Table B-III (Employers, employees and independent workers by industries and services, divisions and sub-divisions) shows that in Madhya Pradesh the total number of such persons is 46,747. Out of these, 2,898 are persons subsisting on income from non-agricultural property, 5,590 pensioners and persons depending upon remittances and scholarships, 3,111 criminals and lunatics, 32,076 beggars and vagrants and 3,072 persons of other unproductive activities.

8. The overall figure of about 47,000 unproductive persons appears to be small, but it is to be remembered that it represents only the self-supporting persons. Actually, the total number of persons depending on this livelihood group would be about three times this number, or roughly about 150,000 persons.

Employers, Employees and Independent Workers in Rural and Urban Areas

9. Subsidiary Tables 5.1 (A) and 5.1 (B) contains an analysis of the non-agricultural population in rural and urban areas in respect of employers, employees, independent workers and others. Table 129 given below summarises the position in respect of the State and the Natural Divisions and Sub-Divisions :—

Table 129

Proportion of Employers, Employees and Independent Workers among self-supporting persons of the non-agricultural classes in Madhya Pradesh and its different parts.

State, Natural Divisions and Sub-Divisions	Number per 10,000 self-supporting persons of all non-agricultural classes of—											
	General population				Rural population				Urban population			
	Employers	Employees	Independant workers	Others	Employers	Employees	Independant workers	Others	Employers	Employees	Independant workers	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	304	4,566	4,836	294	195	4,105	5,382	318	436	5,122	4,176	266
North-West Madhya Pradesh Division.	254	4,663	4,827	256	149	4,396	5,186	269	377	4,972	4,409	242
Nerbudda Valley ..	279	4,507	4,960	254	159	3,980	5,580	281	377	4,942	4,449	232
Plateau	185	5,112	4,441	262	132	5,090	4,531	247	377	5,188	4,122	313
East Madhya Pradesh Division.	296	4,365	5,072	267	223	4,153	5,342	282	475	4,892	4,402	231
Chhattisgarh Plain ..	354	5,002	4,341	303	297	4,846	4,521	336	485	5,360	3,927	228
East Maratha Plain ..	205	3,373	6,212	210	115	3,132	6,553	200	458	4,050	5,255	237
South-West Madhya Pradesh Division and West Maratha Plain.	362	4,693	4,581	364	199	3,577	5,754	470	458	5,352	3,889	301

It will be seen that in the rural areas the ratio of independent workers to employees in the State as a whole is 5 : 4 while in the urban areas it is 4 : 5. This is a natural phenomenon, because in the towns and cities the proportion of employees to independent workers is bound to be greater than in the rural areas, where people have more opportunities for working independently. It will also be noticed from table 129 above that in most of the Natural Divisions and Sub-Divisions the ratio of independent workers to employees in the rural and urban areas is roughly of the same pattern. The East Maratha Plain Sub-Division presents a distinctly different picture as in both the rural as well as in the urban areas the ratios are remarkably different from other parts of the State. This is due to the Cottage Industry of Bidi Making. It will be observed that the ratio of independent workers to employees in the rural area is 6 : 3 while even in the urban area of the sub-division also it is 5 : 4. In the urban areas of all other sub-divisions and divisions the ratio is roughly 4 : 5. The cottage industry is popular not only in the rural but also in the urban areas. Each of the three districts of the East Maratha Plain Sub-division *viz.*, Chanda, Bhandara and Balaghat has a typical ratio of independent workers to employees in the rural areas on account of the 'bidi' industry, in the Bhandara and Balaghat districts and the handloom weaving industry in the Chanda district. The other cottage industries will be dealt with later when we deal with the industries in livelihood class V. In fact it is, as pointed out,

a typical cottage industries phenomenon. In the Bhandara district the ratio is 7.2 : 2.6 in the rural areas. In the urban areas also the districts of Bhandara and Balaghat clearly exhibit the same pattern in which the independent workers are larger in proportion than the employees showing how the 'bidi' industry has crept into the urban areas as well.

10. The ratio of independent workers to employees in the Sagar district attracts attention both in the rural as well as in the urban areas. It is 6.6 : 3.1 in the rural parts and 6.6 : 2.8 in the urban areas. A reference to Subsidiary Table 5.10 shows that the 'bidi' industry in the Sagar district is practically as important as in the Bhandara district and it is remarkable how the fact is brought out by the ratio of independent workers to employees. It is also reflected in column 6 of Subsidiary Table 5.1 (B) where the proportion of people in the non-agricultural classes in Livelihood Class V is highest in Sagar in the whole of the North-West Madhya Pradesh Division and is comparable with the distribution in the Bhandara district. The ratio of independent workers to employees in many of the other districts is fairly uniform in rural as well as urban areas but in some cases is significantly different. Thus, for example, in the urban areas of the Surguja district the ratio of independent workers to employees is 3 : 6.7, while for the rural areas it is 3.6 : 6.1. This is a typical district in which the urban population gets employment in the coal mines pointed out before. In the rural areas, as the *lac* industry absorbs a good number of employees, who are engaged by the Thekedars to propagate *lac*. This fact is also reflected in Subsidiary Table 2.4, as well as in 5.1 (A). Table 2.4 shows that in the Surguja district, out of every 10,000 people of all livelihood classes in the rural areas, as many as 656 people belong to Livelihood Class V. Similarly, table 5.1 (A) shows that out of 10,000 persons of the non-agricultural classes in the rural areas as many as 6,774 people belong to Livelihood Class V.

11. In the Jabalpur district also, the proportion of independent workers to employees in the rural areas calls for attention. It is 4.6 : 5.1 and is obviously due to the mining and quarrying activities in the rural areas in which many employees are engaged. The same position is to be found in the Chhindwara district also, where the ratio of independent workers to employees is 4.1 : 5.6. The mining activities in this district are also well-known.

EMPLOYERS, EMPLOYEES AND INDEPENDENT WORKERS IN LIVELIHOOD CLASS V (PRODUCTION OTHER THAN CULTIVATION)

12. Subsidiary Table 5.2 given in Part I-B of the Report shows the ratio of independent workers to employees among the self-supporting persons in Livelihood Class V. This is about 6.1 : 3.7 for the general population in Madhya Pradesh as a whole. It is interesting to notice that in the rural areas of the State the ratio of independent workers to employees in Livelihood Class V is about 6.5 : 3.4. In the South-West Madhya Pradesh Division, the ratio of independent workers to employees in the general population is roughly 5.8 : 4.0, but in the rural parts it is 7.2 : 2.7, and in the urban areas the proportion is almost equal being 4.8 : 5.0 as will be seen from Table 130 below:—

Table 130

Proportion of Employers, Employees and Independent Workers among self-supporting persons of Livelihood Class V (Production Other than Cultivation) in Madhya Pradesh and its different parts.

State and Natural Divisions	Number per 10,000 self-supporting persons of Livelihood Class V by secondary economic status in—								
	General population			Rural population			Urban population		
	Employers	Employees	Independent workers	Employers	Employees	Independent workers	Employers	Employees	Independent workers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	210	3,691	6,099	155	3,393	6,452	318	4,277	5,405
North-West Madhya Pradesh Division.	216	3,717	6,067	140	3,735	6,125	359	3,685	5,956
East Madhya Pradesh Division	203	3,477	6,320	171	3,435	6,394	351	3,665	5,984
South-West Madhya Pradesh Division.	215	3,989	5,796	137	2,707	7,156	276	4,971	4,753

13. It will be noticed that the ratio of independent workers to employees in the rural areas of the South-West Madhya Pradesh Division is the highest among all the Natural Divisions in the case of Livelihood Class V. The figures of the East Madhya Pradesh Division are of the same order in the rural as well as the urban parts as those of the North-West Madhya Pradesh Division. The reasons for the existence of these ratios are clarified to a great extent by examining the district figures as given in Subsidiary Table 5.2.

14. It is to be noticed that the independent workers predominate in the Hoshangabad, Sagar, Betul and Bhandara districts. Buldana, Yeotmal, Amravati, Chanda, Raigarh, Bastar, Bilaspur and Mandla districts have also larger numbers of independent workers. In fact, in these districts the proportion of employees is small. The high percentage of independent workers in the hilly districts of Sagar, Mandla, Betul, Buldana, Yeotmal, Bastar, Raigarh, Bilaspur and Melghat taluq of Amravati district is associated with employment in connection with forest produce, etc. The industries of Division 'O' in the Hoshangabad district, particularly in the forest areas and along the banks of the Nerbudda explains the position in this district. In Bhandara the 'bidi' industry is obviously the cause of the high percentage of independent workers as already explained.

15. A perusal of Subsidiary Tables 5.7 and 5.8, which give the distribution of the self-supporting persons of all industries and services and of such persons engaged in primary industries not elsewhere specified (division 'O'), is of interest. It will be noticed from Subsidiary Table 5.7, that in many of the hilly districts, mentioned above, the proportion of the self-supporting persons under industry 'O' is high. In fact it is highest in Mandla where it is 2,214. In Sagar, however, it is fairly low being about 596. Sagar has, however, the largest percentage under processing and manufacture of food-stuffs. A perusal of Subsidiary Table 5.10 shows that the 'bidi (tobacco) industry in Sagar is only next in importance to that in Bhandara and a large number of independent workers are engaged in this industry. Subsidiary Table 5·8 shows that Buldana, Raigarh, Bastar, Bilaspur, Betul, Mandla and Sagar have a fairly large proportion of people engaged in stock raising which accounts for the large proportion of independent workers.

Employers, Employees and Independent Workers in Livelihood Class VI (Commerce)

16. Subsidiary Table 5·3 in Part I-B of the Report gives the ratio of independent workers to employees among the self-supporting persons of Livelihood Class VI. The ratio of independent workers to employees for the State as a whole is about 7.3 : 1.9 for the general population.

17. In the rural areas of the State, it is about 8.0 : 1.5 and in the urban areas about 6.8 : 2.1 as will be seen from Table 131 below :—

Table 131

Proportion of Employers, Employees and Independent Workers among self-supporting persons of Livelihood Class VI (Commerce) in Madhya Pradesh and its different parts.

State and Natural Divisions	Number per 10,000 self-supporting persons of Livelihood Class VI, by secondary economic status in—								
	General population			Rural population			Urban population		
	Employers	Employees	Independent workers	Employers	Employees	Independent workers	Employers	Employees	Independ workers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	839	1,852	7,309	523	1,491	7,986	1,070	2,115	6,815
North-West Madhya Pradesh Division.	714	1,369	7,917	387	1,036	8,577	971	1,632	7,397
East Madhya Pradesh Division	905	1,877	7,218	707	1,868	7,425	1,150	1,889	6,961
South-West Madhya Pradesh Division.	894	2,239	6,867	423	1,498	8,079	1,097	2,560	6,343

18. The ratio of independent workers to employees in the Natural Divisions also is not very different from that for the State as a whole, although in the individual districts there are sharp variations as will be seen from Subsidiary Table 5.3. In the North-West Madhya Pradesh Division, the Chhindwara district shows the ratio of independent workers to employees as 8.3 : 1.2 and in the Sagar

district is 9.0 : 0.6. It is interesting to notice that the percentage of employers in the Sagar district is the lowest in the State. In this connection, a reference to Subsidiary Table 5.14 is of some interest. It shows that in the Sagar district there is the largest number of unclassified retail traders in the North-West Madhya Pradesh Division, excluding Jabalpur. In the Chhindwara district, on the other hand, there is the largest number of retail traders in food-stuffs in the North-West Madhya Pradesh Division, excluding Mandla, while in the matter of retail trade in fuel Chhindwara district tops the list in the whole State.

Employers, Employees and Independent Workers in Livelihood Class VII (Transport)

19. The ratio of independent workers to employees in Livelihood Class VII will be found in Subsidiary Table 5.4 in Part I-B of the Report. It will be observed that for the State as a whole the ratio is of the order of 2.4 : 7.4, as will be seen from Table 132 given below for the State and Natural Divisions :—

Table 132

Proportion of Employers, Employees and Independent Workers, among self-supporting persons of Livelihood Class VII (Transport) in Madhya Pradesh and its different parts.

State and Natural Divisions	Number per 10,000 self-supporting persons of Livelihood Class VII by secondary economic status in—								
	General population			Rural population			Urban population		
	Employers	Employees	Independent workers*	Employers	Employees	Independent workers	Employers	Employees	Independent workers
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	232	7,364	2,404	143	7,748	2,109	276	7,173	2,551
North-West Madhya Pradesh Division.	155	7,503	2,342	68	8,104	1,828	203	7,168	2,629
East Madhya Pradesh Division	207	7,199	2,594	199	7,384	2,417	213	7,040	2,747
South-West Madhya Pradesh Division.	350	7,353	2,297	189	7,773	2,038	385	7,262	2,353

The ratios of independent workers to employees varies very little in the Natural Divisions, although a perusal of Subsidiary Table 5·4 shows that it is unusual in the Betul and Surguja districts, where it is 0·9 : 9·1 and 0·6 : 9·3, respectively.

20. A reference to Subsidiary Table 5·15 (Territorial distribution of self-supporting persons engaged in transport storage and communications) shows that in the Betul district, 82 per cent of the people engaged in transport are employed in the Railways as against the State average of 45 per cent. In fact, the Betul district tops the list in table 5·15 in respect of Railway Transport. Obviously, the people engaged in Railway Transport, are all employees and the percentage of independent workers, is, therefore, very small.

21. In the case of the Surguja district, the largest percentage of people engaged in transport is shown under "transport unclassified and incidental services." The next higher percentage is under "Railway Transport". The unclassified transport includes coolies engaged to carry loads and as they are all employees the proportion of independent workers is naturally low.

22. In the Balaghat district, the ratio of independent workers to employees is 4·7 : 5·1 and a perusal of table 5·15 shows that in the Balaghat district the people belonging to this livelihood class are almost equally divided between transport by road and transport by rail and unclassified means and incidental services, postal services, etc. In this district, in which the bus services are not likely to engage many people, it is obvious that the independent cartman is still holding his own to a substantial extent. This typical division of the people engaged in transport thus accounts for the higher proportion of the independent workers.

Employers, Employees, Independent Workers and Others in Livelihood Class VIII (Other Services and Miscellaneous Sources)

23. Subsidiary Table 5·5 in Part I-B of the Report gives the distribution of the employers, employees, independent workers and others per

10,000 of self-supporting persons of Livelihood Class VIII. Table 133 given below summarises the position in respect of the State and the Natural Divisions :—

Table 133

Proportion of Employers, Employees and Independent Workers among self-supporting persons of Livelihood Class VIII (Other services and miscellaneous sources) in Madhya Pradesh and its different parts.

State and Natural Divisions	Number per 10,000 self-supporting persons of Livelihood Class VIII by secondary economic status in—											
	General population				Rural population				Urban population			
	Employers	Employees	Independent workers	Others	Employers	Employees	Independent workers	Others	Employers	Employees	Independent workers	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	171	6,636	2,300	893	129	6,113	2,683	1,075	212	7,141	1,930	717
North-West Madhya Pradesh Division.	101	6,819	2,340	740	70	6,423	2,635	872	130	7,182	2,069	619
East Madhya Pradesh Division.	180	6,740	2,149	931	144	6,418	2,345	1,093	244	7,313	1,800	643
South-West Madhya Pradesh Division.	230	6,367	2,397	1,006	178	5,265	3,260	1,297	261	7,021	1,884	834

24. A perusal of the table shows that the ratio of independent workers to employees is 2·3 : 6·6 in the State and is practically the same in all the Natural Divisions. It is, however, remarkably different in the Bastar district as will be seen from Subsidiary Table 5·5, where it is 0·7 : 80. Bastar is the most backward district of the State and it is not surprising that the number of independent workers in Livelihood Class VIII compared to employees is very low. Surguja is another very backward district and it shows the next higher figure and the second lowest in the State for independent workers compared to employees.

The distribution of persons engaged in unproductive activities and belonging to Livelihood Class VIII as given in column 8 of Subsidiary Table 5·5 shows that about 9 per cent of the self-supporting persons belong to this category in the State as a whole. Their percentage is the largest (about 10·1) in South-West Madhya Pradesh Division and smallest (about 7·4) in the North-West Madhya Pradesh Division. In the East Madhya Pradesh Division the percentage of unproductive self-supporting persons is 9·3 although in this Division in the Bilaspur district the percentage is highest in the State being 14·3. In Durg and Bastar, the percentage is about 13·0 and 12·1, respectively.

SECTION IV.—PRIMARY INDUSTRIES OTHER THAN CULTIVATION, MINING AND QUARRYING

1. Stock raising, forestry, collection of forest produce and fishing are the main industries classified in Division 'O' (Primary industries not elsewhere specified) in accordance with the Indian Census Economic Classification Scheme given in Part II-B of the Report. Subsidiary Table 5·8 deals with this group of industries and it shows that of the self-supporting people engaged in industries in Division 'O', over 55 per cent are engaged in stock raising, nearly 21 per cent in fishing and about 18 per cent in forestry and collection of forest products. The District Index of Non-Agricultural Occupations given in Part I-B of the Census Report shows the actual number of self-supporting persons engaged in the different occupations.

2. Stock raising is an industry which is almost universal in the State and is to be found in every district. The most important districts from the point of view of stock raising are Mandla, Bastar, Durg and Bilaspur. In all, 78,233 self-supporting persons in the State are engaged in stock raising.

The Dairy Industry and the Abnormally Low Production of Milk

3. Appendix 'K' contains a brief note very kindly prepared by the Director of Veterinary Services on Dairy development work in the State. It will be noticed that in the State we have 24 cows and buffaloes per 100 of population and yet the milk consumption is hardly 2 ounces *per capita* per day. The limited attempts made to improve the position and the financial difficulties are summarised in the note.

Causes of Poor Milk Yield

4. One of the principal causes of the most unsatisfactory milk position in our State is the unduly large number of cattle and their consequent poor feeding. The Forest Policy Committee have pointed out in 1950 that there are some 1·5 crores of bovine animals in Madhya Pradesh against a total agricultural area of 33,362,060 acres or about 222 per 100 acres of agricultural land. The average net area sown during the quinquennium ending with crop year 1949-50 was 24,386,200 acres, as given in Subsidiary Table 4·7 of Part I-B of the Census Report. On the basis of this area, the number of cattle per 100 acres of land sown comes to about 163. The number of bovine animals per 1,000 of population of 1951 is as large as 1,417. Describing the evil effects of a large number of cattle, Radhakamal Mukerjee says, "But the improvement and cultivation of fodder crops will be futile, if not actually harmful, if the peasants continue their present attitude towards the maintenance of uneconomical and useless cattle, which represent the staggering figure of 125 million heads. It is only a planned programme of restriction of cattle numbers and of controlled breeding which can facilitate the introduction of dairy farming and an intensive system of mixed farming combined with dairying (such as is prevalent in the Punjab, the Western United Provinces and Gujarat) throughout the country. But social sentiments die hard in India, and for several decades the excessive burden of worthless, superfluous beasts will aggravate the poverty of small-holders and the exhaustion of soil and grass-land resources."* Further analysing the cause of low milk yield and lack of vigour in the animals, Mukerjee points out, "Forests, meadows and marshes, all are now invaded by the plough due to population increase, which also leads to the scarcity of fodder and grazing grounds. The population of grazing animals comprises about 500 per square mile, considerable numbers of which are inefficient and worn out cattle but are maintained in compliance with Hindu religious sentiment. A chronic fodder deficiency is responsible for both lack of vigour of the ox and low milk yield of the cow which have such unfavourable reactions on farming efficiency."†

5. The Central Provinces and Berar Industrial Survey Committee also considered the question of the extremely poor condition of the live-stock in the province. In his note given in Part II, Volume I of the Report, Shri K. P. Sagreiya, a member of the Committee, made the following observations, "In fact low grazing rates are positively harmful as they encourage the keeping of useless animals who in turn compete for the available fodder with the essential cattle and thus bring about their degeneration also. The supply to slaughter-houses is Nature's remedy to adjust matters. It is prompted by that instinctive urge in man which teaches him to ameliorate his condition by getting rid of what is a drag on him rather than a source of comfort, even in the face of false sentimental scruples—"false', because slaughter is a kindness, indeed a deliverance, from the state of perpetual semi-starvation to the dumb creatures, which are literally the *Kamdhenus* of this country."

6. It is, therefore, clear that if we want to increase the production of milk, which is one of the most important protective diets referred to in paragraph 27 of Section X of Chapter IV, great efforts

*Food Planning for Four Hundred Millions by Radhakamal Mukerjee, page XI of Preface (Macmillan and Co., Ltd., London, 1938).

†*Ibid*, page 8.

will have to be made by social workers to make our farmers realise the danger of unduly increasing their live-stock and its evil effects on the health and economy of the Nation.

7. Pointing out ways and means of increasing our milk production and comparing it with the production in other countries, Baljit Singh says, "According to Dr. Burns, it is possible to increase milk yield to the extent of 75 per cent in the case of cows, 60 per cent for buffaloes and 50 per cent for goats. A larger part of it can be realized simply by improved feeding and better management, and therefore, without much loss of time. In fact, the milk yield of the village cattle can be improved to the extent of 50 to 60 per cent if fodder and concentrates are given in adequate quantities. If the average yield of cereals per acre is increased, as it ought to be, there will be considerable area for the cultivation of pulses, oil-seeds and fodder, in quantities sufficient for the production of enough food for men and feeding stuffs for the dairy cow and buffalo. Feeding can also be improved by eliminating the unfit cows, bullocks and buffaloes. With a proper organization of agriculture no less than half the present number of dry animals will become redundant and their elimination will help further in improving the feed and milching efficiency of dairy cows in India. In Europe including Russia five times as much milk is produced as in India with an equal number of milch cattle. It may be very ambitious to strive for a similar efficiency but an objective of doubling the present output in the near future should in no case be regarded as too high. Such a target should rather be regarded as within easy reach and one of the cardinal features of the country's agricultural and food policy."*

FORESTRY

8. Forestry and collection of forest produce is also an industry which is to be found in every district. It is very significant in Hoshangabad, Nimar, Melghat area of the Amravati district, Yeotmal, Betul, Sagar and Jabalpur. This group of industries claims 17·89 per cent of the self-supporting persons engaged in all the industries in division 'O' (Primary industries not elsewhere specified). The forests of the State are a great national asset and apart from the people, who are returned as self-supporting persons depending on forest industries, there are many for whom the forests provide secondary or tertiary means of livelihood and this fact must be carefully borne in mind in studying the Census figures. It should be remembered that during the Census only the principal and secondary means of livelihood were recorded and no information was collected about other sources of economic income. Thus the vast majority of the people living in the backward areas of the State, where the forests abound, get economic help in various ways from the forests and not all of them come under the scope of the Census enquiry. Thus, a cultivator might be getting fuel, bamboos and other requirements for his household and cultivation and if cultivation is his principal source of income and his next greatest source of income plying a bullock-cart, the Census Enumerator would have recorded the two means of occupations, namely, cultivation and transport, but not his income from the forest. Actually, however, without the forest the cultivator's life would be well-nigh impossible in many areas. In Part II of Volume II of the Report of the Industrial Survey Committee, already referred to, the following interesting account of the forests and their economic importance is given by Shri K. P. Sagreiya :—

> "Exploitation of the forests to obtain such necessities of life as timber, firewood, bamboos grass, etc., and products of economic importance such as lac or *kattha* is one of the few primary industries of this partially developed province only next in importance to agriculture. Extensive forests have existed from the primaeval times and thanks to Nature they have survived, though in a somewhat depleted condition, to this day, in spite of their ruthless exploitation at the hands of man for his own use and of his cattle. Forestry, by which is meant the rearing of tree crops on scientific lines, is however still in its infancy, and has been practised only by Government, for the last 60 years or so. . . . . , The important role that the forests play in the general commercial welfare and in the economic life of the people of the province is not always fully realised. If statistics were to be collected they would convincingly show that apart from the jungle population which is directly dependent on the forests for such necessities of life as poles, firewood, wood for agricultural implements, grass and grazing for live stock, bamboos, thorns, edible productn and even medicines, a large number earh their livelihood on forest works such as felling of trees, fashioning of timber, carting of forest products, construction of roads, buildings, wells, tanks, etc. Besides this, employment on a large scale is provided to persons engaged in working up the raw products through cottage industries such as carpentry, tanning, bamboo works, lac propagation, shellac manufacture, bidi-making,

*"Population and Food Planning In India" by Baljit Singh, pages 135—136, *ibid.*

kattha boiling, *rusa* oil distillation, etc., and to many skilled labourers engaged in large-scale industries utilising forest products, such as cabinet making, match manufacture, saw mills, etc."

The Report proceeds further and describes the numerous forest industries of the State including those of wood, timber, fuel, charcoal, grass, bamboos and other forest produce and it would appear that development of forest industries presents a promising way of providing substantial sources of additional income to our masses in rural areas whose main problem, as we observed in Chapter IV, is under-employment.

Fishing

9. Fishing, which is becoming increasingly popular in the State, is of importance in many of the districts. There are 24,970 self-supporting persons engaged in this Industry. In the North-West Madhya Pradesh Division, Jabalpur, Hoshangabad, Nimar, Betul and Chhindwara are all well-known for good fish. The Nerbudda provides excellent fishing ground in the Jabalpur and Hoshangabad districts as well as in parts of the Nimar district, while the Tapti flowing through the Betul and Nimar districts is well-known for its fish. Some of the tributaries of the Nerbudda and the Tapti are also good for fishing. In the East Madhya Pradesh Division, the numerous tanks and rivers provide excellent facilities for fishing. Raipur, Bilaspur, Chanda, Bhandara and Balaghat have all fishing industry capable of being extensively developed. In the South-West Madhya Pradesh Division also almost every district has its fishing industry.

10. The fishing industry in Madhya Pradesh has of late been receiving the attention of the State Government and a scheme for piscicultural development has already been introduced for supply of increased quantity of fish. Spawns and fish seeds have been imported into nursery ponds and are later transferred to bigger tanks where they are allowed to develop for being marketed in due course. The total quantity of fish sold under the scheme during the last three years 1947-48 to 1949-50 has been respectively 8,000, 19,920 and 89,120 lbs.

11. Describing the importance of fishing in the State, Dr. S. S. Patwardhan, member of the Provincial Industrial Survey Committee, observed in Chapter XV, Section II of Part I Volume 2 of the Committee's Report "In a poor country like India where the masses are not able to obtain a balanced diet and where milk is not procurable in sufficient quantities it is imperative to supplement a diet based chiefly on rice as a staple food with a chief source of proteins such as fish. This is not difficult on lands bordering the sea where fish can be obtained to an extent for the mere catching; but in an inland province like ours with rivers and tanks of a limited capacity, it becomes incumbent on us to husband our resources in this matter and to increase every possibility of obtaining more supplies by controlled and scientific means. Hence pisciculture, which means rearing of fish, assumes an important role in our province." Concluding his interesting note on pisciculture, Dr. Patwardhan says: "Perhaps the most important factor would be the provision of a wider market for increased production. It may perhaps be necessary to have an intensive propaganda in favour of eating fish. This is very essential not only for the economic success of the scheme but also for the improvement of the general health of the masses. It is hardly necessary to point out that the diet of an average Indian is not only insufficient but it is also deficient in the essential food factors like proteins, fats and vitamins. If fish could be introduced in the diet this would go a long way in restoring the balance."

Chank Gathering

12. Chank gathering is another industry covered by Sub-Division "0·6—Fishing". According to the Census returns, 4,435 self-supporting persons in the State derive their subsistence from this occupation, of whom as many as 4,407 hail from the Chanda district alone. Such a large number of chank gatherers in a district, so far away from the sea, might appear unusual at first sight. The truth, however, is that the river Godavari, which along with its tributaries, the Pranhita and the Indravati, lies on the border of the Sironcha tahsil of the Chanda district, abounds with chanks. The aboriginals, who constitute almost 100 per cent of the population of those parts, gather chanks and eat them, after burning, with tobacco as edible lime. Again, in several parts of the Sironcha tahsil, a large number of "beggar emigrants" from the Hyderabad State, locally known as "gangi edla wandloo" returned their means of livelihood at the Census as "gatherers of chank". They crossed over into the Madhya Pradesh border at the time of harvesting of juar, which incidentally coincided with the Census period, and had been earning their living partly by bartering chanks for grain from the local population and partly by begging with the help of decorated bulls.

The Lac Industry

13. The industry connected with propagation of lac is included in Sub-Division "0·2—Rearing of Small Animalsand Insects" of Division "O—Primary Industries not elsewhere specified". 1568 self-supporting persons are classified under the sub-division in the State and a perusal of the District

Index of Non-Agricultural Occupations given in Part I-B of the Report shows that the largest number of persons under this sub-division are to be found in the Surguja district. Other districts of the East Madhya Pradesh division also engage a few people in the industries of this group. We have already referred to the flourishing lac trade of the Surguja district. The actual manufacture of shellac is of significance in the Bhandara district and this is reflected in the figures for the district under Sub-Division "4·00—Other miscellaneous manufacturing industries" in the District Index.

14. As early as 1939, the Provincial Industrial Survey Committee observed: "India holds a very prominent place in the supply of this product and this province has great possibilities which have not yet been adequately tackled. Industrially lac is coming more and more into prominence, and although to a great extent the trade depression and the substitutes have affected this industry, yet if we can take to exploiting the possibilities of lac, it is one which will lend itself to considerable improvement." Proceeding further, the Committee remarked, "Lac culture can form a very good occupation for the people living in the neighbourhood of the forest. Lac insects themselves use as host trees—Palas, Ber and Kusum. These trees are not of much use in other ways. The skill that is required is very little. Village people can work the collected lac into shellac in their own cottages, men and women working together to form a unit for production. The equipment that is needed is very simple and can be made by the villagers themselves. With the spread of the use of electricity lac can be used in manufacturing of insulators and other electrical accessories. Therefore, its commercial possibilities are great. As things stand, the forest dues and taxes amount to over 40 per cent of the cost of production. Here again the industry, because it reaches down to the unsophisticated people requires a considerable amount of organisation from this Department."

15. The Provincial Industries Committee, which was appointed by Government in 1944 and which submitted its report in 1946, again pointed out how the lac industry was of significance in the State. According to them, there were 25 shellac factories, of which 13 were in Gondia and during the quinquennium 1937-38 to 1941-42 the average annual export of lac from Madhya Pradesh was 8,978 tons and the State was producting 16 per cent of the total amount of lac in India.

16. As pointed out by the Provincial Industrial Survey Committee, the lac industry also promises to provide good employment to our under-employed villagers if the industry were properly developed.

17. Appendix 'M' which contains a note on the industrial development of Madhya Pradesh during the decade, briefly describes the Paints and Varnishes Industries started in the State.

Sericulture

18. Rearing of silk worms is also an industry covered by Sub-Division "0·2—Rearing of small animals and insects" mentioned above while discussing the lac industry. The *Kosa* silk cottage industry of the Bilaspur district is worth mentioning here. At one time, Chamars and Kewats were engaged in rearing the *Tasar* silk worms and good quality of *tasar* silk was produced in Bilaspur. The principal centres were Bilaspur, Khokra, Champa, Chhuri, Akaltara and Baloda. The Provincial Industrial Survey Committee pointed out in 1939 that the causes of extinction of this industry were not known and that they might be ascribed to the competition of foreign silk and dearth of locally produced *kosa* silk. They further observed, "Not much attention has been paid in this province to the possibilities of manufacturing silk. We visited a few villages which produce *tusser* silk cloth from naturally found cocoons. In some places a royalty is paid to the Forest Department for obtaining these cocoons. This industry is not carried on on a scientific basis because today there is a lack of scientific equipment. There are no disease-free layings and no guarantee in regard to the quality of eggs. Though it is altogether in a very crude form, it contains the seeds of a promising industry, but if things go on as they have done in the past, it will amount to nothing." The possibility of encouraging the silk industry in the State was considered as early as 1908-09 as mentioned in the Report on the Industrial Survey of the Central Provinces and Berar. But, as pointed out above probably on account of foreign competition this cottage industry has not flourished. Even now, in the Janjgir tahsil *tusser* silk is to a certain extent manufactured and the possibility of giving encouragement to the industry might be examined. It is of interest to mention that no persons have been returned from the Bilaspur district as having their principal means of occupation in rearing of silk worms. Obviously, the industry is carried on from naturally found cocoons in the forest collected by the village people by way of subsidiary occupation. In the Report on the working of the Department of Industries in Madhya Pradesh for the year ending the 31st March 1950, the following observations are made about the *Tassar* or *Kosa* Industry, "*Tassar* rearing and distribution of disease-free seed to *tassar* rearers were continued at the two departmental *tassar* stations at Armori (Chanda district) and Sonder (Bhandara district). Considering the results achieved after working the scheme for about 10 years, it was observed that the

progress, especially in the introduction of Bihar seed, was not very encouraging. It was, therefore, decided to drop the scheme in its present form as a measure of economy."

Poultry Farming

19. This important industry is not yet properly organised. In fact, there are hardly 145 self-supporting persons in the State who have been returned as whole-time poultry farmers. The Industrial Survey Committee observed in their Report in 1939 as follows :"Nowhere do we find poultry-keeping as an industry. Villagers do keep a few fowls. They use the eggs themselves." A note very kindly prepared by the Director of Veterinary Services on poultry farming in the State is given in Appendix 'L'. The industry at present in the State is essentially a subsidiary occupation and can be extensively developed.

Hunting and Trapping

20. Hunting and trapping accounts for 1·96 per cent of the self-supporting persons belonging to Division "O—Primary Industries not elsewhere specified". This industry is significant in the South-West Madhya Pradesh Division, where the percentage is as high as 4·44 being highest in the Akola district (9·98). The Pardhis of Berar are a professional tribe well-versed in trapping and catching birds and small animals.

Plantation Industries

21. The plantation industries engage about 3 per cent of the self-supporting persons of Division 'O'. The percentage is highest in the Jabalpur and Sagar districts where fruit orchards, vegetable plantations, singara, tobacco and sugarcane plantations are important. The betel leaf plantations are also to be found in these districts as well as in Hoshangabad. Sugarcane plantations are also to be found in Betul, Chhindwara, Chanda, Bhandara, Balaghat, Raipur, Bilaspur and Durg districts. Tobacco, orange, banana plantations and vegetable plantations in the Nagpur district and the districts of Berar account for the industry in the South-West Madhya Pradesh Division. In the Hoshangabad district vegetable and fruit plantations along the Nerbudda provide an important industry.

The Nagpur Oranges

22. Nagpur oranges are well-known all over the country. "Nagpur" alone produces oranges worth Rs. 2·5 lakhs per year. Out of this crop nearly 40 per cent is wasted because cultivation is unscientific, picking and transport to the markets are primitive, grading is almost absent and methods of packing are injurious to the fruit. But more than all these, thousands of tons of oranges rot or are sold at uneconomical prices because there are no facilities for their preservation. The consequences of this huge waste to the grower and the under-fed masses in the country are alarming."*

23. The establishment of the Central Hindustan Orange and Cold Storage Company in Nagpur was meant to overcome this great wastage of the precious fruit in the State. The Company has been given State-aid and provision has been made for 150,000 cubic feet of space for storage of perishable articles including fruits, potatoes, eggs, etc.

24. Progress of orange cultivation in the Nagpur district during the last two decades has been discussed in Chapter II, Section VI where the volume of business involved in this industry is also discussed. It is interesting to mention that the rural area near Nagpur comprising about 800 villages is being electrified from the Khaparkheda Thermal Station. The electrification of the orange producing villages will give considerable encouragement to the already flourishing industry of the State. A note on the development of electricity in Madhya Pradesh very kindly prepared by Lt. Col. E. G. Mackie, M.A.I.E.E., M.I.M.E., A.I.E.E., Chief Engineer and General Manager, Electricity Department, Nagpur, is given in Part II of Appendix 'M'.

*"Through Freedom Towards Peace and Progress" published by the Government of C. P. & Berar, 1949, page 198.

SECTION V.—MINING AND QUARRYING

1. In Chapter I while describing the Natural Divisions of the State, a reference has already been made to the rich mineral resources of the State. The geological summary given in Part I of Appendix 'C' and the report of the Progress of Geological Survey in Madhya Pradesh given in Part II of the Appendix and very kindly made available by the Geological Survey of India, may be referred to for details as also the "Mineral Resources of the Central Provinces and Berar" issued by the Provincial Government in 1942.

Coal

2. Coal mining is by far the most important industry of the State, as over 52 per cent of the self-supporting persons belonging to division "1—mining and quarrying" are engaged in coal mining. Coal is the most extensively worked mineral in the State. The most important coal mines are in the Chhindwara, Chanda and Surguja districts. The Rajore Coal Mine of the Yeotmal district adjoins the Chanda district coal-fields and this accounts for the significant figures against Yeotmal in Subsidiary Table 5·9 given in Part I-B of the Report. In the Betul district also, coal-fields exist although intensive mining activities are not at present carried on. It has been found that coal can be obtained in the Nagpur, Jabalpur, Bilaspur and Hoshangabad districts also.

3. Although extensive coal deposits exist in the State of the order of 5,150 million tons in the Chhattisgarh-Mahanadi, Satpura region and Wardha valley areas up to a depth of 1,000 feet, only a few coal-fields have so far been tapped*. The annual production of coal in the State (excluding the integrated States) during 1941 was of the order of 1,791 thousand tons. The figures of production during the last ten years are given in Table 134 below. (Figures prior to 1948 exclude the integrated States and those from 1948 include them.):—

Table 134†

Coal Production in Madhya Pradesh.

Year (1)	Production in tons (2)
1941	1,790,830
1942	1,836,522
1943	1,657,019
1944	1,677,786
1945	1,649,243
1646	1,486,310
1947	1,358,231
1948	2,885,186
1949	2,944,505
1950	2,964,441
1951	2,904,736

Manganese

4. A perusal of Subsidiary Table 5·9 in Part I-B of the report further shows that "metal mining except iron-ore mining" is another important industry in which about 34 per cent of the self-supporting persons belonging to Division 1 are to be found. Manganese is the most important mineral in this category and some of the finest manganese mines in the world are to be found in Madhya Pradesh. Nagpur, Balaghat and Bhandara contain the best manganese deposits. Chhindwara has also got a few manganese mines.

5. With regard to the manganese mining in the Bhandara district and in the surrounding districts of Nagpur and Balaghat, the following passage from the Report of the Provincial Industries Committee (1946) is of interest:—

> "The Central Provinces manganese deposits are among the finest in the world, but the reserves of higher grade ores (above 48 per cent manganese) were estimated in 1943 to be of the order of only 10 to 20 million tons. The chief manganese ores are in the Nagpur, Bhandara and Balaghat districts. No new deposits have come to light during recent years. Practically all the known areas are under mining leases and nearly 90 per cent of the known manganese deposits are leased to one company, namely, the Central Provinces Manganese Ore Company, which is a British Company with sterling capital. The industry consists in merely digging the ore and exporting practically all of it to the foreign countries in the raw condition. The proportion of manganese ore used in India is negligible, being in the neighbourhood of 5 per cent. The great bulk of the out-put is now exported to the United States of America and to England mostly for war purposes. At the pre-war rate of extraction, the known reserves will not last more than some thirty years. No further expansion of manganese mining is, therefore, desirable."

6. With regard to the out-put of manganese-ore, the Industries Committee observed: "The average out-put during the 29 years 1909 to 1937 amounted to just under half a million tons. Raisings in 1938 and 1939 totalled 0·65 and 0·55 million tons respectively, or about 83 per cent of the all-India production in those two years."‡ The output of

*Report of the Provincial Industries Committee, pages 25 and 145 (Government Printing, Nagpur, 1946).

†The figures from 1941 to 1945 were supplied by the Deputy Director, Geological Survey of India, and those from 1946 up to 1951 were supplied by the Commerce and Industry Department of the Government of Madhya Pradesh. The production for 1951 relates to the period from 1st January up to 30th November only.

‡Report of the Provincial Industries Committee, page 27 *ibid.*

manganese ore in Madhya Pradesh during the last ten years is given in Table 135 below :—

Table 135*

Manganese Production in Madhya Pradesh.

Year (1)	Production in tons (2)
1941	639,348
1942	643,773
1943	461,676
1944	294,712
1945	153,598
1946	160,000
1947	248,000
1948	331,741
1949	558,220
1950	628,697

7. It is reported that in 1950, 176 mines of raw manganese were working in the State and of the total manganese export from India, Madhya Pradesh contributed 82 per cent. This figure of export needs careful scrutiny in view of the limited reserves mentioned by the Industries Committee. Even in its crudest form of digging and exporting the ore, the industry has provided an important means of livelihood for the large labouring population. The Chief Inspector of Mines in India has reported that the daily average number of persons employed during 1950 in the Manganese, Bauxite and Graphite mines of the State was 26,061. The Industries Committee recommended State control of this valuable mineral and also suggested investigation into the economics of the manufacture of ferro-manganese after the establishment of the Thermal Station in Jabalpur-Katni area and the availability of cheap power. Although the matter has not yet been taken up, the Khaparkheda Thermal Station is already in commission and perhaps the recommendations of the Provincial Industries Committee might well be considered now. If industrial activities develop on these lines, gainful occupation would be possible for a much larger number of people in these districts and the country might earn more dollars into the bargain.

8. An interesting account of the Manganese Industry in the Central Provinces will be found in the Government of Madhya Pradesh publication "A Short Note on the Manganese Industry in the Central Provinces" by S. K. Barooah, B.Sc., A.R.S.M., Director of Geology and Mining (1950).

Bauxite

9. In the Jabalpur district, bauxite mining is significant as extensive deposits of bauxite are found in the Katni tahsil. Balaghat, Chhindwara, Mandla, Bilaspur and Surguja districts also contain bauxite deposits and schemes of manufacturing Aluminium from the available ore in the State were undertaken but the attempts have not so far succeeded.

Gold

10. 912 self-supporting persons are returned from the State as engaged in Gold mining and quarrying. The districts, which have returned these figures, are Sagar (636), Hoshangabad (1), Bastar, (16), Raigarh (91), Surguja (168). The following account of Gold given in the "Mineral Resources of the Central Provinces and Berar" mentioned above is of interest.

> "Alluvial gold has been obtained from time immemorial by local gold-washers or *jhoras* from the river-sands and gravels of the province, but there is no evidence that it exists anywhere in sufficient quantity to be worth exploitation by modern methods. Amongst the districts and States that have thus yielded alluvial gold are Balaghat, Bastar, Bhandara, Bilaspur, Jashpur, Mandla, Raipur, Seoni and Udaipur. Such alluvial gold has probably been derived ultimately from the ancient Archaean rocks, but the only localities where gold has been obtained *in situ* are Sonakhan in the Bilaspur district, where a gold mine is said formerly to have existed, and Sleemanabad in the Jabalpur district, where gold has been found in the copper-ores in quantities ranging up to 15 cwt. per ton. Small quantities are won from alluvial washings nowadays, but the amount probably does not exceed 200 oz. per annum. In the Dharwarian rocks in the area south-east of Sleemanabad, Jabalpur district, there occur several bands of crushed conglomerates varying in thickness from a few feet to 100 feet, and containing chalcedony, quartz, sericite, chlorite and ferruginous matter in the matrix. These were prospected in detail a few years ago by a private firm but the gold values were poor, ranging between 0·2 to 0·8 cwt. of gold per ton. A few veins of bluish quartz in the area, however, gave better values, up to 4 cwts. per ton, but the veins are thin, sparsely distributed and quantitatively unimportant."

*See note on Table 134.

Stone Quarrying and Clay Pits

11. The industry connected with stone quarrying, clay and sand pits is also important in the State and about 11 per cent of the self-supporting persons of Division "1.—Mining and Quarrying" are engaged in this industry. Discussion about people engaged in the manufacture of clay and clay products will follow in section VIII of this chapter. Stone quarrying is common all over the State. In the Jabalpur district, stone and clay quarrying is of great importance. Out of about 3,308 self-supporting persons belonging to Division '1', in the Jabalpur district, about 99 per cent are engaged in this industry. The pottery works of Jabalpur, with their clay quarries, and the soap-stone quarries near the Marble Rocks are well-known. Recommending the expansion of pottery works in the State, the Industries Committee observed in 1946, "The Province has the advantage of coal and raw materials such as clay, china clay, fire clay, felspar, flint and silica being available in close proximity to one another."

Iron

12. Sub-Division 1·2 (Iron ore mining) accounts for only about 0·14 per cent of the self-supporting persons in division 1, the actual number returned being only 79. Discussion about people engaged in the manufacture of Iron and Steel will follow in section VII (paragraph 3) of this chapter. Large iron-ore deposits exist in Durg and Bastar districts and also in the Sagar district. The Deputy Commissioner, Bastar, has made the following observations about the iron ore in the district:

> "Almost all parts of Bastar are full of iron ore. Some of it can be classed as amongst the finest and purest in the world. The aboriginal smith mines or collects the ore which is soft enough to be dug easily with the ordinary hoe and is broken up with blunt end of the pointed hammer. Having thus collected the ore, the smiths melt the same and the refining is done finally working up into implements and tools for agriculturists and artisans. They also prepare knives, arrow points and other weapons for hunting purposes. The Bailadila hills of Dantewara tahsil contain huge deposits of iron ore lying hitherto unexplored and unworked. With the accomplishment of transport facilities such as opening of Railways and the equipment of necessary machineries requiring colossal investment of capital alone, the prospects of exploring of the hills for the mining of iron ores would be possible. If this is done, there will be a marked development of industries in this district improving the economic conditions of the people as a whole and improving the sources of the revenues to the Government to a great extent."

13. In the Sagar district, iron ore is found in the north, particularly in the villages of Tigora, Hirapur, Baritha and Amarmau all of the Banda tahsil. In 1899, there were 46 furnaces in Tigora, Hirapur and Baritha. Their number diminished to 31 by about 1903, to only one in 1933 and in 1937 there were no furnaces. The present position is described by the Deputy Commissioner as follows, "A few iron smiths particularly in the north tract of Banda engage themselves in extracting iron from its raw ore found there".

14. Describing the rich iron resources of the State, the Industries Committee made very strong recommendations for establishing the Iron and Steel Industry in the State and actually the excellent iron ore deposits of the Durg district were recently investigated in connection with the opening of an iron and steel factory in the Bhilai area taking benefit of the irrigation canals for floating the ore. For financial reasons, however, the project has been postponed. A brief account of the proposed Iron and Steel Industry is given in Appendix 'M' (Part I).

SECTION VI.—PROCESSING AND MANUFACTURE—FOODSTUFFS, TEXTILES, LEATHER AND PRODUCTS THEREOF

1. These industries under Division 2 are of considerable importance because some 308,000 self-supporting persons are engaged in them, representing about 20 per cent of the self-supporting persons of all industries and services.

Cotton Textiles

2. The most important industry of this group employing 109,942 self-supporting persons is that of cotton textiles, in which about 36 per cent of the self-supporting persons of division 2 are engaged. The eleven textile mills of the State employ some 29,000 operatives and about 1,250 clerks in addition to the managerial, technical and supervisory staff. Their daily wage bill is reported to be about a lakh of rupees. Nagpur, Wardha and Nimar, as well as Akola and Amravati, are the main centres of the cotton textile industry in its various forms. A brief account of the cotton ginning and pressing factories and of the cotton mills in the State will be found in Appendix 'M', part I, which contains the note on the Industrial development of Madhya Pradesh mentioned before.

Handloom-Weaving

3. The figures of persons engaged in the cotton textile industry against Chanda and Bastar districts in Subsidiary Table 5·10 given in Part I-B of the Report are significant. The Warora tahsil of the Chanda district is a cotton producing area. Although the number of handloom weavers in the Warora tahsil itself is very small, the handloom cloth industry is extensively carried on in the other tahsils of the district. The cloth produced is of coarse and medium kind. The Deputy Commissioner, Chanda, has furnished the following figures of handloom weavers in his district :—

Revenue Inspector Circle, Chanda ..	262
Revenue Inspector Circle, Gondpipri ..	375
Revenue Inspector Circle, Mul	139
Bramhapuri tahsil	1,500
Gadhchiroli tahsil	1,000
Sironcha	300
Total ..	3,576

4. In the Bastar district, the *Mahars* are generally the handloom cloth weavers. They make *dhoties* and *sarees* and sell them in the open market. The cloth is durable and is liked by the aborigines. The industry is very important in the Jagdalpur and Kondagaon tahsils.

5. Table 136 given below gives the number of handlooms in the different districts as reported by the Deputy Commissioners, who are the registering authority under the Madhya Pradesh Handloom (Control) Order, 1951. The figures are for the looms registered up to 30th June 1952—

Table 136

Number of Handlooms in Madhya Pradesh.

Serial No. (1)	Name of the district (2)	Number of handlooms (3)
1	Sagar	1,751
2	Jabalpur	5,000
3	Hoshangabad	4,192
4	Nimar	8,151
5	Mandla	1,011
6	Betul	2,742
7	Chhindwara	8,729
8	Raipur	8,851
9	Bilaspur	11,264
10	Durg	8,214
11	Bastar	5,219
12	Raigarh	10,332
13	Surguja	1,295
14	Chanda	17,093
15	Bhandara	11,226
16	Balaghat	3,414
17	Wardha	1,996
18	Nagpur	43,483
19	Amravati	6,811
20	Akola	4,292
21	Buldana	1,803
22	Yeotmal	1,391
	Total ..	168,260

6. Describing how there are some 2½ million workers engaged in India in the handloom industry as against seven lakh workers in cotton mills, M. P. Gandhi believes that the handloom industry offers a solution to the problem of mass unemployment and poverty in the country to a degree which no other single industry can tackle. He says, "No scheme of social security on a nationwide scale is possible when the national income and living standards are so low. It is in this context that the case for handicrafts is stressed, and handweaving, as a means of employment and income to millions and as an instrument of equitable distribution of national income all over this huge subcontinent, acquires a special significance. It offers a solution to the problem of mass unemployment and poverty in a backward economy to a degree which no other single industry can tackle."*

*"The Handloom Weaving Industry—1950-51 Annual', page IV (Indian Printing Works, Bombay).

Tobacco

7. Sub-Division 2·5 (Tobacco) includes the very important *bidi* industry of the State. This sub-division includes about 30 per cent of the self-supporting persons of Division 2, the actual number in the State being 91,204. Bhandara, Sagar and Jabalpur are well-known districts in which the *bidi* industry is very popular. The industry is also to be found in many other districts, notably those of the East Madhya Pradesh Division. The Nagpur district, which adjoins Bhandara, is also an important centre of the '*bidi*' industry as 11 per cent of the self-supporting persons in Division 2 are engaged in it. The difficulty caused in getting agricultural labour on account of the *bidi* industry in the Bhandara district has already been discussed in paragraph 6 of Chapter IV, Section VI

Wearing Apparel

8. Sub-Division 2·7 (Wearing apparel except footwear, and made-up textile goods) accounts for 33,025 self-supporting persons or about 11 per cent of the self-supporting persons in Division 2. This industry is to be found all over the State and includes tailors, hosiery manufacturers and others. The details of the distribution will be found in the District Index of Non-Agricultural Occupations in Part I-B of the Census Report.

Leather

9. Sub-Division 2·9 (Leather, leather products and footwear) comes next in importance. About 10 per cent of the self-supporting persons in division 2, representing 31,738 self-supporting persons, are engaged in the leather industry which is the principal means of livelihood of many of the *Chamars* all over the State. Hoshangabad, Mandla, Betul and Chhindwara districts particularly attract attention on account of the correspondingly higher proportion of people under this sub-division.

10. Out of 31,738 self-supporting persons engaged in this industry in the State, 20,648 are cobblers, makers and repairers of shoes, etc., 6,536 are employed as tanners, etc., and 4,554 are engaged as makers and repairers of other leather products.

11. Recommending the establishment of modern tanneries and shoe factories at Raipur, Nagpur and Jabalpur, the Industries Committee pointed out the existing crude methods of leather production and the volume of exports of hides and skins which could be used in the proposed tanneries and factories :

> "Production of leather in this province is by crude methods mainly as a cottage industry. There are also six small tanneries employing about 400 persons in all doing very inferior tanning.
>
> *Raw materials.*—From the statement under hides and skins it will be seen that we export on an average about 3,500 tons of raw hides and skins every year from this province, while estimates based on our cattle population point to the availability of about 12,000 tons a year of hides and skins, if our resources are fully tapped. Large quantities of tanstuffs are exported from the province. In 1937, about 42,000 tons of *harra* (myrabolans) went out of the province. Other tanning materials like *babul* bark, *dhaora* leaves, etc., available in the forests are also exported in large quantities to Bombay and Calcutta. Thus the province has all the essential raw materials in abundance for the vegetable tanning industry. Chrome tanning is a useful adjunct and is also justified by our large resources in hides and skins."

Foodstuffs

12. The food industries under Sub-Divisions 2·1 and 2·0 are also important in the State. Together they account for 21,622 self-supporting persons or about 7 per cent of those under division 2. Raipur, Bilaspur, Durg and Raigarh are most important centres of this industry. All these districts have a large number of rice mills. In the Hoshangabad district, the manufacture of pulses is significant. The Surguja district also attracts attention as Subsidiary Table 5·10 shows that out of about 2,700 self-supporting persons, about 24 per cent (or 643 persons) are engaged in food industries otherwise unclassified. The manufacture of parched and pressed rice (*Poha, Murmura* and *Lahi*) provide employment for these people.

Vegetable Oils, etc.

13. Sub-Division 2·2 (Vegetable oil and dairy products) accounts for about 3·75 per cent of the self-supporting persons in Division 2 the actual number being 11,544. Dairy products are manufactured to a certain extent all over the State. A comparatively higher number of people are engaged in these industries in the districts of Betul, Chhindwara, Balaghat and Buldana. In the Buldana district, the oil mills of Chikhli, Khamgaon and Malkapur taluqs are important. There are in all 16 oil mills in the district. The Sudha Industries producing vegetable oil is situated at Shegaon on account of the abundance of groundnut crop in this tract. In the hilly districts of Balaghat,

Chhindwara and Betul, dairy products, including butter and ghee are manufactured on a comparatively higher scale. In the Betul district, the oil mills for extracting oil from the oil-seeds are also important. Table 137 below gives the quinquennial average area under all oil-seeds in the different districts of Madhya Pradesh for the quinquennium ending 1949-50 :—

Table 137

Average area under oil-seeds during the quinquennium ending 1949-50.

Name of the district (1)	Area in thousand acres (2)
Sagar	129·8
Jabalpur	65·38
Mandla	102·9
Hoshangabad ..	156·46
Nimar	89·66
Betul	78·86
Chhindwara	197·98
Wardha	64·68
Nagpur	99·46
Chanda	125·42
Bhandara	87·68
Balaghat	87·88
Durg	144·76
Raipur	189·58
Bilaspur	128·2
Akola	170·98
Amravati	110·94
Buldana	185·22
Yeotmal	140·06

14. The production of all oil-seeds, including cotton seed, is at present as we have seen in Chapter IV, Section IX, about five lakh tons. Describing the unsatisfactory condition of the oil-milling industry, the Industries Committee remarked :

" There are 43 power driven oil mills registered as factories, employing about 1,800 persons and about 17,000 *ghanies*. They crush mainly linseed, small quantities of groundnuts and *til*, and a certain amount of *mahua* and castor. There is hardly any crushing of cotton seed, though it is one of the most important oil-seeds produced. The mills in the province are all small units, most of them using only one or two expellers. The machinery is old and worked without expert supervision. The factories being all small, cannot afford to employ highly qualified staff, and are, therefore, inefficient."

15. The Planning Commission have pointed out that the village oil industry could be extensively developed as a cottage industry and production of *neem* oil might also be encouraged.

Sugar and Beverages

16. The industries of this group consisting of Sub-Divisions 2·3 (Sugar industries) and 2·4 (Beverages) account for 202 and 1977 self-supporting persons, respectively. Sugarcane plantation in the South-West Madhya Pradesh Division is obviously reflected in the figures of Sub-Division 2·3 given in Subsidiary Table 5.10 and the District Index of Non-Agricultural Occupations given in Part I-B of the Report. Bastar, Surguja and Mandla are aboriginal tracts, where the outstill system of distilling liquor is in vogue and accounts for the comparatively higher percentage of people under Sub-Division 2·4 (Beverages).

17. The palm-gur industry has not yet been organised in the State although the Gur is manufactured at some places on an experimental scale. The Planning Commission have considered this to be a suitable cottage industry to be introduced extensively in the country. With regard to the development of the palm-gur industry in the State, the Industrial Survey Committee referred to the existence of the jungles of *sindhi* trees in the State and observed :

"The present Government has been following a policy of introducing prohibition in various districts of this province. This scheme of making sindhi-gur must form a complementary programme to prohibition because the tappers who have been employed in extracting the intoxicants will be thrown out of employment. If this scheme is introduced immediately, they could be switched over for this purpose without any loss.

For making sugar on a cottage basis a good centrifugal machine has to be devised. One such machine is under experiment in the All India Village Industries Association.

To obtain sweet juice, there are, at the present time, certain formalities to go through according to the requirements of the Excise Department. In the Madras Presidency and some other parts of the country, people are allowed to tap palm trees for gur-making purposes without any formality. Such rules and regulations have to be introduced in this province.

The furnaces used for boiling the juice have to be experimented with. Several types of furnaces have been suggested but we may have

to devise a suitable furnace for sindhi juice boiling. There is a certain amount of prejudice against the use of gur made from palm juice. Presumably this prejudice arises out of the misconception that gur is made out of an intoxicating drink. This misconception has to be combated and people should be made to realise that gur of palm trees also possesses considerable nutritive properties.

The implements necessary are extremely simple and are usually made in the villages. The blacksmith makes the iron pan and the tapper's instruments; the furnaces are made with the local bricks. The vessels used for the juice collection and for moulds are usually of mud. In the case of the centrifugal machine necessary for sugar, certain parts of it may have to be made on the lathe which may also involve the use of simple machines and these may not be available in the villages today. The cost of the equipment would fall within Rs. 50.

The one difficulty that is met with is fuel but as many of these sindhi and palm trees are to be found in the jungle, it ought not to be an impossible proposition to arrange for a free collection of fuel. This is an industry that can be taught to the aboriginal tribes, the Madias and Gonds, especially in the Sirorcha tract."

SECTION VII.—PROCESSING AND MANUFACTURE—METALS, CHEMICALS AND PRODUCTS THEREOF

1. These industries engage about 67,000 self-supporting persons and their distribution sub-divisionwise is shown in Subsidiary Table 5.11. The actual number of self-supporting persons engaged in these industries in different parts of the State will be found in the District Index of Non-Agricultural Occupations in Part I-B of the Report.

Metal Products—Unclassified

2. Sub-Division 3·0 (Manufacture of metal products otherwise unclassified) accounts for 53,891 self-supporting persons or about 80 per cent of those in Division 3 of the divisions of Industries and Services in the State. This sub-division includes blacksmiths, etc. (30,794), workers in copper, brass and bell metal (5,403), tin-smiths, etc., and naturally, therefore, every district shows a fairly large percentage of the self-supporting persons of this sub-division in Subsidiary Table 5.11. It is interesting to note that in the backward districts of the Plateau Sub-Division and the East Madhya Pradesh Division, the percentage under "Manufacture of metal products otherwise unclassified—3·0" is extremely high. In the Mandla district, it is as high as 98·84. This merely means that almost all the persons thus classified are of the blacksmith, coppersmith, or tinsmith type, or are workers in copper, brass, bell metal, etc. The percentage for the Nagpur district in Subsidiary Table 5·11 attracts attention as it shows the lowest percentage (44·6) under Sub-Division 3·0. This is due to the fact that there are other industries in the district, notably that under Sub-Divisions 3·3 (Transport Equipment) and 3·5 (Machinery including Engineering Workshops, etc.), which account for about 20 and 26 per cent of people respectively in Division 3.

Manufacture of Iron and Steel

3. Sub-Division 3·1—Iron and Steel (Basic Manufacture)—accounts for only 1,599 self-supporting persons or 2·4 per cent of those in the State in this Division. The districts, which attract attention while studying Subsidiary Table 5.11, are Durg, Surguja and Sagar. In all these three districts, iron-ore is found and people are engaged in smelting the ore and in manufacturing crude implements therefrom.

4. While dealing with the subject of iron-ore mining in Section V of this Chapter, we have briefly referred to the primitive nature of the industry and the proposals to start an up-to-date Iron and Steel Industry in the State.

Manufacture of Non-ferrous Metals

5. Sub-Division 3.2—Non-Ferrous Metals (Basic Manufacture)—is of very little significance in the State as the total number of self-supporting persons engaged in this manufacture is only 348.

Transport Equipment

6. Sub-Division 3.3 (Transport Equipment) accounts for about 6 per cent of the self-supporting persons in Division 3, the actual number being 4,044. The districts, which attract attention, are Hoshangabad, Nagpur and Buldana. This sub-division includes manufacture, assembly and repair of Railway equipment, motor vehicles and bicycles. Itarsi in the Hoshangabad district is a very important Railway junction on the Central Railway (the old G. I. P. Railway) with large railway workshops. Nagpur is also a very important railway centre of the Central as well as the Eastern (The former B. N. R.) Railways. In the Buldana district, the total number of self-supporting persons in Divison '3' is only 1,054. About 15 per cent of these people (or 158 persons) are actually to be found in sub-division 3·3 and this is not unusual considering the fact that there are two important railway centres at Khamgaon and Malkapur in this district and there are bus services also throughout the district.

Electrical Machinery

7. Sub-Division 3·4 (Electrical machinery, apparatus, appliances and supplies) is, again, of very little significance as hardly 411 self-supporting persons or about 0·6 per cent of those under Division 3 belong to this sub-division. The small percentage of people in some of the districts indicates the presence of the employees engaged in the transmission and distribution of electric power and repair of electric equipment of motor vehicles, railway, etc. With the rapid electrification of the industrial areas of the State, there is every likelihood of development of industries for manufacturing electrical goods.

Engineering Workshops, etc.

8. Sub-Division 3·5—Machinery (other than electrical machinery) including Engineering Workshops—accounts for 6·4 per cent of the self-supporting persons under Division 3 in the State. The actual number is 4,312. While examining Subsidiary Table 5·11, the South-West Madhya Pradesh Division immediately attracts attention as there are

about 16 per cent of the self-supporting persons of this division engaged in these industries. In the Nagpur district, the percentage is as high as about 26. The presence of textile mills, cotton and ginning factories, etc., has obviously encouraged the establishment of engineering workshops. In the North-West Madhya Pradesh Division, the Jabalpur district also attracts attention as there are a large number of factories in Jabalpur engaged in different production work with a number of engineering workshops. An account of the Engineering establishments in the State is given in the note on Industrial development in the State in Part I of Appendix 'M'.

Manufacture of Fire-works, etc.

9. Sub-Division 3.6 (Basic Industrial Chemicals, Fertiliser and Power Alcohol) includes manufacturers of fire-works, explosives, dyes, alkali salts, acids, etc. About 0·76 per cent of the self-supporting persons in Division 3, or 518 persons only are engaged in these industries of Sub-Division 3·6. In the South-West Madhya Pradesh Division, the proportion is slightly higher being about 2·23 and is reflected in the district figures also in Subsidiary Table 5·11 and the District Index of Non-Agricultural Occupations given in Part I-B of the Report. This Natural Division is industrially most developed and the richest in the state.

10. The Industries Committee recommended chemical manufacturing industries in the State including fertilisers, nitric acid, nitrocellulose, sulphuric acid, soda ash, caustic soda, bleaching powder, chlorine, industrial solvents and coal distillation products. Pointing out the great importance of the chemical industries, they observe :

> "Industrial Chemicals form a class of basic or key industries which are vital to the full-fledged development of the province, and should receive the very careful attention both of Government and public. The establishment and development on economic lines of the chemical industry is only possible if it is viewed as one group rather than as consisting of so many independent items, since they are so closely inter-linked with, and are inter-dependent upon, one another. The importance of this group of industries lies in the fact that the industrial use of the raw materials of the province depends upon the availability of these chemicals. As the Tariff Board on the Heavy Chemical Industry says : 'One of the principal grounds on which the chemical industry may establish a claim to public assistance is that it is a key industry. Its products are used in most other industries, in the textile industry, the leather industry, the paper industry, the glass and porcelain industry, the rubber industry, in the making of artificial silk, of paints and varnishes, soap and candles, and the purification of mineral and vegetable oils.
>
> If India is ever to become industrialised on any considerable scale, the establishment of the chemical industry on a firm basis is clearly a matter of great importance. There is another point of view which also makes the industry one of national importance. During the last few years industrial advancement as well as the development of agriculture has been largely a question of applied chemistry. In every country therefore today more and more attention is paid to chemical research both for industrial and for agricultural purposes. The real foundations of industrial chemical research can never be laid in any country which does not possess a chemical industry; for though much knowledge may be acquired in laboratories, unless that knowledge is applied in practice to the needs of industry and agriculture, little or no advance is possible. The vast mineral, forest and agricultural resources of India cannot be exploited to their fullest extent unless opportunities are given to chemists to acquire practical knowledge in works where the processes of manufacture are in actual operations'."

11. There are now two chemical works in Nagpur registered under the Factories Act and employing about 23 persons. They manufacture sulphuric, hydrochloric and nitric acids. During the post-war period, The National Industrial Alcohols Limited, Kamptee, was established to manufacture alcohol and in 1949-50 it manufactured 3 lakh gallons of spirits.

Medical Preparations

12. Sub-Division 3·7 (Medical and pharmaceutical preparations) accounts for hardly 0·3 per cent of the self-supporting persons in Division 3, the actual number being 217, and except in the Betul district, the proportion hardly varies. In the Betul district, the percentage is about 3·8 (the actual number being 50) and is associated with the presence of the pharmacies.

Manufacture of Other Chemical Products

13. Sub-Division 3·8 (Manufacture of chemical products otherwise unclassified) accounts for 1,636 self-supporting persons or about 2·4 per cent of

those in Division 3. It includes persons engaged in the manufacture of soap, paints, varnishes, polishes, ink, matches, candles, starch, etc. In the Raipur district, there are about 13 per cent of the self-supporting persons in these industries under Sub-Division 3.8. The Raipur Soap Works is a fairly well-known concern. The Industries Committee reported about 25 small soap factories in the State manufacturing soap in a primitive fashion and pointed out the possibilities of introducing an up-to-date method of manufacturing it. The development of the soap industry during the decade is reviewed in the note on industrial development of the State given in part I of Appendix 'M'.

14. There are three match factories in the State employing about 140 persons. The industry is reported to be in difficulty due to inadequate supply of the required wood at economic prices.

15. The development of the paints and varnishes industry is reviewed briefly in the note in Appendix 'M', referred to above.

SECTION VIII.—PROCESSING AND MANUFACTURE NOT SPECIFIED ELSEWHERE

1. The miscellaneous industries of Division '4' provide employment for 134,788 self-supporting persons in the State.

Unclassified Manufacturing Industries

2. Sub-Division '4.0' (Manufacturing industries otherwise unclassified) accounts for about 16 per cent of the self-supporting persons of this Division. The actual number being 21,382. They include workers in precious metals (goldsmiths, silversmiths, makers of jewellery and ornaments) as well as watchmakers, toy makers etc. A perusal of the figures for this Sub-Division in Subsidiary Table 5.12 given in Part I-B of the Report shows that in all the districts of the State this profession is quite common. The smallest percentage is to be found in the backward district of Bastar. Raipur has also a comparatively low percentage of people in this class. The distribution of the actual number of people under the different groups of Sub-Division '4.0' is given in the District Index of Non-Agricultural Occupations contained in Part I-B of the Report.

Products of Petroleum and Coal

3. Sub-Division '4.1' (products of petroleum and coal): This industry does not exist in the State and the few people to be found in some of the districts are engaged in coke ovens or in coal gas manufactured in the laboratories of educational institutions.

Clay Products

4. Sub-Division '4.2' (bricks, tiles and other tructural clay products): These industries are common all over the State. Hoshangabad, Bilaspur, Bhandara and Yeotmal districts attract attention as the percentage of people engaged in these industries is more than 10. In the Hoshangabad district there are not only excellent brick and tile factories, but a number of private brick and tile kilns round about Itarsi and other places as pointed out already in Chapter II, Section VI, while discussing Subsidiary Table 2·4. In the Bilaspur district excellent red and white clay is available and bricks and tiles are also manufactured at different places. In the Bhandara district also manufacture of bricks is to be found at numerous places. The clay and lime stone deposits in the Yeotmal district account for a fair number of bricks and tile makers there. (Pottery works come under Sub-Division '4.4' discussed below).

Cement Products

5. Sub-Division '4.3' (Cement, cement-pipes and other cement products): Manufacture of cement in the Jabalpur district is on a very extensive scale. The Associated Cement Company at Kaymoor is the largest unit of the type in India and is reported to be the premier factory of the type in South-East Asia. It produces about 350,000 tons of cement annually and employs about 3,500 labourers. There is also an asbestos cement factory in Kaymoor which produces asbestos cement products, mainly roofing material and drainage pipes. In the Nagpur district there is a factory at Kamptee, where cement pipes are manufactured. Cement tiles are also manufactured on small scale at different places. A brief history of the Cement Industry in the State is given in the Note in Appendix "M" (Part I) mentioned above.

Non-Metallic Mineral Products

6. Sub-Division '4.4' (Non-metallic mineral products): This sub-division includes potters and makers of earthenware, porcelain and crockery, glass bangles, beads, necklaces, etc. This industry is fairly common all over the State, particularly because earthenwares are in large demand everywhere. The important pottery workes of Jabalpur might be particularly mentioned as they are run with up-to-date machinery on modern lines. A brief review of the Pottery Works in the State is also given in the Note in Appendix 'M' (Part I).

Rubber Products

7. 201 self-supporting persons are engaged in works connected with rubber under Sub-Division "4.5 Rubber Products". The districts of Nagpur (117) and Jabalpur (40) engage the largest number of people in this industry. The motor tyre, etc. repairers and vulcanizers are in fair number at Nagpur as well as Jabalpur.

Wood and Wood Products

8. Sub-Division '4.6' (Wood and Wood Products other than furniture and fixtures): (This Sub-Division includes sawyers, carpenters, basket makers and people engaged in other industries of woody material including leaves): It is also a common industry all over the State, as will be seen from a perusal of Subsidiary Table 5.12 and the District Index of Non-Agricultural Occupations given in Part I-B of the Report. It is interesting to note that on account of the war, Burma teak imports stopped and the number of registered saw mills in the State increased from seven in 1940 employing 193 persons to 106 in 1950 employing 2,344 persons as is pointed out in the Note given in Appendix 'M' (Part I).

Furniture, etc.

9. Sub-Division '4.7' (Furniture and fixtures) is a minor industry in which hardly 1 per cent of the self-supporting persons in Division '4' are engaged in the State. The actual number is 1,300. The Bastar district attracts attention from the large proportion of people in this industry as seen from Subsidiary Table 5.12 in Part I-B of the Report. The Deputy Commissioner, Bastar, has given the following description of this industry, "As timber is available locally in large quantities there have sprung up in recent years a number of good furniture making firms in Jagdalpur and Kanker towns. They make excellent furniture".

Paper and Paper Products

10. Sub-Division '4.8' (Paper and Paper Products)—This industry accounts for only 647 self-supporting persons or about 0·5 per cent of those under Division '4'. Paper baskets, fans, wrappers, kites, different ornamental articles, etc. in small quantities are manufactured at different places.

11. Two large paper mills are being erected in the Chanda and the Nimar districts. The Ballarpur Paper Mill will produce about 20 to 25 tons of paper per day while the Nepa Mills will be one of the largest units of its type in the East with a capacity of about a hundred tons of newsprint per day. A brief account of these State aided concerns is given in Appendix M (Part I). When these large mills are ready they will add to the industrial development of the State and will utilise the raw material from the local forests.

Printing

12. Sub-Division '4·9' (Printing and allied industries): This industry provides employment to 4,359 self-supporting persons in the State and accounts for about 3 per cent of the self-supporting persons in this Division. The most important centre is Nagpur, where there is a nucleus of printing presses including the Government Printing Press.

SECTION IX.—CONSTRUCTION AND UTILITIES

1. The total number of self-supporting persons in Division '5' (Construction and Utilities) in Madhya Pradesh is only 69,695. Of these, about 52 per cent are engaged in construction and maintenance of buildings (Sub-Division 5·1), as will be seen from Subsidiary Table 5·13 in Part I-B of the Report. In almost all the districts, there is a fairly high percentage of people in this Sub-Division, the highest being about 75·6 in the Yeotmal district. The lowest percentage of about 18·1 is in the Balaghat district.

Construction of Roads, etc.

2. Sub-Division 5·2 (Construction and maintenance of roads, bridges and other transport works) accounts for 18 per cent of the self-supporting persons in this division. The percentage appears to be the highest in Betul, where it is 48·3. Next come the districts of Chanda and Bastar, in which as many as 37.3 per cent and 34.5 per cent of the self-supporting persons are engaged in construction and maintenance of Roads, Bridges and other Transport Works. The actual number of persons engaged in Betul, Chanda and Bastar districts are 568, 529 and 413 respectively, as will be seen from the District Index of Non-Agricultural Occupations given in Part I-B of the Report. It may be of interest to mention that Bastar is the largest district in the State from the point of view of area occupying 15,091 square miles with extremely poor communications.

Sanitary Works

3. Sub-Division 5·7 (Sanitary works and services—including scavengers) accounts for about 15·4 per cent of the self-supporting persons in Division 5. The actual number is 10,740. This service claims a fairly even percentage of self-supporting persons under Division 5, all over the State except in some of the districts of the East Madhya Pradesh Division, where the percentage is low—the lowest being in Surguja (about 4 per cent) which is one of the most backward districts of the State.

Electric Power, etc.

4. Sub-Division '5·5' (Works and services electric power and gas supply) accounts for 5,572 self-supporting persons or about 8 per cent of those under Division '5'. There is no public gas supply anywhere in the State but electric power is now available in most of the districts. The percentage of the workers is high in the Nagpur district where the central electric power station has been recently opened at Khaparkheda. In the Nimar district, which also attracts attention, while studying Subsidiary Table 5·13, another power station has been erected mainly to supply power to the paper mill under construction and to the adjoining areas.

Water-supply, etc.

5. Sub-Division '5·6' (Works and Services-domestic and industrial water-supply) accounts for about 2·5 per cent of the self-supporting persons in Division 5. There is practically no regular water-supply in the rural areas of the State, but in many of the municipal towns water works have been constructed. In other places, this service consists of getting water through professional water carriers.

6. A note on the activities of the Public Health Engineering Department and development of water-supply in the State very kindly prepared by Shri Purtej Singh, B.A., C.E. (Roorkee), M.Sc. (Harvard)—U. S. A., Public Health Engineer to the Government of Madhya Pradesh is given in Appendix 'N'. It will be seen how great the task is and how limited the resources are. The problem is of considerable importance in a welfare state and is bound to receive greater attention in due course.

Field Embankments, etc.

7. Sub-Division '5·4' (Construction and maintenance operations—irrigation and other agricultural works): The total number of persons under this Sub-Division in the State is 1,265. An examination of Subsidiary Table 5·13 given in Part I-B of the Report reveals that the percentage of self-supporting persons in this Sub-Division is the highest in the case of Chhindwara (22·47), Balaghat (7·04) and Durg (6·58). Among the Natural Sub-Divisions, the highest percentage, namely, 14·69 is to be found in the Plateau, the percentage in the other Sub-Divisions being much less.

Telegraph and Telephones

8. Sub-Division '5·3' (Construction and maintenance—telegraph and telephone lines) hardly engage about 0·5 per cent of self-supporting persons of Division '5'. The actual number is 379. Jabalpur has an important telephone factory. In the other districts the usual telegraph and telephone staff on maintenance duty would appear under this Sub-Division. It is, however, to be noted that telephone and telegraph employees who are not engaged in construction and maintenance of telegraph and telephone lines would be covered by Sub-Divisions 7·7 and 7·8 of Division 7—Transport, Storage and Comunications. Again Union Government servants not otherwise classified are included in Division 8—Health, Education and Public Administration.

SECTION X.—COMMERCE

1. The actual number of self-supporting persons returned in the State as engaged in commerce under Division 6 is 265,200. They represent 17·21 per cent of all the self-supporting persons engaged in all industries and services including commerce.

Retail Trade in Foodstuffs

2. About 51·5 per cent of the total number of persons engaged in commerce belong to Sub-Division '6·1' (Retail trade in foodstuffs). The largest percentage under this sub-division (about 54) is to be found in the South-West Madhya Pradesh Division, in which the total number of persons under Division 6 is 100,114, while in the East Madhya Pradesh Division as well as in the North-West Madhya Pradesh Division the percentage is about 50, as will be seen from Subsidiary Table 5·14 in Part I-B of the Report. The actual number of self-supporting persons in Division 6 in the East and North-West Madhya Pradesh Divisions is 80,244 and 84,842 respectively.

Hawkers, Vendors, etc.

3. Sub-Division '6·0' (Retail trade otherwise unclassified) includes hawkers, street vendors, dealers in drugs and other chemical stores, publishers, book-sellers and general store-keepers. This Sub-Division accounts for 58,912 self-supporting persons or about 22 per cent of those under Division '6.' The largest percentage of this category of dealers is to be found in the most backward division of the State, namely the East Madhya Pradesh Division. Among the individual districts, Bilaspur in the East Madhya Pradesh Division tops the list with about 40 per cent of the self-supporting persons of Division '6' in the district classified under this category of retail traders under Sub-Division '6·0.'

Retail Trade in Textiles and Leather Goods

4. Sub-Division' 6·3' (Retail trade in textile and leather goods) is next in importance in Division '6.' About 11 per cent of the self-supporting persons of Divison '6' or about 28,525 belong to this Sub-Division. The highest percentage is to be found in the South-West Madhya Pradesh Division where about 13 per cent of the self-supporting persons of Division '6' residing in the South-West Madhya Pradesh Division belong to Sub-Division '6·3.' Wardha district, which is a busy commercial place, tops the list with 18·4 per cent of the self-supporting persons of Division '6' in that district belonging to Sub-Division '6·3.' The percentage of these retail traders in textiles and leather goods is least in the North-West Madhya Pradesh Division being about 8·5 of the self-supporting persons of Division '6' residing in the North-West Madhya Pradesh Division. In the Nimar district, however, the corresponding percentage is about 11. In the East Madhya Pradesh Division, the percentage is about 10·3.

Money-Lending, Banking, etc.

5. Money-lending, banking and other financial business is prevalent all over the State and accounts for 16,654 self-supporting persons or about 6·3 per cent of the self-supporting persons of Division '6' in the State. The highest percentage of people belonging to this Sub-Division '6·8' is to be found in the Chanda and Hoshangabad districts. In the Chanda district, the evil of money-lending amongst the aborigines is well-known and has been very clearly brought out by the late Sir W. V. Grigson in 'The Aboriginal Problems in the Central Provinces and Berar'*. In the Hoshangabad district money-lending and banking activities are significant on account of the flourishing grain trade.

Retail Trade in Fuel

6. Sub-Division '6·2' (Retail trade in fuel including petrol) engages about 3·86 per cent of the self-supporting persons in Division '6.' The actual number is 10,242. The highest percentage (5) in this sub-division is to be found in the North-West Madhya Pradesh Divison in which the total number of self-supporting persons of division 6 is as, pointed out, 84,842. The lowest percentage (2·88) is to be found in the East Madhya Pradesh Division. The percentage is surprisingly low in Bastar (0·23) and in Balaghat (0·31). These are districts in which there are many forests and a probable cause of the low percentage is that the fuel trade is a subsidiary business for many people and its volume cannot, therefore, be judged from Subsidiary Table 5·14, which deals with the principal means of livelihood of self-supporting persons only.

Wholesale Trade in Foodstuffs

7. Sub-Division '6·4' (Wholesale trade in foodstuffs) engages about 6,217 self-supporting persons or 2·34 per cent of the self-supporting persons of Division '6.' Among the Natural Divisions, the highest percentage (about 3·1) is to be found in the North-West Madhya Pradesh Division, in which the Hoshangabad district tops the list with about 8 per cent of the people of Division '6' residing in the district belonging to the class of wholesale traders in

*The Aboriginal Problems in the Central Provinces and Berar by W. V. Grigson, pages 180—187 (Nagpur Government Press).

foodstuffs. The large wholesale markets of pulses and wheat in Pipariya, Harda, Itarsi, Sohagpur, etc., are well-known. It is a point of interest to note that although the East Madhya Pradesh Division is an exporter of foodgrains, the percentage of wholesale dealers is only 2·4 of the total self-supporting persons belonging to division 6 and residing in the East Madhya Pradesh Division. The reason is that the people generally are poor and the wholesale trade is in the hands of a few moneyed people.

Other Wholesale Trade

8. Sub-Division (6·5) (Wholesale trade in commodities other than foodstuffs) accounts for 6,395 self-supporting persons or about 2·4 per cent of the self-supporting persons in Division (6) in the State. In fact, the percentage for Sub-Divisions 6·4 and 6·5 is practically the same. Wholesale trade in cotton, forest produce, textiles, etc. is covered under this Sub-Division and a perusal of the District Index of Non-Agricultural Occupations given in Part I-B will show how the figures are significant in most of the cotton growing districts of the South-West Madhya Pradesh Division and in districts with substantial urban populations, such as Jabalpur and Hoshangabad, as well as in those where forest produce is of importance such as Betul. In the East Madhya Pradesh Division, the figures are low because as in the case of the wholesale grain trade the wholesale trade in forest produce is also in the hands of a few people. Bhandara district with its *Bidi* industry is conspicuous in this Division as the number of wholesale traders is comparatively high.

Insurance

9. Sub-Division (6·7) (Insurance) is a very minor business in the State. It engages hardly 1,448 self-supporting persons or about 0·56 per cent of the self-supporting persons belonging to Division '6' in the State. The highest percentage (0·9) under this Sub-Division is to be found in the South-West Madhya Pradesh Division, in which the commercial districts of Wardha and Nagpur top the list with a percentage of about 1·7 and 1·6 respectively of the self-supporting persons of division 6 residing in the respective areas.

Real Estate

10. Sub-Division 6·6—Real Estate includes house and estate agents and rent collectors of landed property other than agricultural land. The figure of 322 self-supporting persons belonging to this sub-division in the State as a whole indicates the negligible volume of this business.

SECTION XI.—TRANSPORT, STORAGE AND COMMUNICATIONS

1. The total number of self-supporting persons belonging to Division 7 (Transport, Storage and Communications) in the State is 97,588. They form about 6.33 per cent of all the self-supporting persons under Industries and Services in the State.

Railway Transport

2. Of the self-supporting persons belonging to Division 7 about 45.4 per cent are classified under Sub-Division 7.4 (Railway Transport). In the North-West Madhya Pradesh Division there are important Railway junctions like Sagar, Jabalpur, Itarsi (Hoshangabad), Khandwa (Nimar), Nainpur (Mandla) and Amla (Betul) and out of 37,923 self-supporting persons belonging to Division 7 and residing in the North-West Madhya Pradesh Division, about 52 per cent are to be found under Sub-Division 7.4 (Railway Transport). This is relatively the highest percentage among all the Natural Divisions as will be clear from Subsidiary Table 5.15 given in Part I-B of the Report. In the East Madhya Pradesh Division, Bilaspur and Nagbhir (Chanda) are the important Railway junctions, while in the South-West Madhya Pradesh Division Wardha, Nagpur, Badnera (Amravati) and Khamgaon (Buldana) are also important railway centres.

3. The railway line passes through all the districts of the State except Bastar and in paragraph 29 of Chapter II, Section VI we have already reviewed the position. The Bastar district has an area of 15,091 square miles and a proposal to connect it with a railway line either from Dhamtari in the Raipur district or Rajnandgaon in the Durg district was examined during the decade but for financial reasons the matter could not be pursued further. The Surguja district with an area of some 8,613 square miles has a loop line at its western boundary coming to the coal mines in the Korea Sub-Division from Anuppur on the Bilaspur-Katni section of the Eastern Railways. The proposal to connect this loop-line with the Calcutta-Allahabad section of the Eastern Railway in Bihar with a railway line passing right across the Surguja district was also given up for financial reasons. These backward districts as we have seen are full of practically untapped natural resources and as soon as the Railway projects materialise they will develop fast and will probably have some of the busiest industrial centres in the State.

Transport by Road

4. Sub-Division 7.1 (Transport by road) is next in importance to transport by rail and 41,819 self-supporting persons in the State or about 42.85 per cent of those belonging to Division (7) have been classified under this Sub-Division. The percentage is highest in the South-West Madhya Pradesh Division and lowest in the North-West Madhya Pradesh Division. Bus services are also comparatively numerous in the South-West Madhya Pradesh Division, which has a number of first class roads. In the East Madhya Pradesh Division, the Bastar district shows the largest percentage of people engaged in road transport in Subsidiary Table 5.15, but the actual number is only 511 as is seen from the District Index of Non-agricultural Occupations given in Part I-B of the Report. The figure is obviously negligible for a district of this size and where no other means of transport exist.

5. Development of roads and transport in Madhya Pradesh is a problem of very great importance as the future of the vast undeveloped areas in the State largely depends upon communications as already pointed out.

6. The mileage of roads maintained by the Public Works Department in 1941 and in 1949 is given in Table 138 below :—

Table 138

Road mileage maintained by the Public Works Department in 1941 *and in* 1949.

(1)	Mileage in 1941 (2)	Mileage in 1949 (3)
(*a*) Tarred and cement-concrete roads.	362	337
(*b*) Metalled roads ..	4,986	5,115
(*c*) Earth and morrum roads.	1,924	2,039
Total ..	7,272	7,491

7. It will be noticed that the overall length of the roads was increased by only about 200 miles. A quinquennial programme for the development of roads in the State was drawn up in 1947 and it envisaged the construction of 840 miles of new metalled roads and improvement of 1,060 miles of existing earth and morrum roads. It was also contemplated to connect 750 villages by constructing village roads of about 1,700 miles in length. The programme included an expenditure of 8.76 crores. On account of financial stringency, however, it could not be implemented to any appreciable extent.

8. The condition of roads in Madhya Pradesh is unfortunately fast deteriorating and the main causes are attributed to (*a*) financial difficulties, *and* (*b*) increasing road transport.

9. The following table 139 giving the total number of motor vehicles in the State, (very kindly made available by the State Transport Authority, Madhya Pradesh) indicates the development of road transport in the State during the last decade :—

Table 139

Number of Motor Vehicles in the State in 1940-41 *and* 1949-50·

Year	Cars	Buses	Lorries	Motor cycles	Taxi cabs	Others	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1940-41 ..	3,509	1,351	337	637	175	128	6,137
1949-50 ..	4,508	1,365	3,670	1,327	138	39	11,047

10. It will be noticed that the number of motor vehicles has almost doubled during the decade. Figures of annual petrol consumption show that in 1941 the estimated consumption of petrol was 1,652,133 gallons; whereas for the year ending June 1950 the consumption was 4,284,404 gallons. In other words, the motor vehicles traffic on the roads increased by almost three times during the course of the decade. It is also to be noted that in addition to petrol, Diesel oil and Gas plant vehicles are also in use in the State. In 1941 there were 141 gas plant vehicles as against 2,074 in 1949.

11. After the introduction of the Indian Motor Vehicles Act, 1939, the Provincial and Regional Transport Authorities were constituted in the State in 1940. In 1946, as a result of the scheme of co-ordination of rail-road traffic and the decision of Government to nationalize road transport, the management of two Motor Transport Companies was taken over by the State and Central Governments and in 1950 these two Government sponsored companies were operating a number of routes in the State covering approximately 14,000 miles a day. For financial reasons, road transport could not be completely nationalized and goods transport entirely remains in the hands of individuals. The passenger traffic on routes not covered by the Government sponsored companies is also handled by private firms.

12. The figures given above about the development of road transport during the last ten years indicate that if road and fuel facilities are available, this type of transport will rapidly develop in the State. Unfortunately, however, as pointed out the condition of even the existing roads is deteriorating and it is a matter causing grave concern to all interested in the welfare and development of the State. There is no doubt that resources will be found before it is too late to maintain the great national asset, which is also an insurance against the ravages of famines. Discussing the question of how famine control rests on modern technology including the transport system and on the social organisation, Kingsley Davis sounds a note of warning in the following words about the possible effects of a break down in the communication system due to failure of proper maintenance. "In so far, then, as the control of famine rests on modern technology, it also rests on modern social organization. Both the Indian Union and Pakistan may be expected to continue modernization on all fronts (perhaps faster than before independence), and so famines should be increasingly controlled. Yet, because the present population density has been built up on the expectation of famine control, a breakdown of the technology and social framework supporting that control might cost more lives than even the great famines of the past."* These are weighty words and need to be considered in our planning for the future. In our anxiety to develop fast in all directions including growing more food, if we overlook the supreme problem of carefully maintaining the means of distributing the food, we would be heading for a calamity of the first magnitude; because it is not always the shortage of food in the country as a whole which brings about distress in a particular locality, but also the failure efficiently to transport it from one part to another. The recent Bengal Famine, which is popularly known as "a man-made famine", is a typical example of how grave consequences ensue if communications fail or otherwise breakdown.

*'The Population of India and Pakistan' by Kingsley Davis, page 41.

Postal Services

13. Division 7·6 (Postal Services) engages 4,631 self-supporting persons or about 4·75 per cent of the self-supporting persons in Division '7'. Here again, Subsidiary Table 5·15 shows that the highest percentage is to be found in the South-West Madhya Pradesh Division and the lowest in the East Madhya Pradesh Division. Postal servants like the Telegraph servants are also Central Government employees and the possibility of some mis-classification in Division 8 cannot be ruled out.

Telegraph, Telephone and Wireless Services

14. These services fall under Sub-Divisions 7·7 to 7·9 in Subsidiary Table 5·15 and the District Index of Non-Agricultural Occupations given in Part I-B of the Report. The actual number of self-supporting persons returned in the State under the three services are as follows :—

Telegraph services 921, telephone services 396 and wireless services 171. It should be noted that construction and maintenance of telegraph and telephone lines comes under Division 5—Construction and utilities and the discussion given in Section IX above might be referred to.

Unclassified Transport Services

15. Sub-Division 7·0 (Transport and communications unclassified and incidental services) engage 3,860 self-supporting persons or about 4 per cent of those belonging to Division '7'. Under this head all inadequately described transport activities like *Hamali* (coolie), etc., are included and no particular significance can be attached to the larger percentage in particular districts except that the professional carriers of load on heads or shoulders found in the East Madhya Pradesh Division and parts of the North-West Madhya Pradesh Division are included in this category.

SECTION XII.—HEALTH, EDUCATION AND PUBLIC ADMINISTRATION

These services falling under Division '8' provide employment for 183,435 self-supporting persons in the State. They represent about 12 per cent of all self-supporting persons engaged in all Industiies and Services. Of these about 24 per cent are engaged as employees of the State Government in Sub-Division '8·7', as shown in Subsidiary Table 5·16. It will be noticed that among the Natural Divisions the largest percentage under Sub-Division 8·7 is to be found in the South-West Madhya Pradesh Division, which is comparatively the most developed tract of the State and in which the headquarters of the State Government are situated at Nagpur. The lowest percentage is to be found in the East Madhya Pradesh Division of which the Raigarh district attracts attention as the percentage in that district as given in the Subsidiary Table mentioned above is only 5·8. The actual number is only 369 as will be seen from the District Index of Non-Agricultural Occupations given in Part I-B of the Report. It should be noted that Sub-Division '8·7' excludes all State Government employees classifiable under other Divisions or Sub-Divisions.

Educational Services, etc.

2. Sub-Division 8·2 (Educational services and research) engages 37,997 self-supporting persons or about 21 per cent of those under Division '8'. Among the Natural Divisions the percentage is again largest in the South-West Madhya Pradesh Division (23), but smallest (17) in the North-West Madhya Pradesh Division. The percentage figures of the districts vary from about 10 to 30.

3. The actual number of self-supporting persons classified under educational services, etc. in the different districts of the State is given in the District Index of Non-agricultural Occupations mentioned above. The figures for the North-West, East and South-West Madhya Pradesh Divisions are 11,679, 11,574, 14,744, respectively. It is worth noting that although the East Madhya Pradesh Division is the largest of all divisions both in area and population the number of persons engaged in educational services is least in this most backward part of the State which contains almost half the population of the whole State and more than half its area.

Village Servants, etc.

4. Sub-Division '8·5' (Village officers and servants including village watchmen) engage 33,352 self-supporting persons or about 18 per cent of those under Division '8'. Among the Natural Divisions the largest percentage is found in the East Madhya Pradesh Division, which is, as pointed out, the biggest of all the divisions and contains the largest number of villages. The Nagpur district attracts attention while examining Subsidiary Table 5·16 as only 6 per cent of the self-supporting persons of Division '8' are shown under Sub-Division '8·5'. In considering this percentage the actual number of 1,418 given in the District Index of Non-agricultural Occupations mentioned above should also be remembered. It will be observed that in the South-West Madhya Pradesh Division the largest number of persons in Division '8' are to be found in the Nagpur district.

Employees of Union Government

5. Sub-Divisions '8·3', '8·8' and '8·9' refer to employees of Union Government and those of non-Indian Governments, who are not otherwise classified under other Divisions or Sub-Divisions. The total number of these employees in the State is hardly 21,717 and they are obviously to be found in the bigger districts where the Central Government activities are of importance.

Municipal Employees, etc.

6. Sub-Division '8·6' (employees of Municipalities and Local Bodies not classified elsewhere) contributes about 8·5 per cent of the self-supporting persons under Division '8'. The actual number is 15,663. Among the Natural Division the largest percentage of self-supporting persons of Division '8' residing in the different divisions is to be found in the East Madhya Pradesh Division, where the number of the local bodies including the Janapada Sabhas, Panchayats, etc., is the largest as it is the biggest of the three Natural Divisions. A note on the Janapada Sabhas will be found in Appendix 'B'.

SECTION XIII.—SERVICES NOT ELSEWHERE SPECIFIED AND MISCELLANEOUS MEANS OF LIVELIHOOD

The total number of persons in this miscellaneous category included in Division '9' in the State is 217,259 or about 14 per cent of the total number of self-supporting persons in all industries and services as shown in Subsidiary Table 5·17 in Part I-B of the Report. The detailed actual distribution of these persons in the different parts of the State is given in the District Index of Non-agricultural Occupations mentioned before and the distribution per 10,000 of self-supporting persons in each district, natural division, sub-division and the State as a whole is contained in Subsidiary Table 5·17 mentioned above. It will be seen from this table that 31 per cent of all the self-supporting persons classified under Division '9' are to be found in Sub-Division '9·0' "Services otherwise unclassified". They include persons of unclassified as well as vaguely described professions. Thus for example, the "Mazdoors" (coolies) who have not given their place of work or the nature of their actual occupation are classed under this Sub-Division. Astrologers, fortune tellers, etc. are also included in this category. The percentage is largest in the North-West Madhya Pradesh Division and smallest in the South-West Madhya Pradesh Division.

Domestic Services

2. Sub-Division '9·1' (Domestic services) provides employment for 52,108 self-supporting persons or about 24 per cent of those under Division '9'. The largest percentage is found in the South-West Madhya Pradesh Division, and the lowest in the North-West Madhya Pradesh Division. Here again in the case of the individual districts the absolute figures given in the District Index of Non-agricultural Occupations should be borne in mind while considering the percentages of Subsidiary Table 5·17. Thus although the percentage in the Bastar district is about 51 and in the Surguja district about 58, the actual number of these domestic servants is only 774 and 2,005, respectively.

Barbers and Beauty Shops

3. Sub-Division '9·2' (Barbers and Beauty Shops) account for about 15 per cent of the self-supporting persons in Division '9'. The actual number in the State is 32,513. The relative percentage in the East, as well as the South-West Madhya Pradesh Divisions is roughly equal, while that in the North-West Madhya Pradesh Division is slightly higher.

Laundry Services

4. Sub-Division '9·3' (Laundries and Laundry Services) engages 17,135 self-supporting persons or about 8 per cent of the self-supporting persons of Division '9' in the State. The relative percentage is highest in the North-West Madhya Pradesh and lowest in the South-West Madhya Pradesh Division.

Hotels, etc.

5. Sub-Division '9·4' (Hotels, restaurants and eating-houses) provide employment for about 7·6 per cent of the self-supporting persons in Division '9'. The actual number in the State is 16,442. The relative percentage is highest in the South-West Madhya Pradesh Division as would be expected in such a case on account of its being the most developed part of the State. In the North-West and the East Madhya Pradesh Divisions the corresponding percentage is about half of that in the South-West Madhya Pradesh Division. The Bhandara district in the East Madhya Pradesh Division which adjoins the Nagpur district and is comparatively rich has a percentage similar to that of the South-West Madhya Pradesh Division.

Other Services

6. Sub-Divisions '9·5' (Recreation services), '9·6' (Legal and business services) and '9·7' (Arts, letters and journalism) provide employment for about 5, 2·7 and 0·4 per cent respectively of the self-supporting persons in Division '9' in the State. The percentage distribution of these services in the different Natural Divisions and districts is almost exactly similar to that for Sub-Division '9·4', and depends upon the development of the different areas.

7. Sub-Division '9·8' (Religious, Charitable and Welfare services) provides an occupation for 12,645 self-supporting persons or about 5·8 per cent of the self-supporting persons of Division '9'. The distribution of these services is typical. The percentage is lowest in the South-West Madhya Pradesh Division, which is the most developed tract of the State and is almost equal in the other two Natural Divisions. The highest percentage is to be found in Raipur district, which is known for large religious temples with considerable landed property attached to each and also for the activities of the missionaries.

SECTION XIV.—CONCLUDING REMARKS

The Proportion of Non-Agricultural Population

1. In this Chapter, we have reviewed the distribution of the non-agricultural population in the State, the nature and extent of dependency amongst them and their status as employers, employees and independent workers. We have noticed that 24 per cent of the population of Madhya Pradesh belongs to the non-agricultural classes. The corresponding percentage for India as a whole is 30 and we have, therefore, comparatively a lesser proportion of non-agricultural classes than India as a whole.

Dependency amongst Non-Agricultural Classes

2. Among the non-agricultural classes, 54·4 per cent are economically idle and do nothing. There are 14·4 per cent among them who are earning dependants and 31·2 per cent who are self-supporting persons. Out of the 54·4 per cent of the economically idle people, if we do not take into consideration people below 15 years and those aged 55 and above, we still get a huge figure of over 5 lakhs of young men and women belonging to the non-agricultural classes and having no income whatever. Half of this number, that is about 2½ lakhs, would be young men who are doing nothing.

Employers, Employees and Independent Workers

3. We have seen that of the total number of 1,588,005 self-supporting persons belonging to all non-agricultural classes in the State, 3·04 per cent belong to the category of Employers, 45·66 to that of Employees and 48·36 to that of Independent workers. We have seen how the ratio varies at different places according to the nature of employment available. The proportion of independent workers is found to be more where there are cottage industries and people are able to engage in them.

Proportion in Different Industries

4. Livelihood Class V contains persons belonging to Division 'O' to '4' of the Divisions of All Industries and Services and they include :—

(*a*) Primary industries not elsewhere specified, such as stock raising, plantation, forestry, hunting, fishing, etc.;

(*b*) Mining and quarrying ;

(*c*) Processing and manufacture of foodstuffs, textiles, leather and products thereof ;

(*d*) Processing and manufacture of metals, chemicals and products thereof ; and

(*e*) Processing and manufacture not elsewhere specified, such as bricks, tiles and other structural clay products, cement, cement pipes and other cement products, non-metallic mineral products like pots, earthenware, bangles, etc.

The total number of persons belonging to Livelihood Class V (Production other than cultivation) in the State is 2,252,033 or about 44·2 per cent of all the people belonging to the non-agricultural classes. Their number in the rural areas is 1,451,285 and in the urban areas 800,748.

Processing and Manufacture of Food stuffs, Textiles, Leather and Products thereof

5. Of the total number of 1,541,258 self-supporting persons belonging to all Industries and Services, 708,081 (or about 46 per cent) belong to Livelihood Class V. The largest percentage (about 20) of them come under division 2 (Processing and Manufacture of Foodstuffs, Textiles, Leather and Products thereof). These industries, as we have seen, are the most important industries in the State. In the East Madhya Pradesh Division, with its flourishing grain and tobacco industries, the relative percentage is 22 under division '2'; while in the East Maratha Plain, where the tobacco (*bidi*) industry is a thriving one, the corresponding figure is 33·3. In the Bhandara district, which is the home of the tobacco industry, the relative percentage is as high as 48. Sagar, which is next in importance to Bhandara in the matter of the tobacco industry, has 29 per cent of the self-supporting persons of all Industries and Services in division '2'. The cotton growing districts of Nagpur and Nimar with their textile industries, similarly contain about 25 per cent of the self-supporting persons in division '2'. The percentage varies from about 14 to 20 in the other districts of the cotton-growing tract of the South-West Madhya Pradesh Division.

Primary Industries not Elsewhere Specified

6. Division 'O' of Livelihood Class V pertains to primary industries not elsewhere specified and mentioned above. This division contains about 9·2 per cent of the self-supporting persons belonging to all Industries and Services. The importance of this division has been discussed at length in this Chapter as well as in Chapter II, Section VI. A perusal of Subsidiary Table 5·7 shows at a glance that division 'O' claims the highest percentage of self-supporting people in the backward areas of the State, where pasture lands, forestry and forest produce are of considerable importance. The Plateau Sub-Division of the North-West

Madhya Pradesh Division and the whole of the East Madhya Pradesh Division fall under this category. The highest percentage (22·14) of self-supporting persons in division 'O' are to be found in the Mandla district. Durg has 21·25 per cent followed by Chanda (about 19 per cent) and Bastar (18·91 per cent).

Mining and Quarrying

7. Division 1 (Mining and quarrying) claims 3·65 per cent of the self-supporting persons. The most important district from a mining and quarrying point of view are Balaghat, Surguja, Chhindwara, Chanda, Bhandara, Jabalpur and Nagpur. Coal, as we have seen, is extracted from the mines in Chhindwara, Chanda and Surguja while manganese is plentiful in Balaghat, Bhandara and Nagpur. Limestone and bauxite are important minerals in Jabalpur.

Processing and Manufacture of Metals, Chemicals and Products thereof

8. Division 3 (Processing and Manufacture of Metals, Chemicals and Products thereof) claims 4·35 per cent of the self-supporting persons. The relative percentage distribution in the different districts is fairly uniform in the case of this division, except in the case of Jabalpur and Bastar where their proportion is abnormally high, and in Sagar, Bhandara, Wardha and Buldana, where it is unusually low. Jabalpur with its numerous factories is obviously responsible for the high percentage in this district, while the large iron deposits in Bastar and the indigenous smelting by the aborigines accounts for the higher percentage in Bastar. The low percentage in the districts mentioned is obviously due to want of facilities for this industry in these areas.

Processing and Manufacture not Elsewhere Specified

9. Division 4 (Processing and Manufacture not elsewhere specified) accounts for about 8·75 per cent of the self-supporting persons in all Industries and Services. The districts, which attract attention in this division, are Hoshangabad, Bilaspur, Chanda, Buldana and Yeotmal. As we have seen in this Chapter and Chapter II, Section VI, Hoshangabad, Bilaspur and Yeotmal are well-known for the bricks and tiles industry. The suburban area of Itarsi is full of brick-kilns while the Bagra tile factories of the Hoshangabad district are also well-known. The high percentage in the case of the Chanda district in division 4 is due to the miscellaneous industries, in which carpenters, basket-makers and country potters are engaged, as is obvious from a perusal of the District Index of Non-Agricultural Occupations already mentioned. Chanda district has excellent forest and these industries are naturally important. The Ballarpur Paper Mill, which is likely to come into production soon, will be again an important industry utilising the local forest produce. In the Buldana district, the *Kumbhars* prepare beautiful red and black vessels which are well-known. Manufacture of pots falls under Sub-Division 4·4 non-metallic mineral products—and as has been mentioned Buldana has the highest percentage of people in the South-West Madhya Pradesh Division engaged in this work. Basket and corn bins (Kanghas) are also prepared in large number in the district not only by the professional *Kaikaris* but also by many cultivators.

Distribution of Self-Supporting Persons in Other Divisions of Non-Agricultural Classes

Commerce

10. About 17·21 per cent of the total number of self-supporting persons engaged in all Industries and Services belong to Livelihood Class VI (Commerce), which consists of division 6 of the divisions of all Industries and Services. The actual number of these persons in the State is 265,200, of whom 112,009 live in rural and 153,191 in urban areas. About 51·46 per cent of these traders in the State are engaged in retail trade in foodstuffs and 10·76 per cent in retail trade in textile and leather goods. About 22·21 per cent of them are included in the category of "Retail trade otherwise unclassified", the actual number being 58,912. Of these 58,912 unclassified traders, 44,457 are general store-keepers, shop-keepers and persons employed in shops otherwise unclassified.

Transport

11. Livelihood Class VII (Transport) contains 91,137 self-supporting persons in the State, of whom transport by road claims 41,819 and railway transport 44,265. In judging these figures, it has to be remembered that railway employees engaged in manufacture, assembly and repair of railway equipment and those employed in construction work are excluded from this classification as they are included under Division 5 (Construction and utilities), which is included in Livelihood Class VIII (Other services and miscellaneous sources) as already explained in this Chapter as well as in Chapter I, Section VI. Transport activities are classified under Division 7·0 to 7·4 of the divisions of Industries and Services.

Storage and Communications

12. Sub-divisions 7·5 to 7·9 of Division 7 of the divisions of Industries and Services relate to storage and communications and they engage 6,451 self-supporting persons in the State.

Other Services and Miscellaneous Sources

13. Livelihood Class VIII (Other services and miscellaneous sources) accounts for 1,602,202 people in the State, of whom 766,196 reside in villages and 836,006 in towns. People belonging to this miscellaneous class of services constitute about 31·42 per cent of the total non-agricultural population of the State. The self-supporting persons of this category in the State number 523,587 or about 32·68 per cent of their total number. They are distributed in the different divisions of services as below:—

Division 5 (Construction and Utilities)

14. These services, which include persons engaged in construction and maintenance of roads, bridges, buildings, telegraph and telephone lines, irrigation works, electric power, gas and water supply and sanitary services, employ 69,695 self-supporting persons in the State or about 4·5 per cent of the total number in all Industries and Services.

Division 8 (Health, Education and Public Services)

15. 183,435 self-supporting persons are engaged in these services in the State, representing 12 per cent of all the self-supporting persons in all Industries and Services.

Division 9 (Services not Elsewhere Specified)

16. This miscellaneous division consists of such employment as domestic service, home-guards, washing and cleaning, beauty shops, hair dressers, hotel-keepers, recreation services, legal profession, journalists, artists, authors, religious services, etc., 217,259 self-supporting persons are engaged in these miscellaneous professions representing about 14 per cent of the self-supporting persons engaged in all Industries and Services.

Undeveloped Nature of the State

17. The review of the non-agricultural activities of the people in this Chapter clearly shows that we are industrially also very backward. In the previous Chapter we considered our backwardness in agriculture and our primitive ways of cultivation and pointed out the need for development. Advocating rapid industrial development with "faith, imagination, and sympathy and a determination to advance" in the words of the late Sir Ardeshir Dalal, the Provincial Industries Committee pointed out the dark picture in the State as follows :—

> We are an undeveloped province with very considerable resources both in men and materials; our agricultural standards are low, our educational standards are low, many of our people are underfed, diseased and badly housed; our towns are unhealthy, our villages are unhealthier still, hardly fit to live in. The need for planning in every department is truly desperate, *but in none is it more so than in the matter of industrialisation.*

Causes of Industrial Under-Development

18. As pointed out by the Industries Committee one of the main causes of stagnation in the State is its poverty due largely to its resources being undeveloped. We have noticed in this Chapter and the previous Chapter the vast mineral and forest resources of the State. As rightly observed by the late Honourable Sardar Vallabhbhai Patel, it is only a question of time until these resources can be turned to the service of the country. Inadequacy of finances and lack of industrial experience have also had their crippling effect on our industrial development.

The Unbalanced Economy and Need of Industrial Development

19. In Chapter IV, we have already pointed out how agriculture forms almost the sole occupation of the people of Madhya Pradesh. As early as 1880, the Famine Commission stressed the need of remedying this unbalanced economy by development of industries. They observed :—

> A main cause of the disastrous consequences of Indian famines and one of the greatest difficulties in the way of providing relief in an effectual shape, is to be found in the fact that the great mass of the people directly depend on agriculture, and that there is no other industry from which any considerable part of the population derives its support. The failure of the usual rains thus deprives the labouring class, as a whole, not only of the ordinary supplies of food obtainable at prices within their reach but also of the sole employment by which they can earn the means of procuring it. The complete remedy for this condition of things will be found only in the development of industries other than agriculture and independent of the fluctuations of the seasons.

20. The nature of unemployment and under employment among our agricultural masses has been brought out in the previous Chapter, while the recent continuous growth of our population and the huge addition made every decade to our number have been pointed out in Chapter I. These facts underline the great necessity of industrial development in our State visualised by the Famine Commission some 75 years ago. It is true that since

1880 we have made significant progress in the development of our textile, mining and forest industries. The recent electricity developments are also encouraging, but as pointed out in paragraph 10, section X of Chapter IV, the occupational distribution of our population is far more unbalanced now than in 1866 when 57 per cent of the population only depended on agriculture as against 76 per cent now.

CONCLUSION

21. The facts discussed in this Chapter and in the previous ones lead us to conclude that perhaps never in our history were we called upon to face a situation of the type which confronts us now, when our population is increasing at such a pace that we have so far failed to secure adequate means of livelihood for our people. Our food resources in the country have fallen short of our requirements and we are increasingly dependent on outside help to feed our people, a large proportion of whom are underfed and undernourished. Our Planning Commission have pointed out that the actual number of available calories per individual in our country is much lower than the minimum number required to keep fit in the case of most of our people; while in respect of nutrition "the deficiencies are enormous".* In our own State, which has enjoyed the privilege of being a surplus area in respect of foodgrains, we are threatened with deficit within the course of a generation. Figures of unemployment and under-employment amongst our people are of almost astronomical magnitude and with increasing population they tend to swell still further in our unbalanced economy. Our Directive Principles of State Policy, as laid down in Articles 36 to 51 of our Constitution, are lofty. They aim at securing for each citizen the right to adequate means of livelihood. If these aims are to be achieved, our people have to be taken into confidence and convinced of the dangers ahead, so that as a nation we resolve and work with a determination to achieve our objective realising that ours is a race against time. If we fail to appreciate the urgency of the problem of limiting our population and of making a supreme effort to educate our people and to develop our enormous natural and industrial resources and our agriculture by rapid extension of irrigation and intensive cultivation on up to date lines, we would not only fail to achieve our ideals but might, on the other hand, invite on ourselves a calamity of unprecedented nature or magnitude.

*The First Five-Year Plan, page 195, *ibid.*

CHAPTER VI

Families, Sexes and Principal Age Groups

SECTION I.—PRELIMINARY REMARKS

1. In this Chapter we shall review the statistics collected about houses and households, sex-ratios and distribution of the population under principal age-groups.

The House and the Family

2. Just as there has been ambiguity in the use of the terms, "town" and "village" in the past Census records, in the same way obscurity surrounds the terms "house" and "family". Describing the difficulty of defining a house, the All India Census Report of 1931 contains the following observations, "The term 'house' in India covers the greatest diversity of dwellings. The portable screens of bamboo matting carried on a gipsy's ass, or the camel-borne tent of a Bugti nomad are less primitive than the mere foliage wind screens of some of the Andamanese but still hardly conforming to the usual conception of a dwelling-house, though this term can fairly be applied to the conical grass huts of the Chenchu and the Bhill and still more to the thatched and mat-walled dwellings, often on piles or in trees, erected in the hills alike of Assam and Travancore". The village house in Madhya Pradesh is described in the C. P. Banking Enquiry Committee Report as follows, "The materials of which the dwelling places are built, vary with the locality and the means of the inhabitants. In the wealthier tracts they may be built of brick or stone, while elsewhere the ordinary cultivator will be satisfied with mud walls. Further a field where the forests are more frequent and the soil poorer, the houses are often little more than sheds with thatched roofs carried by poles, the spaces between which are filled by strips of bamboos plaited together like a basket, and plastered over with mud. Houses of this kind are more common in the Gond villages."

3. Dealing with the difficulty of defining a "family", the All India Census Report contains the following observations, "If the house may vary from *chawl* dwelling of a large town to a sprawling *bari* in the country, so too the family is a difficult unit to define in correspondence to the house. Apart from collective houses of some of the hill tribes which accommodate all the bachelors or spinsters of the village, a Bengal *bari* may house a joint family of several married couples in contrast for instance to the Assam hill custom whereby the elder sons or in some tribes the elder daughters, set up new houses for themselves or, as in other cases, turn their parents out of the ancestral home to build a house for themselves elsewhere."

4. In Madhya Pradesh, the residence and families of the Hill Marias of Bastar or the Korbas of Surguja vary so enormously from those of people in the developed tracts that the above description of all India character is applicable to a considerable extent in depicting conditions in this, the biggest State in the country.

Definitions

5. To overcome practical difficulties during the 1951 Census of Madhya Pradesh, therefore, the following instructions were issued to the enumerators to identify houses and families, "A house means a building which has a separate main entrance from the common way, space or compound and is used as the dwelling place of one or more 'households' or families. A 'family' or a 'household' consists of persons who are in the habit of living and messing together, and includes their resident dependants and resident servants. One person who habitually lives and messes alone may with his resident dependants or servants, if any, constitute a 'household' or 'family'. In hotels and *sarais*

each room, or suite of rooms, allotted to a different traveller or family should be treated as a separate house, and in the case of bungalows and houses on the premises of which servants reside, each tenement in a row of servants' quarters should be treated as a separate house. Similarly, in coolie lines, chawls, etc., each tenement should be given a separate number and treated as a separate house." These definitions are essentially the same as those adopted at previous Censuses in the State.

Reference to Statistics

6. The main tables prepared during the 1951 Census will be found in Part II-C of the Census Report.

7. Subsidiary tables of the 6th series given in Part I-B of the Census Report form the basis of the review contained in this Chapter. Subsidiary Table 6·1 gives the number of persons per 1,000 houses and houses per 100 square miles in the State and the different districts. Similarly Subsidiary Table 6·15 and 6·16 give the number of occupied houses and number of persons per house in each ward of the two cities in the State. Subsidiary Table 6·2 gives the number of house-holds per 1,000 houses and distribution by size of 1,000 sample households of rural and urban population. The method of selecting the sample house-holds is explained in the fly leaf to main Table C-I (Household-size and composition) given in Part II-C of the Census Report. Subsidiary Table 6·3 gives the family composition of 1,000 households of the general population, while Subsidiary Tables 6·4 to 6·6 give the statistics of sex ratio of the general, rural and urban population as well as in the agricultural and non-agricultural classes and sub-classes. Subsidiary Tables 6·7 and 6·8 contain the figures of marital status and age distribution of married persons. Subsidiary Tables 6·9 to 6·14 deal with the proportion of infants (aged below one year), young children (aged 1—4 years) boys and girls (aged 5—14 years), young men and women (aged 15—34 years), middle aged persons (aged 35—54 years) and elderly persons (aged 55 and over) in the population.

8. A Census abstract of sample household on the basis of two separate 2 per cent samples for each village containing the household population, family structure, infants and adults in households and married and unmarried persons in the households has also been compiled and preserved in bound manuscript volumes for each Census tract for such detailed study as might be necessary in future.

Comparability of the Statistics with those of previous Censuses

9. Wherever possible comparative figures of previous Censuses have been given in the subsidiary tables. It is to be noted that there have been changes in the territories of the State from time to time details of which are given in the fly-leaf to main Table A-II (Variation in population during fifty years) contained in Part II-A of the Census Report. No adjustments have, however, been made in the subsidiary tables of the 6 series except in the case of those dealing with the sex ratio. The minor changes in the territories for the other subsidiary tables are not such as would materially affect the statistics collected at the previous Censuses, and render them incomparable with those of the 1951 Census.

10. At the present Census certain characteristics of the household have been compiled for the first time. These are given in main Table C-I, household (size and composition) given in Part II-C of the Census Report and in the Subsidiary Tables 6·2 and 6·3 given in Part I-B.

11. The sex ratio statistics furnished in Subsidiary Table 6·4 are based on the duly adjusted population as mentioned above and the statistics are fully comparable with those of 1921 and 1931 Censuses. The sex ratios given in Subsidiary Tables 6·5 and 6·6 are based on the occupational statistics collected at the 1951 Census and these figures are not comparable with the figures given in the previous Census reports on account of the extensive changes made in the economic classification of the people during the 1951 Census as already explained in the previous chapters. While considering the age structure and distribution of married people in the different age groups, it should be remembered that the Census Statistics of 1931 were based on a total count and were smoothed by the use of a suitable formula before being tabulated, as explained in the Census Report of the 1931 Census. The figures of the 1941 Census are based on a 2 per cent sample and are adopted from "The Census of India Paper No. 9, 1951—Age Tables—Madhya Pradesh—1941—on Y-Sample". The manner in which the distribution of the total population was estimated from the information provided by the Y-Sample has been described as follows :—

> "Owing largely to conditions created by the war, the 2 per cent slips were not always properly extracted, and sometimes not properly stored after extraction. In consequence, available district samples were defective. Adjustments had therefore to be made to eliminate, as far as possible, the

effect of such defects. To make such adjustments, use was made of the information relating to the distribution by communities of each sex as given in the Census tables. Fortunately the categories used in the present reconstruction namely, 'civil condition', 'literacy' and 'age distribution' are all closely related to the two factors, sex and community.

On the basis of the adjustments noted above, 'weights' or 'multipliers' were determined to estimate from sample figures results for the whole population. The figures given in these tables are such estimates. This has lead to certain numerical inconsistencies in the three sets of tables. In each table, the estimation (by multiplication) was done at different points, and the results were rounded off and given in thousands nearest to one place of decimal. The cumulative effect of such rounding off was not uniform in these three sets of tables, which led to apparent (but entirely negligible) numerical inconsistencies."

12. The 1951 Census tables dealing with civil condition and age groups are based on a 10 per cent sample extracted during the tabulation in accordance with the procedure explained in the fly leaf to main Table C-II (Livelihood classes by age-groups) given in Part II-C of the Census Report.

SECTION II.—TERRITORIAL DISTRIBUTION OF HOUSES AND HOUSEHOLDS

Reduction in over-all congestion in the State and Natural Divisions

1. The territorial distribution of houses, as given in Subsidiary Table 6·1, in Part I-B of the Report shows that during the last thirty years the congestion in accommodation in the State has been reduced. Thus, 5,017 persons lived in 1,000 houses in 1921; while in 1941 and 1951 the number was reduced to 4,913 and 4,815 respectively. The figures for all the Natural Divisions also show a reduction in the number of persons per house.

Increase in the Number of Houses

2. A perusal of the figures of houses per 100 square miles given in Subsidiary Table 6·1 show that the density of houses has increased by about 10 per cent during the last 30 years.

Congestion in Urban Areas

3. It is interesting to notice that while the figures show an over-all encouraging position for the State and Natural Divisions, it is different in the urban areas. In the rural areas, the congestion in the houses has diminished as in the case of the general population, but in the urban areas it has increased not only in the State but also in all the Natural Divisions and the districts, except Bastar, Akola, Yeotmal and Chanda as will be seen from columns 10 to 13 of Subsidiary Table 6·1 mentioned above. In the Bastar district, the urban area consists of only the small towns of Jagdalpur and Kanker and it calls for no particular comments. In Akola, the position has been different from decade to decade. In 1921 there were 5,532 people per 1,000 houses and ten years later the number was reduced to 4,966. At the 1941 Census, the figure went up to 5,222 and now it is 5,135. Like Akola in Yeotmal too the number of persons per 1,000 houses went down from 4,857 in 1921 to 4,706 in 1931. By 1941 the congestion had again increased, when 5,013 persons per 1,000 houses were found to live in the Urban areas of the district. In 1951 the number again came down to 4,295. In Chanda district there were 4,959 persons per 1,000 houses in 1921 and the corresponding number is 4,955 in 1951.

4. The rapid increase in the population of the towns is obviously the cause of the increased congestion, as housing accommodation is not keeping pace with the increase in the population. This is, however, not so in the villages where, as will be seen from columns 6 to 9 of the table, the congestion is reduced during the last 30 years in most of the districts. We have described the nature of houses in the rural areas in Section I above and have seen how at many places they are huts or even mere sheds and the statistics have not much significance. As regards the urban areas, the housing statistics are of greater value as they show the pace at which congestion is increasing in the urban areas.

Congestion in the Cities

5. Subsidiary Tables 6·15 and 6·16 given in part I-B of the Report show the wardwise distribution of occupied houses and average number of persons per house in the cities of Nagpur and Jabalpur. It will be observed that in the Nagpur City, except in Shukrawara Tank ward, in which the textile mills are mostly situated and where as many as 12 persons reside per house, the distribution is fairly uniform with about 5 to 6 people per house. The average number of persons per house in the Nagpur City in 1951 comes to 5·302 as against 4·574 in 1921.

6. Jabalpur City shows much greater congestion than Nagpur. Among the congested wards may be mentioned Omti (19), East Ghamapur (14), Kotwali (11), Hanuman Tal (10), Sarafa (10), Lord Ganja (10), West Oprien Ganj (10) and East Niwar Ganj (10) (The figures in brackets indicate the average number of persons per house). Some of the new wards of Khamaria, which have recently developed round about the factory area, are also congested. The average number of persons per house in the Jabalpur City excluding cantonment and Khamaria comes to 7·142 as against 4·408 in 1921.

Housing Accommodation in other Towns

7. A full idea about the congestion in houses in each ward of each town can be had from a study of the Primary Census Abstract given in the District Census Hand-Book of each district in which the population as well as the number of houses in each ward are given for every town in each district. It will be noticed that on an average the towns of the Sagar and Nimar districts in the North-West Madhya Pradesh Division and those of Raipur, Raigarh and Bhandara in the East Madhya Pradesh Division and Amravati and Akola in the South-West Madhya Pradesh Division have more crowded houses than other districts.

House holds

8. The territorial distribution of households per 1,000 houses is given in Subsidiary Table 6·2, which is a sample table based on a 4 per cent sample.

The households per 1,000 houses in the State and the Natural Divisions are given in Table 140 below :—

Table 140

Territorial distribution of households per 1,000 houses in the Rural Area.

State and Natural Divisions (1)	Number of households per 1,000 houses (2)
Madhya Pradesh	1,104
The North-West Madhya Pradesh Division.	1,048
The East Madhya Pradesh Division	1,145
The South-West Madhya Pradesh Division.	1,077

It will be observed that in the backward East Madhya Pradesh Division the tendency of families to live together in the same house is more pronounced than in the other parts of the State.

VALIDITY OF THE SAMPLE DATA

9. Columns 4 and 5 of Subsidiary Table 6·2 are important as they give the sex ratio on the basis of the 4 per cent sample. They provide an interesting study along with Subsidiary Table 6·4 where the sex ratio is given as per actual count. Columns 4 and 5 of table 6·2 show that in Madhya Pradesh, the males out-number the females in the rural areas according to the 4 per cent sample. Actually, however, as is seen from Column 6 of Table 6·4 the females out-number the males. In the Chhattisgarh Plain particularly, where the females are known to out-number the males to the extent of 1,028 females per 1,000 males, the 4 per cent sample gives 1,008 females only per 1,000 males, giving an error of about 2·0 per cent. In the South-West Madhya Pradesh Division, according to the sample Table 6·2, there are 2,193 females per 2,291 males, or 957 women per 1,000 men; whereas actually, according to Table 6·4, there are 982 females in the rural areas per 1,000 males. The error in this case is thus about 2·5 per cent. For Madhya Pradesh as a whole, according to the sample Table 6·2, there should be 981 females per 1,000 males in the rural areas; whereas actually, there are 1,004 females per 1,000 males. The percentage error in this case is about 2·3. In the East Madhya Pradesh Division, the sample data would tend to show that there are 1,002 women in the rural areas of the East Madhya Pradesh Division per 1,000 men while actually there are 1,021. The percentage error in this case is about 1·9.

10. In the urban areas of Madhya Pradesh according to the sample Table 6·2, there should be 900 females per 1,000 males. Actually, there are 925 (Column 10 of subsidiary Table 6·4). The percentage error is thus about 2·5. In the East Madhya Pradesh Division, according to the sample table, there are 983 females per 1,000 males while actually there are 953 (Column 10, Subsidiary Table 6·4). The percentage error in this case is thus 3. In the South-West Madhya Pradesh Division, the sample table tends to show that there are 879 females per 1,000 males in the urban areas. Actually, there are 934, thus giving a percentage error of about 5·5.

SECTION III.—SIZE AND COMPOSITION OF FAMILY HOUSEHOLDS

Predominance of Small and Medium Size Family in Urban Areas

A perusal of the Subsidiary Table 6·2 in Part I-B of the Report shows that in the rural areas the largest number of households are of the medium size, consisting of 4 to 6 members. Forty-four per cent of the total number of households in the rural areas and 39·6 per cent in the urban areas are of medium size. It is interesting to observe that the percentage of small size families of 3 members or less is highest in the urban areas. This may be due to the fact that, as explained in Section IV of Chapter I, the immigrants in the towns do not all come with their families and, again, ideas about family planning are gradually spreading in the towns on account of economic and other reasons, as pointed out before. The number of very large families of 10 members and more is limited and its percentage is 4·9 in the urban areas and 4·5 in the rural areas. The percentage of large families of 7 to 9 members is the same (14·2) in the rural as well as the urban areas. In considering these percentages, it has also to be noted that the total number of persons belonging to the small and medium size households is very much larger than (almost double) the number belonging to the large and very large households.

Size of Families in the Rural Areas

2. The figures of the rural areas for the Natural Divisions are also very interesting. It will be observed that the percentage of small families is highest in the Nerbudda Valley and in the South-West Madhya Pradesh Division, while it is the lowest in the Plateau, the Chhattisgarh Plain and the East Maratha Plain which are the backward areas of the State. These figures again indicate how small families are a natural outcome of advancement and progress; while large families are a curse to the backward and ignorant people. The medium families have the highest percentage in the East Maratha Plain (about 47). The percentage of medium families in the South-West Madhya Pradesh Division is about 44.4 while in the North-West Madhya Pradesh Division it is 44·2 and is about 42.5 in the Chhattisgarh Plain.

3. The percentage of large families of 7 to 9 members is, as expected, the highest in the Chhattisgarh Plain (17). In the East Maratha Plain, it is 14 while in the Plateau it is 13·4 and in the South-West Madhya Pradesh Division 12.3 and in the North-West Madhya Pradesh Division 12·1.

4. The percentage of very large families is highest in the Chhattisgarh Plain (6.7). In the Surguja district of this Sub-Division, the percentage is 8·6 while in Bastar it is 8.4. The smallest percentage (2·8) is to be found in the Nerbudda Valley and slightly higher (3·0) in the South-West Madhya Pradesh Division.

Size of Family in Urban Areas of Natural Divisions

5. The figures of the urban areas for the Natural Divisions are also interesting. In considering these figures, it has to be remembered that the urban areas in the backward tracts of the State, namely the Plateau and the Chhattisgarh Plain are extremely limited. The percentage of small families is shown to be highest in the urban areas of the Chhattisgarh Plain (47·3). In the Nerbudda Valley, it is 45·6, in the Plateau 42·6, in the East Maratha Plain 41 and in the South-West Madhya Pradesh Division 37·1. In the case of the medium families, the highest percentage is in the South-West Madhya Pradesh Division (41·8) followed by the East Maratha Plain (41·5), the Plateau (38·6), the Nerbudda Valley (37·1) and the Chhattisgarh Plain (35.7). The percentage of large families is also the highest (16) in the South-West Madhya Pradesh Division followed by Plateau (13·6), the East Maratha Plain (13·3), the Chhattisgarh Plain (12·5) and the Nerbudda Valley (12·3). The percentage of very large families is the highest in the Plateau Sub-Division (5·3) followed by the South-West Madhya Pradesh Division (5·1), the Nerbudda Valley (5·0), the Chhattisgarh Plain (4·5) and the East Maratha Plain (4·2).

Conclusions

6. It would, therefore, appear that while the contrast in respect of the size of the family between the urban and rural areas of the State is very marked, as also between the different parts of the rural areas of the State, it is not so in the urban areas and it would appear that the urban population throughout the State is more or less uniformly favouring small and medium sized families. The somewhat high figures for smaller families in the urban areas of the backward parts like the Chhattisgarh Plain and the Plateau are associated with the nature of migration in these areas as will be seen when we discuss the sex ratio in Section IV, where it is shown how the number of females per 1,000 males in these urban areas is distinctly less than in the more developed areas, indicating the temporary and permanent nature of migration. Where the migrants come alone, the number of small households is bound to be larger than in places where they have settled with their families.

Composition of Families

7. Subsidiary Table 6·3 based on sample data shows the composition of 1,000 households of the general population. The heads of households and their wives in Madhya Pradesh constitute about 38 per cent of the household population. The sons and daughters of the heads of the households on the other hand constitute only 37 per cent while the other male relatives account for 9 per cent and the other female relations constitute about 14 per cent of the household population. This leaves a balance of about 2 per cent of the household population, which consists of the unrelated members of the households and the resident servants. This analysis would show that the heads of the families, their wives and children together constitute about 75 per cent of the household population and out of the remaining 25 per cent, about 23 per cent are other relatives and 2 per cent unrelated persons and resident servants. It is also interesting to note that out of the 23 per cent of relatives, females constitute 2/3rds of the number. This is consistent with the Indian social life where the large number of widows reside with their relatives.

Family Composition in the Natural Divisions

8. The percentage figures of the household composition in the case of the three Natural Divisions are given in Table 141 below :—

Table 141

Household composition in the Natural Divisions.

Name of the Natural Division	Heads of households and their wives	Sons and daughters of heads of households	Male relatives	Female relatives	Unrelated persons and resident servants
(1)	(2)	(3)	(4)	(5)	(6)
North-West Madhya Pradesh Division..	39·43	37·82	8·66	12·99	1·10
East Madhya Pradesh Division.. ..	37·58	36·52	9·02	15·31	1·57
South-West Madhya Pradesh Division	38·53	37·94	9·64	13·48	0·41

9. It is interesting to observe that the largest percentage of female relatives are to be found in the backward East Madhya Pradesh Division. The smallest percentage of unrelated persons and resident servants is to be found in the most developed part of the State—the South-West Madhya Pradesh Division, and the largest in the East Madhya Pradesh Division.

SECTION IV.—SEX RATIOS

The Diminishing Female Ratio in the State as a whole

1. Females per 1,000 males in the general population of Madhya Pradesh have diminished by about 1 per cent during the last 30 years. Subsidiary Table 6.4 given in Part I-B of the Report and Table 142 given below show that the fall is gradual and uniform throughout the period. In the rural population the fall is about 0.8 per cent and is noticeable from 1931 onwards:—

Table 142

Females per 1,000 males in general, rural and urban population.

State, Natural Divisions and Sub-Divisions	General Population				Rural Population				Urban Population			
	1951	1941	1931	1921	1951	1941	1931	1921	1951	1941	1931	1921
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	993	996	999	1,002	1,004	1,007	1,012	1,012	925	913	890	909
North-West Madhya Pradesh Division.	972	978	984	984	988	995	997	998	890	867	875	867
Nerbudda Valley ..	950	960	961	961	967	983	979	979	886	851	862	846
Plateau	1,010	1,009	1,021	1,026	1,017	1,011	1,024	1,028	911	961	954	988
East Madhya Pradesh Division.	1,017	1,025	1,035	1,036	1,021	1,028	1,038	1,037	953	968	952	988
Chhattisgarh Plain ..	1,024	1,032	1,043	1,041	1,028	1,034	1,046	1,042	951	976	957	999
East Maratha Plain ..	998	1,006	1,011	1,021	1,001	1,009	1,016	1,024	957	954	943	970
South-West Madhya Pradesh Division.	969	962	958	965	982	976	977	979	934	917	878	906

2. In the urban population, the sex ratio has been uneven. During 1921—31 there was a drop of about 1.9 per cent followed by a sudden jump by about 2.3 per cent during the period 1931—41. Again, during 1941—51 there is a further rise by about 1.2 per cent. In this connection, it must be noted that urbanization in the State has been rapid from 1931 onwards and particularly during the last decade.

The Sex Ratio in the Urban Areas

3. The rise in the female proportion in the urban areas also clearly reflects the increasing tendency towards permanent migration from villages to the towns. Formerly, as pointed out before, most people who came to earn a living in the towns left their families in the villages. This tendency is gradually diminishing with the improvement in the means of communications, developments in the urban areas and the spread of modern ideas about urban life in general. A perusal of the figures for the urban areas in the Natural Divisions in Table 142 above shows that the sex ratio in the Nerbudda Valley has gone up from 846 females per 1,000 males in 1921 to 886 females per 1,000 males in 1951. In the South-West Madhya Pradesh Division similarly, it has gone up from 906 in 1921 to 934 in 1951. In the East Madhya Pradesh Division as well as in the Plateau, which are comparatively backward parts of the State, the number of females in the urban areas has been declining. In 1921 there were 988 females per 1,000 males in the Plateau and in 1951 there are only 911. Similarly, in the urban parts of the East Madhya Pradesh Division there were 988 females in 1921 and the number has gone down to 953 in 1951. In the urban parts of these backward areas immigration is taking place, but the tendency to leave familes behind clearly persists.

Sex Ratio in the Rural Areas

4. The figures in the rural areas of the Natural Divisions show that in most cases there is a gradual fall in the number of women per 1,000 males in all the Natural Divisions and Sub-Divisions. In the South-West Madhya Pradesh Division, where the number was 979 in 1921, it came down to 976 by 1941 and then went up to 982 in 1951. It would appear that in the backward East Madhya Pradesh Division as well as in the Plateau Sub-Division, a process towards equalization of the sex ratio is at work. The continuous diminution in the number of females in the rural areas of the Nerbudda Valley is significant. It should, however, be noted that in this Valley the percentage of women in urban areas has gone up by about 4 per cent which is the highest figure among all the Natural Divisions and Sub-Divisions. Even in the South-West Madhya Pradesh Division, the increase in the urban areas has been of the order of about 2.8 per cent.

Reasons for the Unusual Behaviour of the Sex Ratio in the Nerbudda Valley

5. A closer scrutiny of the district figures of the Nerbudda Valley, as given in Subsidiary Table 6.4 mentioned above, further shows that the picture in the Valley has been distorted to a considerable extent by the Jabalpur district. Thus, for example, in the Nimar district the number of females has increased from 939 in 1921 to 959 in 1951. In the Sagar district, it was 954 in 1921 and 955 in 1951. In the Hoshangabad district, the position was stationary in 1921 and 1931 with 984 females per 1,000 males in both these years. In 1941 the figure came down to 982 and in 1951 to 971. In the Jabalpur district there has been a constant fall from 1921 to 1951. Between 1921 and 1931 there was a fall of about 0.5 per cent. Between 1931 and 1941 it was 2 per cent and between 1941 to 1951 there has again been a fall of 1.7 per cent. In this connection it may be pointed out that in the rural areas of the Jabalpur district there are important industries like mining, forestry and plantations which attract migrants from the adjoining Vindhya Pradesh territory and these people from the backward tract do not bring their families with them. This is one of the causes for the apparently abnormal behaviour of the sex ratio in the Jabalpur district. Migration into the Jabalpur City of a more permanent nature from the rural areas is yet another reason for the fall as the women left behind into the villages by the original migrants are called to the city as they settle down there.

6. We have also pointed out that the Nerbudda Valley is the most unhealthy part of the State. We also noticed how the mortality in the Valley during the Influenza epidemic was for this reason heaviest in the State. Another cause for the abnormal sex ratio in the Valley might, therefore, be associated with its Malaria haunted unhealthy zones as pointed out by Dr. Radhakamal Mukerjee, "In the plague regions of India, the malady appears to bear more savagely on females than on males. Similarly, in malaria-haunted zones, malaria appears to exercise a selective lethal influence on women. On the whole, where economic pressure is more severe and the women are exposed to the hardships of struggle with the soil and climate, as in the zones of precarious rainfall, there is a striking and permanent scarcity of women."* It may be interesting to point out that during the Influenza epidemic mortality amongst females was greater than amongst males. The general theories connected with the falling female ratio will be considered in paragraphs 23 to 27 below.

Sex Ratio in the Nagpur District

7. In the rural areas of the South-West Madhya Pradesh Division also, the Nagpur district attracts attention. Just as in the Jabalpur district the sex ratio is typical, so in the Nagpur district also it shows an almost similar pattern. Rural industries of the Nagpur district are significant as pointed out in Chapter II, Section VI, while discussing Subsidiary Table 2.4. The temporary migration of people from the backward nearby Chhattisgarh Division would explain the position to a certain extent as in the case of Jabalpur. Similarly, Nagpur City, which is attracting migrants on a more permanent basis from the adjoining rural areas, would also be responsible for the fall in the rural female ratio as in the case of Jabalpur. A perusal of Subsidiary Table 6.4 further shows that in the urban areas of the Nagpur district the female ratio is going up.

Sex Ratio Correlated to Economic Activities

8. The proportion of females among the agricultural classes is higher than in the general as well as in the non-agricultural population as shown in Table 143 below :—

Table 143

Females per 1,000 males of general, agricultural and non-agricultural population.

State, Natural Divisions and Sub-Divisions	General	Agricultural				Non-agricultural			
		Total	Self-supporting persons	Non-earning dependants	Earning dependants	Total	Self-supporting persons	Non-earning dependants	Earning dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Madhya Pradesh	993	1,017	211	1,356	2,935	920	155	1,608	2,380
North-West Madhya Pradesh Division.	972	1,004	180	1,428	2,931	900	142	1,673	2,022
Nerbudda Valley	950	980	201	1,511	2,374	897	144	1,687	1,797
Plateau	1,010	1,036	152	1,300	3,594	911	134	1,630	2,581
East Madhya Pradesh Division	1,017	1,032	242	1,316	2,923	946	222	1,511	2,849
Chhattisgarh Plain	1,024	1,038	272	1,359	2,822	945	239	1,581	2,432
East Maratha Plain	998	1,015	144	1,191	3,225	947	198	1,407	3,539
South-West Madhya Pradesh Division.	969	997	175	1,364	2,967	913	101	1,629	2,157

*Radhakamal Mukerjee: "Food Planning for 400 millions" (London 1938), page 234.

9. The figures in the above table also show the sex ratio according to the economic status of the agricultural as well as non-agricultural classes and it is interesting to notice the high proportions of females among the earning dependants. The East Maratha Plain shows the abnormally high ratio of 3,539 females per 1,000 males among the earning dependants of the non-agricultural classes and this is again due to the typical home *bidi* industry of the region. Another interesting point noticed in the figures is that in the backward areas of the Plateau and the Chhattisgarh Sub-Divisions the percentage of women among the earning dependants of the non-agricultural classes is higher than in the more developed areas, while it is lower in the case of the non-earning dependants as would be expected.

10. Among the agricultural classes, the proportion of female earning dependants is the highest in the Plateau Sub-Division and is almost equally high in the East Maratha Plain and the reasons given above apply in these cases also. It must, however, be noted that in the case of the agricultural classes the female ratio among the earning dependants is fairly high in the South-West Madhya Pradesh Division and this reflects the custom among the Kunbi Women of even high social status of working in their fields.

Sex Ratio in the Agricultural Livelihood Classes

11. A perusal of Table 144 given below shows that among the different agricultural classes the largest number of females per 1,000 males in the State is to be found in Agricultural Class IV (non-cultivating owners of land, agricultural rent receivers and their dependants). In this Livelihood Class IV there are as many as 741 self-supporting women per 1,000 males of the same category. These figures are consistent with the known facts about large landed properties recorded in the names of females:—

Table 144

Sex ratio amongst the agricultural classes (females per 1,000 males).

Livelihood Class	Economic status	Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I—Cultivators of land wholly or mainly owned and their dependants.	Total	1,021	1,010	969	1,063	1,025	1,027	1,016	1,021
	Self-supporting persons.	126	95	111	76	146	165	77	93
	Non-earning dependants.	1,413	1,489	1,604	1,326	1,344	1,388	1,205	1,533
	Earning dependants	2,821	2,781	2,084	3,508	2,854	2,752	3,203	2,712
II—Cultivators of land wholly or mainly unowned and their dependants.	Total	968	961	948	975	995	997	992	951
	Self Supporting persons.	111	50	58	43	216	309	58	64
	Non-earning dependants.	1,256	1,360	1,538	1,156	1,203	1,227	1,159	1,234
	Earning dependants	2,836	3,166	2,460	3,937	2,881	2,593	3,327	2,647
III—Cultivating labourers and their dependants.	Total	1,002	973	992	939	1,052	1,075	992	971
	Self-supporting persons.	370	339	364	303	524	601	295	232
	Non-earning dependants.	1,198	1,245	1,242	1,250	1,196	1,223	1,132	1,173
	Earning dependants	3,310	3,382	3,103	3,919	3,330	3,328	3,336	3,264
IV—Non-cultivating owners of land, agricultural rent receivers and their dependants.	Total	1,257	1,268	1,210	1,351	1,303	1,445	1,209	1,209
	Self-supporting persons.	741	860	801	947	780	986	631	612
	Non-earning dependants.	1,474	1,428	1,515	1,294	1,490	1,810	1,274	1,499
	Earning dependants	2,505	2,289	1,714	2,900	2,657	2,343	2,789	2,532

12. Among the cultivating labourers of Livelihood Class III, there are 370 self-supporting women per 1,000 men of the same category and the proportion is next to the women of Livelihood Class IV (non-cultivating owners) referred to in paragraph 11 above. In the case of Livelihood Class II(Cultivators of land wholly or mainly unowned and their dependants)on the other hand the number of self-supporting women per 1,000 men is only 111. While in Livelihood Class I (Cultivators of land wholly or mainly owned and their dependants), the number of self-supporting females is 126 per 1,000 males of the same category. Among the Natural Divisions, self-supporting women of Livelihood Class I are to be found in the largest proportion in the East Madhya Pradesh Division (146) followed by the North-West Madhya Pradesh Division (95) and the South-West Madhya Pradesh Division (93). The same pattern is to be observed in the case of females in Livelihood Class III, but it is different in the case of Livelihood Class IV where the largest proportion is in the North-West Madhya Pradesh Division (860) followed by the East Madhya Pradesh Division (780) and the South-West Madhya Pradesh Division (612). Similarly in the case of Livelihood Class II the highest proportion (216) is found in the East Madhya Pradesh Division followed by the South-West (64) and North-West Madhya Pradesh Division (50).

13. The proportion of females of the non-earning category is largest, as would be expected, in Livelihood Class IV, being 1,474 per 1,000 males, followed by Livelihood Classes I to III where the relative figures are 1,413, 1,256 and 1,198 respectively. These figures clearly show how dependency amongst women varies with their status. The richer they are the more economically inactive they are found to be. This conclusion is further supported by the proportion of females amongst the earning dependants. It is the largest in Livelihood Class III (3,310) followed by Livelihood Class II (2,836), Livelihood Class I (2,821) and Livelihood Class IV (2,505).

Sex Ratio in the Non-Agricultural Livelihood Classes

14. Of the four non-agricultural classes, the highest number of self-supporting women per 1,000 self-supporting men is to be found in Livelihood Class VIII (Other services and miscellaneous sources). There are 195 self-supporting women per 1,000 self-supporting men in this Livelihood class. The number is highest in the East Madhya Pradesh Division (275) followed by the North-West (178) and the South-West (146) Madhya Pradesh Divisions as shown in Table 145 below :—

Table 145

Sex ratio amongst non-agricultural classes (females per 1,000 males).

Livelihood class	Economic status	Madhya Pradesh	North-West Madhya Pradesh Division	Narbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
V—Production other than cultivation.	Total	919	987	899	890	932	913	954	925
	Self-supporting persons.	144	126	134	107	202	185	221	83
	Non-earning dependants.	1,541	1,657	1,679	1,599	1,361	1,415	1,298	1,637
	Earning dependants	2,696	2,228	2,034	2,640	3,112	2,674	3,717	2,505
VI—Commerce	Total	933	943	936	965	962	957	972	908
	Self-supporting persons.	145	147	135	187	241	282	170	77
	Non-earning dependants.	1,714	1,751	1,750	1,754	1,712	1,766	1,621	1,687
	Earning dependants	1,354	1,089	898	1,671	1,689	1,176	2,830	1,301
VII—Transport	Total	901	884	881	898	890	875	925	928
	Self-supporting persons.	65	58	64	35	104	113	81	38
	Non-earning dependants.	1,806	1,836	1,830	1,859	1,770	1,801	1,705	1,801
	Earning dependants	1,880	1,912	1,720	2,653	2,505	2,208	3,208	1,420
VIII—Other Services and miscellaneous sources.	Total	916	885	875	921	975	1,002	913	109
	Self-supporting persons.	195	178	178	175	275	322	165	146
	Non-earning dependants.	1,587	1,608	1,623	1,555	1,618	1,677	1,490	1,551
	Earning dependants	2,461	2,251	1,986	2,990	2,845	2,646	3,313	2,311

15. Livelihood Class VI (Commerce) contains 145 self-supporting women per 1,000 self-supporting men in the State as a whole. Here again, the highest figure is to be found in the East Madhya Pradesh Division (241) followed by the North-West Madhya Pradesh Division (147) and the South-West Madhya Pradesh Division (77).

16. Livelihood Class V (Production other than cultivation) has 144 self-supporting women per 1,000 self-supporting men in the State as a whole. The sex ratio in the Natural Divisions follows the same order as in the case of Commerce.

17. The pattern of sex ratio for Livelihood Class VII (Transport) in respect of the self-supporting persons is also similar to the other non-agricultural Livelihood classes in respect of the relative distribution in the Natural Divisions. For the State as a whole, there are only 65 self-supporting women per thousand self-supporting males.

Conclusions

18. The proportion of women and men in the different livelihood classes discussed above shows that the relative proportion of women to men in the different Natural Divisions in all the non-agricultural livelihood classes for self-supporting women is the highest in the poorest Natural Division and the lowest in the richest one. Here again, it would appear that women of poorer people are engaged in economic activities more than the women of richer classes.

19. A perusal of column 4 of Subsidiary Table 6·6 will show that the number of dependent women per 1,000 men is least in the East Madhya Pradesh Division. This fact lends further support to our conclusion. In the case of the North-West Madhya Pradesh Division and the South-West Madhya Pradesh Division it is practically the same in Livelihood Classes VII and V, while in Livelihood Class VI and VIII the figures for the North-West Madhya Pradesh Division are distinctly higher than those for the South-West Madhya Pradesh Division.

20. Again, the proportion of women to men among earning dependants is highest in the East Madhya Pradesh Division in all livelihood classes compared to the proportion in the other two Divisions. In the North-West Madhya Pradesh Division, the proportion is higher than that in the South-West Madhya Pradesh Division in the case of Livelihood Class VII while in the case of Livelihood Classes V, VI and VIII the proportion is higher in the South-West Madhya Pradesh Division than in the North-West Madhya Pradesh Division.

Sex Ratio in Livelihood Classes Connected with Existence of Particular Industries

21. In considering the proportion of women in the different livelihood classes in the different districts as given in Subsidiary Table 6·6 in Part I-B of the Report, the nature of the particular industry or employment in the district as given in the subsidiary Tables of series '5' should also be remembered. Thus, for example, as already pointed out in the Bhandara district the proportion of women to men in Livelihood Class V for self-supporting persons is conspicuously high on account of the '*bidi*' industry of this district which is very popular among the people and women also engage in the manufacture of bidis in their homes.

22. In the Raipur district also, the figure is high. The industries in which women take great part are those in Division 'O' given in Subsidiary Table 5·8 and it will be seen that stock raising and forestry are important industries in Raipur district. Again, among self-supporting women in Livelihood Class VIII, the Raipur district attracts attention as it has the highest proportion of women per 1,000 men in this livelihood class. A perusal of the figures of the other districts of Chhattisgarh Plain will show that the figures are all in general comparatively high and the reason for their being highest in Raipur is probably that domestic servants in the larger urban areas are more common in this district of the Chhattisgarh Plain than in other districts.

The Falling Female Proportion in the State and the Different Theories to Explain it

23. The proportion of females in the population of the State has been falling since 1901 as will be seen from Table 146 given below :—

Table 146

Females per 1,000 *males.*

Year (1)	Females per 1,000 males (2)
1872	959
1881	973
1891	985
1901	1,019
1911	1,008
1921	1,002
1931	999
1941	996
1951	993

24. The fall in the female proportion is a phenomenon which has been noticed throughout the country. In the All India Census Report of 1931

it has been pointed out that the figures of the population of India by sexes showed a further continuation of the steady fall in the proportion of females to males which had been going on since 1901. Various reasons have been advanced and numerous theories have been propounded. One of the principal causes pointed out in the All India Census Report of 1931 is as follows, "The female infant is definitely better equipped by nature for survival than the male, but in India the advantage she has at birth is probably neutralised in infancy by comparative neglect and in adolescence by the strain of bearing children too early and too often. Sons are evearywhere desired not only among Hindus, where son is necessary to his father's salvation, but almost equally so among other communities as well; daughters in many parts of India mean great pecuniary expense in providing for their marriage, which moreover, among the majority perhaps of Hindus, must be arranged by the time they reach puberty." The Report proceeds further and gives another reason for the fall in the female ratio as follows, "The obvious inference is that marriage within the caste will ultimately, at any rate, increase the proportion of male to female children, and it is worth noticing that the belief that endogamy has this result does not merely arise from modern enquiries into the subject, since the Talmund is quoted as stating that mixed marriages produce only girls. It cannot, however, be taken as definitely proved that femininity increases with hybridization, as some investigations point in the opposite direction, and it may be noted in passing that among the Andamanese, who are certainly declining faster than any race in India, women exceed men among the pure-bred aborigines, whereas males exceed females among the half-breeds." A third reason described in the report is that, "Local conditions may also have some bearing on the case, as the proportion of females to males is much higher in the damp climate of the South and East than in the drier Deccan and North-West, though here again it is not safe to infer, as was inferred in 1921 by Marten, that climate is responsible for the ratio, since in that case the ratio of females to males should be still higher in the Nicobars than in Madras." Yet another reason is given in the above report as follows, "It is generally recognized that the ratio of females to males increases inversely with social standing among Hindus."

25. The causes of the fall in the proportion of females in the Central Provinces and Berar are described as follows in the Census Report of 1931 :—

"The proportion of males to females has been steadily declining in this province since 1901, both in the actual population and in the natural population. Since 1921 however the decline was only 2 per mille in each case, whereas since 1901 it has been 19 per mille in the actual population and 22 per mille in the natural population. The difference in the incidence of these last two figures is attributable to the increase of female immigration during the last thirty years. There appear to be two causes of this steady fall in the proporation of females. The first was the Influenza epidemic of 1918 which is known to have attacked women more violently than men and reduced their proportion in the population enumerated in 1921. The further reduction since that Census is, as shown above, only slight. Plague has a similar preference for female victims but has not been a serious menace in this Province during the last decade. The second cause is the almost complete absence in recent years of famine mortality owing to the perfection of relief measures rendered possible under modern conditions. In the past more males than females used to die in times of famine but, although the result of the crop failures in the north of the Province from 1928—30 was a decreased birth rate and increased death rate there in the year 1929, by means of which nature adjusted herself to existing conditions, there were no deaths reported to be directly due to starvation, and very few due to epidemics such as those which attended the famines of the last century. A factor definitely unfavourable to the male population has therefore been eliminated with natural results.

(2) It is difficult to judge whether the two causes mentioned fully account for the change in sex distribution. The figures for separate castes and tribes have shown that, with certain exceptions, in those whose members generally follow sedentary occupations, there is an excess of males. The inference is obvious. The seclusion of women, observed by many of them and particularly by the Rajputs, although Rajputs cannot be included among those who live a sedentary life, is likely, in an age which has outlived the purdah system, to have obvious effects on those who often get neither proper air nor proper exercise. The figures of tuberculosis given in Chapter VII are interesting, but unfortunately they were not available for the sexes separately. It will be observed that more cases were treated in the cotton districts than elsewhere, which indicate that the disease is a menace even in tracts

where the purdah system is seldom honoured. Climate and other factors have obviously to be considered, and, although statistics are not available, the deficiency in women among the Kunbis and Marathas might well be examined in the light of these remarks.

(3) The comparatively high proportion of boys born and the tendency to masculinity at birth throughout the world was fully discussed in the 1921 Census Report for India. It is mentioned there that Mr. S. de Jastrazebski in his essay on "Sex Ratio at Birth" endeavoured to show that masculinity at birth is affected by race, that it is greater in rural than in urban populations, that it is probably slightly greater in first than in subsequent births and that, so far as available evidence goes, war raises the ratio of masculinity. The first three theses are of great importance in examination of the preponderance of males in certain castes. First, the estimation in which male life is held among Indians is generally infinitely higher than that for females. The Hindu religion particularly requires that a man should for his salvation have a son or sons. The more advanced the caste the more definite is the feeling on this subject. It is therefore not unreasonable to suggest that this undeniable attitude of mind has had a very real influence, whether prenatal or otherwise, on the actual sex distribution of some of the castes mentioned in Paragraph 11. (In a country where the castes and tribes almost without exception observe endogamy, but have within their own community exogamous divisions, the opportunity of studying the influence of race on sex is excellent.) Secondly, the Central Provinces is essentially a rural tract. According to Mr. Jastrazebski's argument greater masculinity is therefore to be expected here. In connection with this the figures of the sex distribution of the actual population of the two cities of the Province and of the population excluding immigrants are interesting. (The latter, it must be remembered includes also all born in the rural areas of Nagpur and Jubbulpore district.) Thirdly, sex Table I in the appendix to this chapter does show that in the families examined there was a very definite preponderance of boys among the first born children.

Finally, it may be observed, a prophecy made in the Census Report of 1921 that the tendency for the increase of males would now be checked, and the pendulum, given normal conditions, probably swing in the opposite direction, has not yet proved to be correct although, except in the north of the Province and perhaps in Buldana district, conditions may fairly be stated to have been normal during the last decade."

26. Discussing the balance of the sexes, Notestein and his co-authors observe :—

"The imbalance of the sexes is an important factor today tending to enhance the economic and weaken the reproductive role of women. Normally, there is a predominance of males at birth, but after birth differences in mortality favour the survival of females. The degree of such differences depends on the extent of public health and medical service, and on the levels of living and education. Thus, even within a closed population subject neither to migration nor to war, there would be differences in the numbers of males and females in the various age groups."*

27. A study of the sex ratio in the different age groups as given in Subsidiary Tables 6·9 to 6·14 given in Part I-B of the Report is interesting. It will be observed that in the case of the general population the males predominate over the females in all age groups except the group of persons aged 55 and over, where the females predominate over the males in the general population. In the rural population however the males predominate over the females in the age groups up to the age of 14 years. While in the age group 15—34 the females predominate over the males, again in the age group 35—54 for the rural population the males predominate over females, while in the age group 55 and over the females again predominate over males in the rural areas. In the urban population the sex ratio in the different age groups is of a pattern similar to that found in the general population. Again in the case of the agricultural and non-agricultural classes the pattern resembles the rural and urban ones, respectively.

* 'The future population of Europe and the Soviet Union' by Frank W. Notestein and others, (Geneva, 1944), page 145.

SECTION V.—MARITAL STATUS RATIO

1. Table 147 given below shows the marital status of 1,000 persons of each sex :—

Table 147

Marital status of 1,000 *of each sex of general population.*

Marital status*	Year	Sex	Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattis-garh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Unmarried	1951	Males	457	477	472	487	426	414	458	494
		Females	374	383	385	380	368	368	368	377
	1941	Males	453	483	481	486	427	419	451	469
		Females	349	360	350	375	344	341	352	348
	1931	Males	412	458	461	454	380	367	401	385
		Females	295	334	328	344	283	274	297	273
	1921	Males	453	483	476	496	452	445	464	401
		Females	342	358	338	390	353	346	364	279
Married	1951	Males	494	473	478	464	531	544	495	450
		Females	495	479	480	478	512	517	498	478
	1941	Males	500	471	470	474	534	545	504	470
		Females	506	488	492	483	521	525	510	494
	1931	Males	541	493	485	504	580	596	553	556
		Females	555	512	507	520	574	582	561	573
	1921	Males	486	452	455	446	495	503	480	530
		Females	497	468	476	456	497	507	480	543
Widowed	1951	Males	49	50	50	49	43	42	47	56
		Females	131	138	135	142	120	115	134	145
	1941	Males	47	46	49	40	39	36	45	61
		Females	145	152	158	142	135	134	138	158
	1931	Males	47	49	54	42	40	37	46	59
		Females	150	154	165	136	143	144	142	154
	1921	Males	61	65	69	58	53	52	56	69
		Females	161	174	186	154	150	147	156	178

2. A perusal of Subsidiary Table 147 given above shows that about half the people in the State are married. Out of the remaining half, 9/10th are unmarried and 1/10th are widows or widowers. It is to be noticed that the widows are three times the widowers. This obviously reflects the social custom of the country. There is about 0·6 per cent drop in the male marital ratio from 1941 to 1950. The fall in the marriages of females during the corresponding period is 1·1 per cent. In comparing these figures, however, an important circumstance has to be borne in mind. The 1941 figures for marital status are based on the 'Y' sample tables supplied by the Statistical Office. They show that married persons below 5 years of age were not ignored as was done in 1951 when it was assumed

that persons below 5 years of age were unmarried. The percentage of married people below 5 years to the total population of married persons in 1941 was about 0·2.

Effect of the Marriage Legislation and the Influenza Epidemic

3. We have already considered the enactment of the Sarda Act and its effect in Chapter I while considering the birth rates. Table 147 given above clearly shows the effect of this Legislation when the 1931 Census recorded an abnormally high percentage of married people. The number of married females per 1,000 women in 1921 in the State was 497. This figure suddenly jumped up to 555 in 1931 and has since levelled off. In 1951, the number of married women per 1,000 women was 495. The corresponding figures for males show that in 1921 there were 486 married males per 1,000 men and in 1931 the figure went up to 541. It has since come down to 494 in 1951. The effect of the Sarda Act and the Influenza epidemic on the ratio of married persons in the population has been well described in the Census Report of 1931 :—

> "In considering the figures of 1921, the effect of the influenza scourge of 1918 must not be forgotten, but the percentages for the different ages do not vary very much at each Census except for the group 5—10 of both sexes and the group 15—20 for males in which there is a remarkable increase in the total number of married at the 1931 Census. The rise of 10 per cent married males and 16 per cent females in the former group and of 14 per cent among the married males in the latter can only be explained by a determined attempt to anticipate the application of the provisions of the Sarda Act. It will be most interesting to learn from the figures of the next decade whether the working of the Act and the weight of public opinion will secure a proportionate fall in the corresponding percentages. The crusade against early marriage has certainly had no effect upon statistics up to now, and it may be observed that as far as the general figures are concerned comparision of the proportion of widows to widowers does not indicate that widow remarriage has gained popularity among the masses. The slight fall from the figure of 1921 in the total number of those widowed in both sexes is probably only an echo of the influenza epidemic."

4. The effects of the Influenza epidemic as well as that of the Sarda Act are very clearly indicated in Table 147 given above and in Subsidiary Table 6·7 in Part I-B of the report. The uneven nature of the Influenza calamity is to be observed by comparing the figures for the different Natural Divisions and Sub-Divisions during 1921 for married males and females. Thus, for example, we have already seen that the North-West Madhya Pradesh Division was the worst affected Division during the Influenza epidemic and we find that the number of married women in the Division during 1921 was 468 compared to 497 in the State, 543 in the South-West Madhya Pradesh Division and 497 in the East Madhya Pradesh Division. As against this abnormal and uneven nature of the Influenza epidemic, we find, more or less, a uniform jump in the number of married persons during 1931 as a result of the Sarda Act in all the Natural Divisions. We have already seen that the birth rate during 1921—30 and 1931—40 practically remained the same in the State. One of the reasons was, as has already been pointed out, the peculiar nature of the distortion of the age structure by the Influenza epidemic. Another cause for maintaining the birth rate, which would have shown a more distinct fall on account of the age structure, is to be attributed to the abnormal number of marriages which took place towards the end of the decade 1930. The distinct fall of the birth rate during 1941—50 is, as we have seen, corroborated by the fall in the number of married persons in the State during the decade. In other words, the main reason is not that the married people breed less, but that the proportion of married people has diminished. This again is associated with the past history of famines and epidemics affecting particular age groups, as pointed out in Chapter I. The Sarda Act convulsion followed by the levelling off tendency is also a significant cause. Columns 18 and 19 of the table relating to the married females during 1941 and 1950 show that in the State as a whole, as well as in all the Natural Divisions, the position with regard to the number of married females shows a slight deterioration and this might have a further slight damping effect on the birth rate during the next decade, if other circumstances continue to be the same during 1951—60 as they were during 1941—50 as already discussed in Chapter I.

Distribution in the Natural Divisions

5. A significant point to be noticed in Table 147 given above is that with respect to the typical distribution of married people in the Natural Divisions and Sub-Divisions. It will be noticed that the proportion is higher in the backward areas. The East Madhya Pradesh Division, which is the most backward of the three Natural Divisions, contains the highest percentage of married males

(53.1) and females (51.2); while the Chhattisgarh Plain Sub-Division of this Natural Division, which is the most backward part of the State, tops the list with 54.4 per cent of married males and 51.7 per cent of married females. In the South-West Madhya Pradesh Division, which is the most developed part of the State, the figures are the least being 45.0 and 47.8 per cent for married males and females, respectively.

6. In the case of widows and widowers, the position is, as expected, just the reverse. The percentage of widowers in the East Madhya Pradesh Division is lowest being 4.3, and it is highest in the South-West Madhya Pradesh Division where it is 5·6. In the Chhattisgarh Plain, it is only 4.2. Similarly, the percentage of widows is also lowest in the East Madhya Pradesh Division (1.20) and Chhattisgarh Plain (1.15) and highest in the South-West Madhya Pradesh Division.

Age Distribution of Married Persons

7. Table 148 given below shows the age distribution of 1,000 married persons of each sex as compared with the figures in 1941 :—

Table 148

Age distribution of 1,000 *married persons of each sex.*

Age-group	Year	Sex	Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
0—14	1951	Males	43	20	20	19	65	78	29	19
		Females	78	52	54	48	95	102	74	70
	1941	Males	40	26	28	22	56	65	27	24
		Females	98	76	87	59	102	109	83	111
15—34	1951	Males	464	489	507	460	463	461	465	441
		Females	565	604	606	601	533	518	576	590
	1941	Males	499	523	536	500	492	487	507	488
		Females	602	639	647	627	580	569	608	611
35—54	1951	Males	385	403	392	422	363	357	382	415
		Females	300	302	295	313	304	309	290	289
	1941	Males	353	364	356	380	343	344	342	359
		Females	257	255	240	278	265	270	254	239
35—44	1951	Males	237	246	..	..	227	..	..	249
		Females	198	208	..	..	196	..	..	190
	1941	Males	219	232	..	..	211	..	..	221
		Females	173	179	..	..	174	..	..	162
45—54	1951	Males	148	157	..	..	136	..	..	166
		Females	102	94	..	..	108	..	..	99
	1941	Males	134	132	..	..	132	..	..	137
		Females	84	76	..	..	91	..	..	77
55 and over	1951	Males	107	87	81	95	108	103	124	125
		Females	57	42	44	38	67	70	59	50
	1941	Males	108	87	80	98	109	104	124	128
		Females	43	30	26	36	53	52	55	39

8. The difficulties in ascertaining people's ages during the Census are indicated in Section III, Part A of Appendix 'U'. In spite of a certain element of doubt about the ages, we cannot fail to notice that the figures bring out the alarming fact that about 4.3 per cent of married males and 7.8 per cent of married females in Madhya Pradesh are breaking the law about marrying early and again the comparative figures of 1941 to 1950 tend to show that this tendency is on the increase in the case of males. These conclusions are arrived at even after assuming that all persons below 5 years of age are unmarried. The figures of 1941 Census based on the 'Y' samples indicate that persons below 5 years of age were also found to be married and that their percentage was of the order of 0.2 of the total number of married persons. In other words, it would appear that if the assumption referred to above were not made about persons below 5 years of age during the 1951 Tabulation, the increase in the tendency to marry early would have been noticeable to a still larger extent.

9. With a view to ascertaining how the marriage law was actually enforced, an attempt was made to obtain figures of prosecutions and convictions in criminal courts for breaches of this law. Unfortunately, figures prior to 1941 were not available in any district, except Buldana, Yeotmal and Nagpur. In these districts the number of prosecutions and convictions during the last two decades are shown in Table 149 below :—

Table 149

Prosecutions and convictions in Buldana, Yeotmal and Nagpur districts under the Sarda Act during the last two decades.

Name of the district	1931—40		1941—50	
	Prosecutions	Convictions	Prosecutions	Convictions
(1)	(2)	(3)	(4)	(5)
Buldana	18	14	13	1
Yeotmal	2	2	5	..
Nagpur	4	1	6	..

10. In the Bilaspur, Balaghat, Mandla and Chanda districts, there were no prosecutions during the decade 1941—50. In the Integrated States, the Act came into force from 1st January 1948, but no prosecutions were launched up to the end of 1951. In the remaining districts, the position was as shown in Table 150 below in respect of prosecutions and convictions for breach of the marriage law :—

Table 150

Prosecutions and convictions under the Sarda Act in other districts of the State.

Name of the district	Prosecutions	Convictions	Remarks
(1)	(2)	(3)	(4)
Nimar	29	4	Between 1945 and 1951
Hoshangabad	51	11	Between 1948 and 1951
Betul..	11	1	Between 1941 and 1951
Raipur	6	3	Between 1945—51
Jabalpur	51	12	Do.
Chhindwara	11	5	Between 1949—51
Akola	3	..	During 1951 only
Wardha	34	..	Between 1945—51
Amravati	3	1	Between 1941—51
Sagar	63	..	Do.
Bhandara	10	3	Between 1943—51
Durg..	2	..	Between 1941—51

11. The figures given above seem to indicate that the law is not well enforced and this is a probable reason for the existence of child marriages. In the Chhattisgarh Plain Sub-Division, over 10 per cent of the married women are found to be below 15 years of age. The situation calls for the attention of social workers as well as of the authorities if the evils of early marriage are to be put a stop to in the interest of building a healthy and strong nation.

The Fertile age-groups

12. The age-group 15—34 for females in Table 148 above shows that the number of females in this group has shown a fall from 602 in 1941 to 565 in 1951. This fact, as we have seen in Chapter I, is very significant in explaining the fall in the birth rate. There is, however, an increase from 257 to 300 in the age-group 35—54. This age-group has been further broken up into age-groups 35—44 and 45—54 in Table 148 mentioned above and it is seen that in the case of Madhya Pradesh there is an increase in the age-group 35—44 from 17.3 per cent to 19.8 per cent and in the age-group 45—54 from 8.4 per cent to 10.2 per cent. The age-group 45 to 54 is practically of little value in considering birth rates as the fertility period for all practical purposes ends at 45. The figures for the age group 35 to 44 show that there has been an increase of 2.5 per cent during the decade 1941—50 while during the same period in the age group 15 to 34 there is a reduction of 3.7 per cent.

13. From the figures discussed above it will be seen that in 1941 the number of married females between the ages of 15 to 44 was 775 per 1,000 women and the number was reduced to 763 in 1951. Thus, these figures clearly indicate that the fertile age group of females has shown a distinct fall during the decade 1941—50 which must result in a fall in the birth rate as has actually happened.

14. In the North-West Madhya Pradesh Division, the females of the fertility period 15—44 have diminished from 818 to 812. In the East Madhya Pradesh Division, they have diminished from 754 to 729, while in the South-West Madhya Pradesh Division, they have increased from 773 to 780.

SECTION VI.—INFANTS (AGED '0')

1. A perusal of Subsidiary Table 6.9 in Part I-B of the Report shows that throughout the State in all the districts the proportion of infants in the population has increased significantly compared to the figures of 1941. The position in respect of the State and the Natural Divisions and Sub-Divisions is shown in Table 151 below :—

Table 151

Infants (below one year) per 10,000 persons.

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural classes		Non-agricultural classes	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	341	175	166	240	173	167	189	157	172	166	184	166
North-West Madhya Pradesh Division.	373	195	178	50	185	178	252	180	185	176	219	185
Nerbudda Valley ..	394	212	182	270	198	183	266	179	200	178	237	189
Plateau	339	166	173	218	166	172	166	185	165	173	167	175
East Madhya Pradesh Division.	330	168	162	223	167	164	187	136	167	164	174	154
Chhattisgarh Plain ..	324	164	160	222	162	161	203	125	161	161	187	154
East Maratha Plain ..	347	178	170	227	179	171	160	154	185	175	155	154
South-West Madhya Pradesh Division.	328	169	159	257	174	162	153	151	172	159	163	159

2. At the 1941 Census as well as at the 1951 Census a person below one year of age was regarded as an infant. The figures, therefore, indicate that there is a real fall in the infant deaths. This is supported, as we have seen in Chapter I, from the figures of death rates specific for different age-groups.

3. Taking into consideration the death and birth rates, the calculations show that the increase of infants from 240 to 341 is not well justified. If, however, the figures for infants and young children are taken together from Subsidiary Tables 6·9 and 6.10, we find that there were 1,384 infants and young children per 10,000 persons in 1951 as compared to 1,339 in 1941 and the difference between these figures is easily explained on the basis of the birth and death rates. It has to be remembered that if we take the individual year age group of the young children, the registration error is inflated. If, on the other hand, we compare the difference between the 1941 and 1951 figures for all infants and young children as well as boys and girls taken together, we would get a measure of the real fall and also a measure of the exaggeration of the fall due to deficiency in registration.

Proportion of Infants in the Rural and Urban and Agricultural and Non-Agricultural Classes

4. Table 151 given above also shows the distribution of the infants in the rural and urban population as well as amongst the agricultural and non-agricultural classes. It is significant to note that the number of infants in the urban population is higher (346) than in the rural population (340); similarly it is higher among the non-agricultural classes (350) compared to the agricultural classes (338). These figures tally with the observed facts about higher infant mortality in the rural areas and amongst the agricultural classes.

5. It will also be observed that the figures of male infants are throughout higher than female infants, which again corroborates the fact of a higher death rate among female infants as compared with male infants One of the probable causes for this, as pointed out before, is that a male child receives greater attention than a female child, for reasons associated with the social life and customs of the people.

SECTION VII.—YOUNG CHILDREN (AGED 1—4)

DISTRIBUTION OF YOUNG CHILDREN

1. Subsidiary Table 6.10 in Part I-B of the Report shows that the number of young children has diminished during the decade. Their number per 10,000 of population for Madhya Pradesh was 1,099 in 1941 and 1,043 in 1951. As we have seen in the previous Section, the total of infants and young children has, however, shown an increase from 1,339 in 1941 to 1,384 in 1951. Table 152 given below shows the position in respect of the State and the Natural Divisions and Sub-Divisions :—

Table 152

Young children (aged 1—4) per 10,000 persons.

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural population		Non-agricultural population	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	1,043	527	516	1,099	531	520	497	486	529	518	520	509
North-West Madhya Pradesh Division.	1,009	517	492	1,093	524	496	478	472	521	490	508	497
Nerbudda Valley.. ..	980	501	479	1,096	511	483	465	462	506	477	492	482
Plateau	1,058	544	514	1,088	543	513	555	536	541	508	554	540
East Madhya Pradesh Division.	1,066	540	526	1,146	540	527	537	492	540	527	538	519
Chhattisgarh Plain ..	1,091	556	535	1,169	556	538	552	479	554	537	570	523
East Maratha Plain ..	996	496	500	1,084	495	498	513	513	498	495	490	514
South-West Madhya Pradesh Division.	1,033	511	522	1,021	518	532	492	492	511	527	512	510

2. The diminution in young children aged 1—4 is noticeable in the North-West Madhya Pradesh Division, as well as the East Madhya Pradesh Division. In the South-West Madhya Pradesh Division, there is an increase from 1,021 in 1941 to 1,033 in 1951. In the Nagpur district of this Division there is a fall from 1,039 in 1941 to 1,006 in 1951. Similarly in the Yeotmal district, there is a fall from 1,055 to 1,048, while in the Buldana district there has been no change. In the districts of Wardha, Amravati and Akola, the proportion of young children has shown an increase. In the East Madhya Pradesh Division, all the districts, except Raigarh, show a fall; while in the North-West Madhya Pradesh Division also all the districts show a fall, except the districts of Betul and Chhindwara, in which there is a rise in the number of young children.

YOUNG CHILDREN IN THE RURAL AND URBAN AREAS AND AMONGST THE AGRICULTURAL AND NON-AGRICULTURAL POPULATION

3. Table 152 given above also shows the distribution of young children among the agricultural and non-agricultural classes and the rural and urban population. It will be noticed that the proportion of young children in the rural population and the agricultural classes is higher than in the urban population and among the non-agricultural classes in Madhya Pradesh, indicating that once the infants cross the dangerous period after birth they have a better chance of survival in the rural than in the urban areas.

EXCESS OF MALE CHILDREN OVER FEMALE ONES

4. It is also to be observed that in this age-group, males predominate over females.

SECTION VIII.—BOYS AND GIRLS (AGED 5—14)

DISTRIBUTION OF BOYS AND GIRLS

1. Subsidiary Table 6·11 given in Part I-B of the Report shows the distribution of boys and girls per 10,000 persons in 1941 and 1951. It is observed that the proportion of boys and girls in the State has also diminished in 1951 (2,450) as compared to 1941 (2,494). The fall is to be noticed in all the Natural Divisions from Table 153 given below :—

Table 153

Boys and Girls (aged 5—14) per 10,000 persons

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural population		Non-agricultural population	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	2,450	1,254	1,196	2,494	1,261	1,206	1,206	1,127	1,271	1,212	1,200	1,145
North-West Madhya Pradesh Division.	2,421	1,258	1,163	2,470	1,277	1,175	1,153	1,094	1,292	1,186	1,176	1,106
Nerbudda Valley ..	2,384	1,240	1,144	2,437	1,270	1,159	1,127	1,086	1,288	1,171	1,150	1,094
Plateau	2,481	1,288	1,193	2,524	1,286	1,196	1,312	1,148	1,297	1,207	1,250	1,139
East Madhya Pradesh Division.	2,447	1,254	1,193	2,481	1,258	1,201	1,202	1,051	1,269	1,204	1,177	1,137
Chhattisgarh Plain ..	2,447	1,256	1,191	2,495	1,260	1,202	1,171	971	1,268	1,205	1,175	1,103
East Maratha Plain ..	2,448	1,250	1,198	2,443	1,250	1,199	1,252	1,185	1,272	1,201	1,181	1,189
South-West Madhya Pradesh Division.	2,483	1,249	1,234	2,542	1,253	1,254	1,238	1,175	1,253	1,255	1,240	1,189

2. In the North-West Madhya Pradesh Division, all the districts, except Sagar, register a fall. In the South-West Madhya Pradesh Division, the fall is again found in all the districts except Amravati and Buldana; while in the East Madhya Pradesh Division Durg, Bastar, Chanda and Balaghat show a rise in the number of boys and girls and the rest of the districts show a fall.

3. The proportion of boys and girls in the rural population and among the agricultural classes is higher than that among the urban population and the non-agricultural classes in Madhya Pradesh, again showing how they, like young children, have a better chance of survival in the rural areas once they cross the critical infant stage.

LARGER PROPORTION OF BOYS AND GIRLS

4. It will be observed that the boys predominate over girls in all classes in this age-group also.

SECTION IX.—YOUNG MEN AND WOMEN (AGED 15—34)

DISTRIBUTION OF YOUNG MEN AND WOMEN

1. A perusal of table 154 below shows a fall in the proportion of young men and women. Their number in the State per 10,000 persons in 1941 was 3,434, while in 1951 it was reduced to 3,243. This fall is significant because it also explains the fall in the birth rate as already explained in Chapter I. The reduction in the proportion is noticeable in all the Natural Divisions and also in every district, except Nagpur, where there is a slight increase from 3,264 to 3,278 obviously due to migration, as will be seen from Subsidiary Table 6·12 given in Part I-B of the Report :—

Table 154

Young Men and Women (aged 15—34) per 10,000 persons.

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural population		Non-agricultural population	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	3,243	1,632	1,611	3,434	1,596	1,609	1,873	1,623	1,575	1,603	1,820	1,637
North-West Madhya Pradesh Division.	3,360	1,719	1,641	3,580	1,667	1,645	2,012	1,616	1,633	1,639	1,929	1,645
Nerbudda Valley ..	3,444	1,787	1,657	3,644	1,718	1,668	2,051	1,614	1,684	1,665	1,981	1,641
Plateau	3,222	1,607	1,615	3,477	1,598	1,614	1,775	1,628	1,566	1,604	1,778	1,657
East Madhya Pradesh Division.	3,194	1,581	1,613	3,368	1,568	1,610	1,818	1,661	1,544	1,604	1,770	1,662
Chhattisgarh Plain ..	3,179	1,569	1,610	3,323	1,554	1,607	1,861	1,665	1,538	1,607	1,771	1,624
East Maratha Plain ..	3,238	1,615	1,623	3,493	1,604	1,620	1,744	1,654	1,566	1,591	1,768	1,720
South-West Madhya Pradesh Division.	3,218	1,641	1,577	3,406	1,582	1,565	1,813	1,612	1,583	1,565	1,768	1,604

THE MALE FEMALE RATIO AMONGST YOUNG MEN AND WOMEN

2. The proportion of young men and women in the urban population and among the non-agricultural classes is higher than the proportion in the rural population and agricultural classes. The reasons would be associated with the phenomena of immigration and better medical facilities. In this connection, it is interesting to refer to the death rates in urban and rural areas discussed in Chapters II and III, where we have seen how there is a significant fall in the death rates in the urban areas while those in the rural areas have shown little change.

SECTION X.—MIDDLE-AGED PERSONS (AGED 35—54)

DISTRIBUTION OF MIDDLE AGED PERSONS

1. There is a rise in the proportion of middle-aged persons from 1,963 per 10,000 persons in 1941 to 2,110 in 1951. Subsidiary Table 6·13 in Part I-B of the Report shows that the rise in the number is to be found in all the districts of the State. The position in respect of the Natural Divisions and Sub-Divisions is indicated in Table 155 below:—

Table 155

Middle-Aged persons (aged 35—54) per 10,000 persons.

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural population		Non-agricultural population	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	2,110	1,089	1,021	1,963	1,086	1,034	1,112	938	1,069	1,051	1,154	925
North-West Madhya Pradesh Division.	2,141	1,116	1,025	1,971	1,117	1,056	1,112	848	1,101	1,081	1,153	885
Nerbudda Valley ..	2,123	1,111	1,012	1,957	1,108	1,059	1,120	837	1,090	1,091	1,149	865
Plateau	2,168	1,125	1,043	1,994	1,129	1,051	1,065	915	1,115	1,068	1,165	945
East Madhya Pradesh Division.	2,111	1,070	1,041	1,981	1,065	1,043	1,157	1,017	1,053	1,053	1,155	978
Chhattisgarh Plain ..	2,127	1,070	1,057	2,012	1,064	1,058	1,189	1,043	1,056	1,065	1,161	1,009
East Maratha Plain ..	2,067	1,069	998	1,893	1,066	1,000	1,104	973	1,044	1,019	1,148	933
South-West Madhya Pradesh Division.	2,079	1,099	980	1,925	1,100	987	1,095	960	1,073	1,062	1,153	911

2. The increase in the proportion of middle-aged persons is associated with the abnormal mortality over 30 years ago due to Influenza epidemic, the consequence of which was that the relative proportion to the total population of the young persons between 5 to 14 years of age became higher on account of the selective nature of the calamity, as explained in Chapter I. The 5—14 age-group was least affected during the epidemic; while the infants, the middle-aged and the elderly persons were comparatively more affected. This means that there was a hump in the age-group 5—14. This hump is now among the middle-aged persons 35—54 and the rise in the relative proportion of middle-aged persons in 1951 is obviously due to this cause.

EXCESS OF MALES OVER FEMALES IN THE MIDDLE-AGED GROUPS

3. Table 155 given above shows that among middle-aged persons the males generally exceed the females in all groups of the population.

SECTION XI.—ELDERLY PERSONS (AGED 55 AND OVER)

DISTRIBUTION OF ELDERLY PERSONS

1. Table 156 given below shows that the proportion of elderly persons has also increased during the last decade. There were 770 of them per 10,000 of the population in 1941 in Madhya Pradesh and the figure went up to 804 in 1951 :—

Table 156

Elderly persons (aged 55 and over) per 10,000 persons

State, Natural Divisions and Sub-Divisions	General population				Rural population		Urban population		Agricultural population		Non-agricultural population	
	1951			1941								
	Persons	Males	Females	Persons	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madhya Pradesh ..	804	363	441	770	362	445	370	418	370	457	342	392
North-West Madhya Pradesh Division.	685	298	387	636	290	379	344	434	292	392	312	376
Nerbudda Valley ..	666	294	372	596	278	355	353	437	276	366	328	384
Plateau	716	304	412	699	305	412	290	417	314	427	265	351
East Madhya Pradesh Division.	845	377	468	801	378	473	350	387	388	480	318	407
Chhattisgarh Plain ..	825	363	462	779	363	467	367	369	372	470	308	409
East Maratha Plain ..	897	414	483	860	421	489	322	416	439	509	335	404
South-West Madhya Pradesh Division.	849	403	446	849	406	455	393	420	407	471	392	393

2. In their case, however, the increase is noticeable in the North-West Madhya Pradesh Division and in the East Madhya Pradesh Division, while in the South-West Madhya Pradesh Division the proportion is the same in 1951 as it was in 1941, being 849 per 10,000 persons.

3. The increase in the proportion of elderly persons aged 55 and over is also, to a certain extent, due to the previous history of famine and pestilence in the State mentioned above. The age-group 0—5 of 1871—1881 was an unduly inflated age-group because of the rapid recovery after the famine of 1866. This age-group corresponded to age-group 40—45 in 1921 and the statement showing the percentage variation of population in different age-groups given in Table 21 of Chapter I shows that this age-group, which was included in the age-group 40—60, received an increment of 2.9 per cent even after the Influenza epidemic at the Census of 1921. In other words, this age-group contained a relatively greater proportion of people to the total population and it was passing through the period 60—65 in 1941 and is now in the period 70—75. This analysis partly accounts for the increase in the elderly persons shown in Table 154 above.

THE MALE FEMALE RATIO AMONGST ELDERLY PEOPLE

4. Table 156 given above clearly shows the preponderence of females over males in this age-group showing how women enjoy greater longevity than men.

SECTION XII.—CONCLUDING REMARKS

Housing Accommodation

1. In this Chapter we have considered the territorial distribution of houses and households and have seen how congestion in the urban areas is gradually increasing. In 1921, some 4,719 persons lived in 1,000 houses in the urban areas, while the number has now gone up to 5,193. In the rural areas, the houses mostly consist of huts. Their number has increased, and congestion has been reduced from 5,049 persons living in 1,000 houses in 1921 to 4,761 in 1951. Much weight cannot, however, be attached to this fact because, as we have seen, the houses particularly in the backward parts of the State are hardly more than sheds and the general standard of sanitation in the villages is perhaps as low as ever it was. With regard to the crowding in towns, it was stated in the Census Report of 1921 that "indeed from a sanitary point of view it is probable that there is much more danger to the public health, arising from imperfect facilities for drainage, breeding grounds for mosquitoes formed by stagnant water, and impure water supply, than there is from the too great pressure of humanity on space." These observations about insanitary conditions in many of our towns still hold good. Besides, as we have seen, the average density of occupants per house, which was about 4.7 in 1921 persons, has also increased and is now about 5.2. In other words, the congestion in the urban areas generally is increasing, while the sanitation standards continue to be low. In considering the question of congestion, it must be remembered that the Census statistics deal with the houses as defined in the Census Code and they give no idea of their size, design, or pattern.

The Size of Family

2. The Census inquiry pertaining to the size of families has shown that the number of small families is larger in urban than in rural areas. In the backward tract, consisting of the East Madhya Pradesh Division, however, there is a preponderance of larger size families in the rural areas. The statistics pertaining to sex ratio also show that the relative proportion of women to men is high in the most backward parts of the State and in the rural population. Again, the figures for marital status indicate that although during the last two decades the proportion of married females as well as males has been generally falling, the relative proportion of married persons is highest in the most backward parts of the State in the East Madhya Pradesh Division and lowest in the most developed parts of the South-West Madhya Pradesh Division.

The Age Structure

3. A study of the relative proportion of the population in different age-groups further indicates that the proportion of infants has been increasing during the last decade, while that of young children, boys and girls and young men and women has been gradually falling. The proportion of middle-aged persons and elderly persons, on the other hand, has also been increasing.

The Probable Future Population Trends

4. The facts summarised above and the discussion on age-structure given in Section V of Chapter I, enable us to indicate generally what the future trends of population growth are likely to be. In Chapter I, we have already indicated that as far as the decade 1951—60 is concerned, the downward trend of the birth rate is likely to continue and the death rate is also likely to fall more particularly in the urban areas. As, however, the fall in the death rate is not likely to be so significant as to mask the effects of the reduced birth rate, the rate of growth of population during the next decade is also likely to show a fall. For reasons given in the concluding remarks of Chapter I, it is difficult to forecast the population trend beyond 1960; but on the basis of the age-structure and the statistics discussed in this Chapter and Chapter I, we might be able to point out certain general features which are bound to affect the future trends, if they are not seriously affected by migration or occurrence of some calamity—natural or otherwise—and if no deliberate attempts are made to control the population growth by raising the standard of living and education of the people and convincing them of the advantages of limited families at present and in the foreseeable future.

5. We have already seen how there was a conspicuous increase in the number of infants during the current decade. A perusal of Table 21 given in Section V of Chapter I shows the percentage variation in the population in the different age-groups during the last five decades. A perusal of this table shows that the age-group 0—5 was seriously depleted during 1931—41 on account of the lesser number of births due to the previous history of the age-structure and this age-group will be entering the fertility period during the decade 1951—61 and, as already pointed out, the birth rate is likely to show a further fall. In 1961, however, the age-group 0—5 of the decade 1941—51, which has received good increments, will be entering the fertility period and the recovery in the birth rate is likely to show itself. If infant mortality continues to be low as at present and no unforeseen calamity occurs as pointed out before, it is clear

that the birth rate is bound to go up after 1961 and this rate will continue to increase as the depleted age-groups of 1931—41 pass out of the fertility period and the augmented age-groups of infants of 1941—51 onwards enter the fertility period.

CONCLUSION

6. The net result of our study in this Chapter, therefore, tends to indicate that the rate of growth of population in Madhya Pradesh will show a further fall during the next decade, but it will begin to revive after 1961 and as the birth rate will then increase and the death rate is likely to further fall, there is every possibility of the population increasing rapidly in future unless the presumptions made in paragraph 4 above cease to hold good. The grave consequences of this probable rapid increase have already been pointed out in the concluding remarks of Chapter I, as well as in Chapters IV and V, and in conclusion, therefore, we might repeat the advice of the Royal Commission that "the population problem is now one that must be kept under continuous study."*

*Report of the Royal Commission on Population, page 4 (London: His Majesty's Stationery Office).

CHAPTER VII

Literacy

SECTION I.—PRELIMINARY REMARKS

Reference to Statistics

The Statistics of Literacy will be found in Main Tables C-IV (Age and Literacy) and D-VII (Livelihood classes by educational standards) given in Part II-C of the Report. Three Subsidiary Tables—7·1 (Progress of literacy), 7·2 (Literacy standards of livelihood classes) and 7·3 (Educational services and research) will be found in Part I-B of the Report.

2. Table C-IV (Age and literacy) is prepared on the basis of data collected from 10 per cent of the sample slips of general population and the figures have been tabulated as returned without the use of any smoothing formula. In the past, it was customary to apply a smoothing formula to the actual age returns. The published tables contained only the smoothed figures. This was done in order to offset the observed preference for particular digits (especially 0) in actual age returns. At this Census, tabulation proceeded on the basis that the Census should publish the information as actually furnished by the people. Accordingly, no smoothing formula was applied and certain decennial age-groups, which include all the digits with the most favoured digit (0) at the centre, were adopted.

3. Table D-VII (Livelihood classes by educational standards) is a new table which was never published in the previous Censuses. It is designed to show the distribution of educated man-power among the different livelihood classes.

4. Subsidiary Table 7·1 (Progress of literacy) gives the number of literate persons amongst 1,000 of each sex aged 5 to 9, 5 to 14, 5 and upwards and 15 and upwards. The figures are given for Madhya Pradesh, the Natural Divisions, the Sub-Divisions and the Districts for the 1951 as well as the 1941 Censuses. The figures for the 1941 Census are based on the Age Tables on 'Y' Sample, publised in Census of India Paper No. 9—1951.

5. Subsidiary Table 7·2 (Literacy standard of livelihood classes,) is prepared from Main Table D-VII (Livelihood classes by educational standards) and shows the number per 1,000 of each sex under each livelihood class by literacy and educational standards. Enquiry made at the Census in respect of literacy and education consisted in ascertaining whether a person could read or write, and if so, the highest examination passed by him. The instructions issued were as follows :—

> " Write 0 for a person who can neither read nor write ; write 1 for a person who can read but cannot write ; write 2 for a person who can read and write. If a person who can read and write has also passed any examination, note the highest examination passed, instead of writing 2. The test for reading is ability to read any simple letter either in print or in manuscript. The test for writing is ability to write a simple letter. "

Supplementary instructions were issued to the Enumerators that where a person gave the name of the examination passed by him which was not intelligible to the Enumerator, the person concerned was to be requested to write the name of the examination himself in the enumeration slip, so that the chances of misunderstanding on the part of the Enumerator might be avoided. The Enumerators were also required to test, the person's ability to read and write in doubtful cases.

6. Subsidiary Table 7·3 (Educational services and research) gives actual figures for persons of different category engaged in educational activities. The number per lakh of population in respect of professors, lecturers and teachers employed in Universities, Colleges and Research Institutions as well as those not employed in those institutions is also given in the table.

SECTION II.—PROGRESS OF LITERACY

Early Definitions of Literacy

In the previous Census Reports it has been pointed out that in 1881 and 1892 the returns were not made on the same basis as at subsequent Censuses. The population was divided in respect of education into three categories—Learning, Literate and Illiterate. The return of the 'Learning' category was vitiated by the omission of children who had recently joined school and by the inclusion of those who, although still at school, had attained the standard of literacy. There were thus great discrepancies between the Census returns of the number of persons classified under the head 'learning' and the corresponding statistics of the Education Department. This triple classification was, therefore, abolished in 1901, when it was decided to confine the entry in the enumeration schedules to the two main categories of 'literate' and 'illiterate'. A literate person was defined as one who had passed the Primary examination or who possessed knowledge up to that standard. Under this definition, there was a tendency to omit from the literate category those who though not educated at school, were in fact literate, and to include others as literate who had lapsed into illiteracy after completing their education. In 1911, therefore, no effort was made to prescribe an educational standard and the simple test of literacy was defined as the ability to write a letter to a friend and to read the answer to it. The same definition was adopted at the 1921 and 1931 Censuses. The instructions issued at the 1931 Census were as follows :—

> "If literate in Hindi write Hindi; if literate in Urdu write Urdu. Otherwise enter against all persons who can both read and write a letter in any language, the word 'Literate'. For those who cannot, make a 'X'."

The instructions issued at the 1941 Census were :—

> "In the case of persons who are able to read and write enter the name of the script, as for example, Nagari, Urdu, etc. In the case of persons who are only able to read, write 'P'; and in the case of those persons who are unable to read or write put a cross mark. In doubtful cases test the person's ability to read and write".

It will be noticed that the definition of 'literacy' at the 1941 Census was the same as in 1951 given in paragraph 5 of Section I above.

Comparison of Statistics of Literacy at the Previous Censuses

2. On account of the differences in the definition of 'literacy' at previous Censuses, it is difficult to compare all the figures of the previous enumerations. Again, in 1931 all the calculations in respect of the Age Tables were smoothed at the time of abstraction. The Census Report of 1931 and the previous Census Reports also contain a Subsidiary Table showing the progress of literacy since 1881. These tables have to be studied with caution, as pointed out in the 1931 Report, where Shri Shoobert says :—

> "As explained in Paragraph 2 the changes which have been made in the manner of return of statistics of literacy from Census to Census from 1881 to 1911 render it somewhat difficult to obtain an accurate estimate of actual progress before 1911. The system of classification at earlier Censuses probably increased the apparent number of literates and so the statistics in Subsidiary Table VI for before 1911 must be accepted with some caution"

These tables in the previous Census Reports compare the male and female literacy of all ages 10 and over, 15—20 and 20 and over. Chart III is prepared on the basis of the figures for all ages 10 and over, as given in Subsidiary Table VI (Progress of literacy since 1881) in the 1931 Census Report and on the 'Y' sample age statistics of the 1941 Census and the 10 per cent sample figures of the 1951 Census. This diagram roughly illustrates the progress of literacy in the State from 1881 up to 1951 for males as well as females. It is interesting to notice that during the past 70 years, literacy amongst males has increased by 22·4 per cent and by 5·9 per cent amongst females. As we have pointed out, the figures have to be regarded as illustrative of the nature of progress in literacy in t e State on account of the difference in definitions of 'literacy' adopted from time to time and the smoothing formula, etc., applied at the 1931 Census. The figures cannot be taken as quite accurate.

3. We will now proceed to examine the progress of literacy during 1941-51 when the system of enumeration was the same as in 1951 in respect of literacy and where we have fairly accurate statistics in Subsidiary Table 7·1 (Progress of literacy) given in Part I-B of the Report.

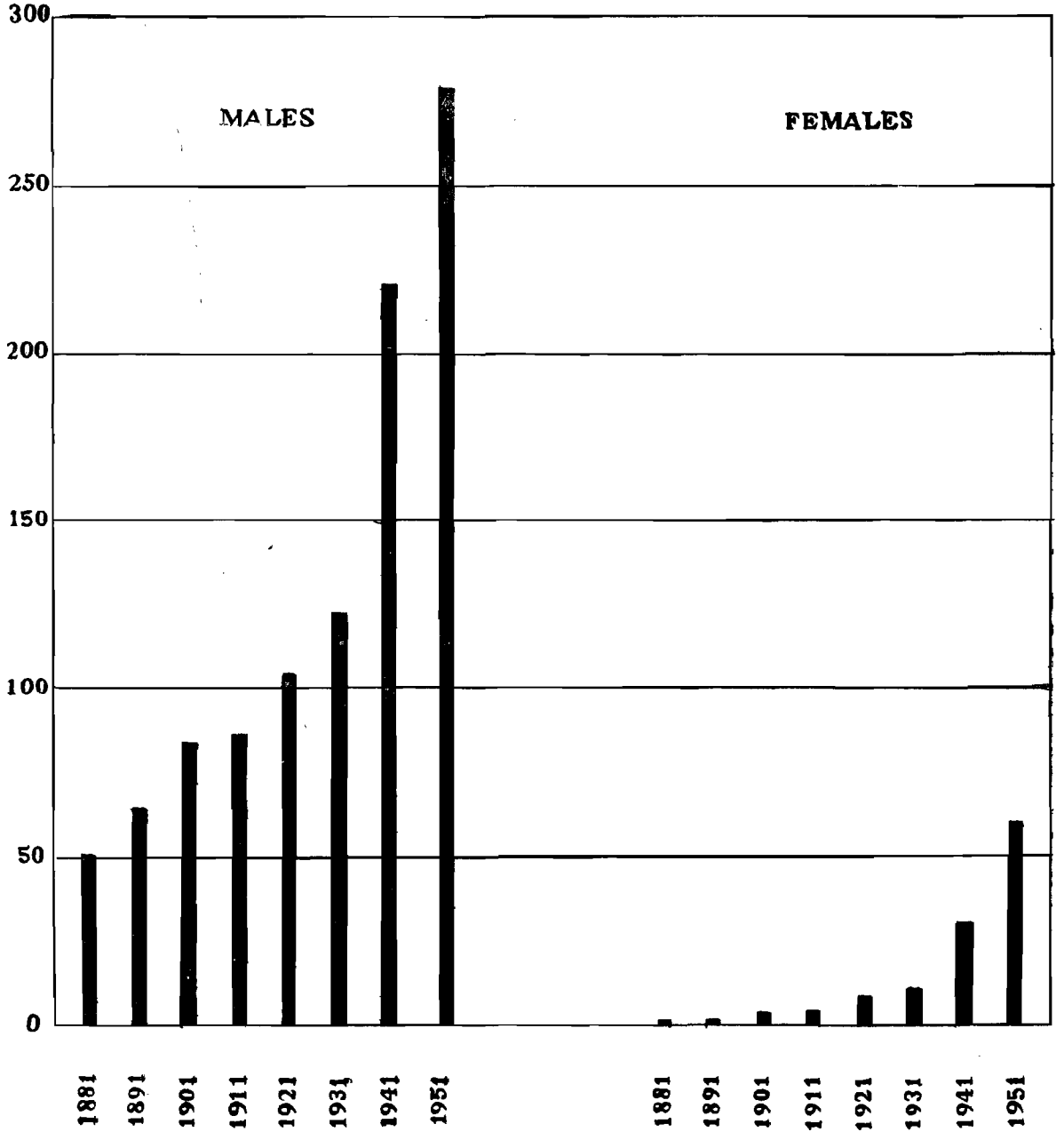
Progress of Literacy during 1941—51

4. Table 157 given below shows the number of literate males and females per 1,000 of each sex in certain age-groups in Madhya Pradesh and the Natural Divisions and Sub-Divisions during 1941 and 1951.

CHART III

Growth of Literacy *per mille* of Population Aged 10 and Upwards

1881—1951



[To Face Page 250]

Table 157

Progress of Literacy during 1941—51.

Age-groups	Year	Sex	Population	Number of literates per 1,000 of the age-groups in column 1 in— Madhya Pradesh	North-West Madhya Pradesh Division	Nerbudda Valley	Plateau	East Madhya Pradesh Division	Chhattisgarh Plain	East Maratha Plain	South-West Madhya Pradesh Division
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5 to 9 ..	1951..	Males ..	Total ..	111	88	99	73	90	82	115	176
			Rural ..	88	67	71	60	76	68	101	144
			Urban ..	287	234	223	291	374	422	295	280
		Females	Total ..	48	41	52	26	27	26	28	97
			Rural ..	27	21	24	17	20	21	17	50
			Urban ..	215	181	179	192	176	180	171	247
	1941..	Males ..	Total ..	96	92	102	76	69	57	104	151
		Females	Total ..	29	29	38	15	14	13	19	56
5 to 14 ..	1951..	Males ..	Total ..	202	172	187	149	159	138	216	313
			Rural ..	166	139	146	129	140	121	193	259
			Urban ..	453	382	365	469	503	509	492	472
		Females	Total ..	76	71	87	45	39	38	44	148
			Rural ..	44	37	42	30	29	29	28	84
			Urban ..	307	273	269	295	251	256	245	345
	1941..	Males ..	Total ..	148	152	176	114	108	91	157	225
		Females	Total ..	40	41	53	22	20	17	26	75
5 and upwards	1951..	Males ..	Total ..	250	238	264	194	185	163	245	379
			Rural ..	206	196	214	172	165	146	217	312
			Urban ..	523	456	441	546	519	482	583	565
		Females	Total ..	58	58	72	34	27	27	30	116
			Rural ..	30	51	32	22	19	19	18	58
			Urban ..	250	234	235	230	180	186	171	286
	1941..	Males ..	Total ..	198	196	227	145	148	133	190	286
		Females	Total ..	29	31	40	16	16	15	18	53
15 and upwards.	1951..	Males ..	Total ..	269	264	293	213	196	173	257	405
			Rural ..	222	220	242	190	175	156	226	333
			Urban ..	549	481	466	579	525	473	619	600
		Females	Total ..	51	53	67	30	23	22	24	103
			Rural ..	25	25	29	19	15	16	15	47
			Urban ..	229	219	222	205	156	164	142	263
	1941..	Males ..	Total ..	219	218	254	158	165	151	203	310
		Females	Total ..	25	27	36	13	15	15	15	44

AGE-GROUP 5 TO 9

5. It will be observed from Table 157 given above that the progress of literacy amongst girls aged 5 to 9 has increased very significantly in Madhya Pradesh, as well as in all the Natural Divisions and Sub-Divisions. In 1941, there were only 29 girls per 1,000 aged 5 to 9 years who were literate in Madhya Pradesh as against 48 in 1951. The largest increase in female literacy of this age-group is to be found in the South-West Madhya Pradesh Division, wherefrom 56 girls per 1,000, the figure has gone up to 97. The Nerbudda Valley comes next in order in the progress of literacy of girls aged 5 to 9. In this Sub-Division, there were 38 literate girls per 1,000 in 1941 as against 52 in 1951. The least progress in the education of the girls is noticed in the East Maratha Plain. There were 19 educated girls of this age-group per 1,000 in 1941 as against 28 in 1951.

6. Literacy amongst boys aged 5 to 9 years has increased in Madhya Pradesh by about 1·5 per cent as against the increase in literacy of the girls by about 1·9 per cent. It is to be noted that literacy

amongst boys aged 5 to 9 has shown a fall of about 0·3 per cent in the Plateau Sub-Division as well as in the Nerbudda Valley. The Plateau Sub-Division is one of the backward areas of the State inhabited by the aborigines. A perusal of Table 157 will further show that literacy in the rural areas amongst boys aged 5 to 9 is least in the Plateau Sub-Division of the State, being about 6 per cent. Literacy amongst the girls of the same age-group in the rural areas of the Plateau Sub-Division is also the lowest being 1·7. In the East Maratha Plain Sub-Division also, literacy among girls aged 5 to 9 in rural areas is equally low.

7. Unfortunately, separate figures for rural and urban areas are not available for the year 1941, but a perusal of the rural figures for 1951 for the age-group 5 to 9, as given in Table 157, will show how the percentage of literacy is almost negligible among girls aged 5 to 9, being only 2·7 per cent in Madhya Pradesh. Even among boys, the figure is as low as 8·8 per cent for the State as a whole, the lowest being again the Plateau Sub-Division with 6·0 per cent literate boys aged 5 to 9. In the South-West Madhya Pradesh Division, literacy among boys aged 5 to 9 in the rural areas is 14·4 per cent and among girls is 5·0 per cent.

8. Literacy in the urban areas in the age-group 5 to 9 is highest in the Chhattisgarh Plain Sub-Division being 42·2 per cent. In the urban areas of even the Plateau, the literacy percentage is 29·1 as against 28·0 for the South-West Madhya Pradesh Division for boys. These figures have to be studied with care, particularly because in the Plateau Sub-Division the urban population consists of only 8 small towns with a population of 121,476, while in the South-West Madhya Pradesh Division there are 64 towns with a population of 1,452,002. In the East Madhya Pradesh Division, there are 41 towns with a population of 582,844.

AGE-GROUP 5 TO 14

9. This age-group would contain all boys and girls attending the Primary Schools and, perhaps, some attending the Middle Schools also. The percentage of literacy among boys of this age-group for the State is 20·2 in 1951 as against 14·8 in 1941 ; while the corresponding percentage in the case of girls is 7·6 in 1951 compared to 4·0 in 1941. it would appear that on the whole the education of girls has not progressed at the same pace as boys. It will be seen that in the age-group 5 to 14 in the South-West Madhya Pradesh Division the literacy ratio among boys has gone up from 225 per 1,000 to 313. This is the most advanced part of the State and the increase in the percentage of literacy is only to be expected. The literacy ratio among girls of the same age-group in the South-West Madhya Pradesh Division has also increased to a marked degree. There were only 75 girls aged 5 to 14 who were literate in the South-West Madhya Pradesh Division in 1941 as against 148 in 1951. In fact, this is the largest increase in the State for this age-group. The average increase for Madhya Pradesh was from 40 to 76.

10. The literacy figures for rural and urban areas for 1951 for the age-group 5 to 14, as given in Table 157, also deserve careful study. It will be seen that in the State as a whole literacy in this age-group among boys in the urban areas is as high as 45·3, while in the rural areas it is as low as 16·6. In case of girls, the position in the rural areas is extremely unsatisfactory, as the percentage of literacy is only 4·4. The corresponding percentage of literacy in the urban areas is, however, 30·7. The largest percentage of literacy among girls in the urban areas is to be found in the South-West Madhya Pradesh Division (34·5), while the largest percentage among boys of the same age-group in the urban areas is to be found in the Chhattisgarh Plain (50.9). The remarks made above in the case of age-group 5 to 9 for the urban literacy ratio have, however, to be borne in mind while considering the figures of urban literacy in the backward areas. Literacy among boys as well as girls in the rural areas of the backward Plateau and Chhattisgarh Plain is almost the lowest in the State as will be seen from Table 157 given above.

AGE-GROUP 5 AND UPWARDS

11. This age-group would contain practically all the literate people and gives a fair idea of the overall literacy position in the State and the Natural Divisions. It will be noticed that the overall percentage of literacy in the age-group for males is 25 per cent and for females 5.8 per cent. In the rural areas, the literacy percentage for males and females is 20·6 and 3·0 per cent respectively, while in the urban areas the figures are 52·3 and 25·0. These figures show how female education in the State is negligible in the rural areas. The lowest percentage of literacy in the rural areas both for females as well as for males is to be found again in the backward areas of the Plateau and the Chhattisgarh Plain Sub-Divisions, while the highest literacy percentage both in the case of boys as well as girls in the rural areas is to be found in the South-West Madhya Pradesh Division where there are 312 males and 58 females literates per 1,000. Even in this most advanced part of the State, female education in the rural areas is thus still in a primitive stage.

AGE-GROUP 15 AND UPWARDS

12. This age-group excludes literate children and boys and girls, and the percentage of literacy in this age-group shows the percentage of literate adults in the population. It will be found that in Madhya Pradesh, the male literacy ratio in this age-group is 26·9 as against 21·9 in 1941. The female ratio is 5·1 in 1951 as against 2·5 in 1941. The comparative backwardness in literacy of the Chhattisgarh Plain and the Plateau Sub-Divisions referred to above will be noticed in this age-group also in the rural areas.

PROGRESS OF LITERACY JUDGED FROM SCHOLARS IN PRIMARY SCHOOLS

13. Table 158 given below shows the number of literates under 15 years of age and the number of scholars in the Primary Schools of the State. The figures include statistics of the Integrated States as contained in the Census Report of 1931. The statistics for 1941 for the Integrated States are not available. The figures for 1951 include statistics of the Integrated States.

Table 158

Number of Literates under 15 and Number of Scholars in Primary Schools

1951		1941		1931		1921		1911		1901	
Literates under 15 years	Scholars	Literates under 15 years	Scholars	Literates under 15 years	Scholars	Literates under 15 years	Scholars	Literates under 15 years	Scholars	Literates under 15 years	Scholars
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
747,400	645,432	467,700	..	158,721	347,151	117,749	276,983	70,490	242,813	67,633	158,699

14. It will be observed that during the last three decades literacy among boys and girls under 15 years has increased rapidly and although, as we have already seen, the overall percentage of literacy among boys and girls aged 5 to 14 in Madhya Pradesh during 1951 Census is only 20·2 and 7·6 per cent respectively and is undoubtedly very low, nevertheless compared to the figures of 1931 and 1941, the present figures indicate an appreciable increase in the number of literates. The percentage of literacy among boys and girls aged 5 to 14 during the last three Censuses is shown in Table 159 below :—

Table 159

Percentage of Literacy in age-groups 5—14 years during the last three decades

Year	Percentage of literacy among		
	Persons	Males	Females
(1)	(2)	(3)	(4)
1951	14·1	20·2	7·6
1941	9·5	14·8	4·0
1931	3·7	6·1	1·1

15. It will be observed from Table 159 above that the percentage of literacy among boys and girls of the age-group 5-14 years has increased by about four times. In the case of boys, the increase is about 3½ times ; while in the case of girls, the increase is almost seven times. The total number of scholars in Primary Schools has also practically doubled since 1931, as will be seen from Table 158 given above.

16. It may be mentioned that according to the statistics of the Education Department, the total number of scholars between the ages of 5 and 14 in all educational institutions of the State during the year 1950-51 was 834,024 as against the Census figure of 747,400. This difference is due to the Census definition of "literacy", according to which only those boys and girls who could read and write a letter could be classified as literate.

COMPARATIVE LITERACY PERCENTAGE IN MADHYA PRADESH AND SOME OF THE OTHER STATES OF INDIA

17. Table 160 given below shows the extent of literacy in Madhya Pradesh and some of the other States of the Indian Union:—

Table 160

Comparative percentages of Literacy in Madhya Pradesh and some of the States of India during the 1951 Census

Name of State		Percentage of literacy		
		Persons	Males	Females
(1)		(2)	(3)	(4)
Madhya Pradesh	Total ..	13·45	21·86	4·99
	Rural ..	9·91	17·31	2·53
	Urban ..	36·09	49·72	21·34
Uttar Pradesh	Total ..	10·79	17·38	3·56
	Rural ..	7·76	13·58	1·47
	Urban ..	29·97	40·09	17·64
Bombay*	Total ..	24·11	34·86	12·56
	Rural ..	16·86	26·65	6·90
	Urban ..	40·61	51·96	26·73
Madras	Total ..	19·3	28·6	10·0
Bihar	Total ..	11·9	19·9	3·8
Orissa	Total ..	15·80	27·32	4·52
	Rural ..	14·88	26·21	3·86
	Urban ..	37·51	51·74	21·35
West Bengal	Total ..	24·5	34·7	12·7
	Rural ..	17·7	28·1	6·7
	Urban ..	45·2	51·8	35·1
Madhya Bharat*	Total ..	10·78	17·04	3·00
	Rural ..	6·49	11·60	1·11
	Urban ..	29·20	41·34	15·8
Assam	Total ..	18·07	27·08	7·82
	Rural ..	16·52	25·37	6·58
	Urban ..	50·27	58·82	37·75
Travancore-Cochin*	Total ..	45·83	54·78	36·97

*Figures for these States are based on the 10 per cent sample.

18. Table 160 given above speaks for itself and it will be seen how literacy in Madhya Pradesh compares with that in some of the other States in the country.

19. It is also interesting to compare the progress of literacy in Madhya Pradesh from 1901 up to now with that in some of the other States in India. Table 161 given below reproduces the figures from the 1931 Census Report and this can be compared with the position in 1951 as given in Table 160 above:—

Table 161

Progress of Literacy in Madhya Pradesh and some of the other States of India

Name of State	Percentage of literacy							
	Males				Females			
	1931	1921	1911	1901	1931	1921	1911	1901
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Madhya Pradesh	11·0	8·7	..	..	1·1	0·8	..	..
Uttar Pradesh	9·4	7·4	6·9	6·6	1·1	0·7	0·6	0·3
Bombay	16·7	13·8	13·9	13·1	2·9	2·4	1·6	1·0
Madras	18·8	17·3	17·1	13·7	3·0	2·4	2·0	1·1
Bihar and Orissa	9·5	9·6	8·8	8·7	0·8	0·6	0·4	0·3
Benga l(Unpartitioned)	18·2	18·1	16·1	14·7	3·2	2·1	1·3	0·9
Assam	15·2	12·4	..	..	2·3	1·4	..	..

SECTION III.—LITERACY BY LIVELIHOOD CLASSES AND EDUCATIONAL STANDARDS

In this Section, we shall consider how the educated man-power is spread over the eight livelihood classes and distributed among the various levels and kinds of educational attainments.

2. Cross-tabulation of figures for the literates in the different livelihood classes by the educational standards reached by them has been undertaken for the first time at the present Census. Table D-VII (Livelihood classes by educational standards) given in Part II-C of the Report shows the results of this cross-tabulation.

Distribution of Literacy in Different Parts of the State

3. Literacy has not progressed at the same pace in all parts of Madhya Pradesh. It will be interesting to study how the proportion of the total literate persons belonging to any educational standard whatever varies from one Natural Division to another, and from the rural to the urban areas within the same territorial unit.

Distribution in the Natural Divisions

4. The following Table 162 shows the distribution of the total literates in the State and the Natural Divisions by the different educational standards. The actual as well as percentage figures are given in it.

5. It will be seen from Table 162 given below that the over-all percentage of literate males and females, belonging to any educational standard whatever, in the State is 21·9 and 5·0 respectively. The highest percentage of literacy both among males (32·6) and females (9·6) exists in South-West Madhya Pradesh Division and the lowest percentage of literate males (16·3) and females (2·5) is found in the East Madhya Pradesh Division. The North-West Madhya Pradesh occupies an intermediate position, with 21·1 per cent literate males and 5·0 literate females:—

Table 162

Literacy Standards, Actual and Percentage.

Educational standards	Madhya Pradesh		North-West Madhya Pradesh Division		East Madhya Pradesh Division		South-West Madhya Pradesh Division	
	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Literate (below Middle School Standard)	2,055,343	460,213	515,413	119,326	758,336	112,871	781,594	228,016
	19·276	4·348	18·512	4·409	14·998	2·195	27·692	8·336
Middle School	164,535	37,911	38,021	10,356	41,473	8,055	85,041	19,500
	1·543	·358	1·366	·383	·820	·157	3·013	·713
Matriculate or S.L.C.—Higher Secondary	65,454	9,805	20,871	2,830	13,004	1,756	31,579	5,219
	·614	·093	·750	·105	·257	·034	1·119	·191
Intermediate in Arts or Science	11,572	2,070	3,559	638	2,113	353	5,900	1,079
	·109	·020	·128	·024	·042	·007	·209	·039
Total-Degrees or Diplomas	34,370	17,914	10,639	1,562	7,222	7,551	16,509	8,801
	·322	·169	·382	·058	·143	·147	·585	·322
Graduate in Arts or Science	9,351	1,341	3,059	396	1,643	212	4,649	733
	·088	·013	·110	·015	·032	·004	·165	·027
Post-—Graduate in Arts or Science	2,369	354	757	74	372	28	1,240	252
	·022	·003	·027	·003	·007	·001	·044	·009
Teaching	5,434	1,367	1,993	583	1,408	273	2,033	511
	·051	·013	·072	·022	·028	·005	·072	·019
Engineering	1,068	18	234	8	162	3	672	7
	·010	..	·008	..	·003	..	·024	..
Agriculture	426	1	89	..	55	..	282	1
	·004	..	·003	..	·001	..	·010	..
Veterinary	172	..	31	..	26	..	115	..
	·002	..	·001	..	·001	..	·004	..
Commerce	1,014	14	136	..	66	..	812	14
	·010	..	·005	..	·001	..	·029	·001
Legal	3,781	35	680	13	627	1	2,474	21
	·035	..	·024	..	·012	..	·088	·001
Medical	2,391	257	566	58	391	46	1,434	153
	·022	·002	·020	·002	·008	·001	·051	·006
Others	8,364	14,527	3,094	430	2,472	6,988	2,798	7,109
	·078	·137	·111	·016	·049	·136	·099	·260
Total—All Educational Standards	2,331,274	527,913	588,503	134,712	822,148	130,586	920,623	262,615
	21·864	4·987	21·137	4·978	16·260	2·539	32·618	9·601

6. A study of Table 162 also reveals that the literate males and females are spread over the three Natural Divisions, *viz.*, the East Madhya Pradesh Division, the North-West Madhya Pradesh Division and the South-West Madhya Pradesh Division in the proportion of 1:1.3:2 and 1:2:3.8 respectively. East Madhya Pradesh Division not only lags behind the other two divisions; its backwardness becomes even more pronounced when it comes to female literacy.

7. The following table shows the percentage of the total population and the literates residing in each of the three Natural Divisions.

Natural divisions	Distribution of 100 literate persons	Distribution of 100 persons
(1)	(2)	(3)
North-West Madhya Pradesh Division.	25·3	25·8
East Madhya Pradesh Division ..	33·3	48·0
South-West Madhya Pradesh Division	41·4	26·2

8. It will be noticed that the East Madhya Pradesh Division, which contains 48·0 per cent of the total population of the State accounts for only 33·3 per cent of the total literate persons of the State. The South-West Madhya Pradesh Division, on the other hand, contains only 26·2 per cent of the total population of the State, but as many as 41·4 per cent of the total number of literates in Madhya Pradesh. The percentage of literates in the North-West Madhya Pradesh Division is more or less the same as the percentage which its total population bears to that of the State.

9. It will also be observed that female education has received comparatively scant attention in all the Natural Divisions. Roughly speaking, the literate females account for less than one-fifth of the total literate population in the State. Even in the progressive South-West Madhya Pradesh Division, the number of literate females is less than one-third the total number of literate persons in the Division. There are several reasons for the slow growth of female education. One of the chief causes is early marriage which almost invariably operates as a bar to education. It will be of interest to note that about 8 per cent of the total married females in the State belong to the Age-group 0-14. But for their marriage, perhaps many girls in this age-group would have undergone some sort of education. Seclusion of girls, specially after puberty, is also responsible, to some extent, for hindering the progress of female education. There is also a general apathy towards female education, as its value is not generally adequately recognised.

10. Education of males and females alike has made the maximum headway in the South-West Madhya Pradesh Division which is the most progressive and prosperous part of the State. The East Madhya Pradesh Division, consisting as it does of large forest and hilly tracts, with undeveloped communications, is the most backward part of Madhya Pradesh. A glance at Table 162 will show that among the various educational standards except Literate (Below Middle School Standard), the Middle School Examination has been passed by the largest proportion of male as well as female literates in the State and the three Natural Divisions.

Distribution in Rural and Urban Areas

11. The distribution of the total number of literates in the rural and urban areas of the State by the different educational standards is given below:—

Table 163

Literacy Standards in Rural and Urban Areas, Actual and Percentage.

Educational standards	Actuals				Percentage			
	Rural		Urban		Rural		Urban	
	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Literate (Below Middle School Standard)	1,499,551	222,019	555,792	238,194	16·357	2·413	37·178	17·231
Middle School	63,912	8,570	100,623	29,341	0·697	0·093	6·731	2·122
Matriculation or S. L. C. Higher Secondary	13,227	1,241	52,227	8,564	0·144	0·013	3·494	0·620
Intermediate in Arts or Science	2,162	216	9,410	1,854	0·024	0·002	0·629	0·134
Total—Degrees or Diplomas	9,000	760	25,370	17,154	0·098	0·008	1·697	1·241
Graduate in Arts or Science	1,470	109	7,881	1,232	0·016	0·001	0·527	0·089
Post-Graduate in Arts or Science	365	24	2,004	330	0·004	..	0·134	0·024
Teaching	2,443	253	2,991	1,114	0·027	0·003	0·200	0·081
Engineering	186	10	882	8	0·002	..	0·059	0·001
Agriculture	87	..	339	1	0·001	..	0·023	..
Veterinary	27	..	145	..	..	..	0·010	..
Commerce	77	..	937	14	0·001	..	0·063	0·001
Legal	264	5	3,517	30	0·003	..	0·235	0·002
Medical	317	22	2,074	235	0·003	..	0·139	0·017
Others	3,764	337	4,600	14,190	0·041	0·004	0·308	1.026
Total—All Educational Standards	1,587,852	232,806	743,422	295,107	17.329	2.530	49.728	21·348

12. It will be seen from Table 163 given above that the over-all percentage of literacy for males and females is 17·3 and 2·5 respectively in rural area and 49·7 and 21·3 respectively in urban area of the State. It will also be observed that among males in the urban areas of Madhya Pradesh, about 12·5 per cent have passed the Middle School or a higher examination and about 1·7 per cent hold degrees or diplomas of some kind or the other. In the urban female population of the State, about 4·1 per cent have passed the Middle School or a higher examination and nearly 1·2 per cent are degree or diploma holders. That the condition in the rural areas is much worse is borne out by the fact that the corresponding figures in rural Madhya Pradesh are 1 per cent and 0·1 per cent for males and 0·1 per cent and 0·01 per cent for females.

13. The sharp contrast that exists between the rural and urban areas in regard to the progress of education will be clear from the table given below :—

Table 164

Distribution of 100 Persons belonging to each Educational Standard in Rural and Urban Areas.

Educational Standards	Ratio of persons in each educational standard in	
	Rural area	Urban area
(1)	(2)	(3)
Literate	68.4	31·6
Middle School	35·8	64·2
Matriculate or S. L. C. Higher Secondary.	19·2	80·8
Intermediate in Arts or Science ..	17·4	82·6
Total—Degrees or Diplomas ..	18·7	81·3

It is significant that of the total literates (who are able to read and write including those who have passed an examination below the middle school standard) in Madhya Pradesh, 68·4 per cent are found in the rural area and 31·6 per cent in the urban area, notwithstanding the fact that the rural/urban ratio of the total population of the State is 86·5:13·5. The extent to which the rural/urban ratio in respect of literacy diverges from the rural/urban ratio of the total population of the State indicates the educational backwardness of the rural population.

14. It will also appear from the study of Table 164 given above that the proportion of Matriculates and of persons with higher educational attainments is very low in the rural areas. The reasons for this are obvious. The rural areas, in general, offer few facilities for education beyond the Middle School stage with the result that the bulk of the rural population is debarred from studying further. Again, the small fraction of the population which goes in for higher studies generally drifts to towns in search of some suitable employment after passing the Matriculation or higher examination.

15. A study of Table 163 further reveals a startling contrast between the urban and the rural areas of the State in regard to the progress of female education in the respective parts. The proportion of literate females in urban areas is roughly eight times that in rural areas. If we compare the proportion of females in the rural and urban areas of Madhya Pradesh who have attained the different educational standards we find that the percentage figure for the urban area is in excess of that for the rural area by 14·8 in the case of literates (who are able to read and write including those who have passed an examination below the Middle School Standard), by about 2 for those who have passed the Middle School Examination, by 0·6 for Matriculates, by 0·1 for those who have passd the Intermediate in Arts or Science examination and by 1·2 for Degree or Diploma-holders. This shows that female education has received a much greater fillip in urban than in rural areas. Causes which have impeded the progress of female education in villages are less in evidence in the towns.

Literacy in the Rural/Urban Areas of the Natural Divisions

16. The table given below shows the percentage of total literates, belonging to any educational standard whatever, in the three Natural Divisions:—

Natural Division	Rural		Urban	
	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)
North-West Madhya Pradesh Division.	16·0	2·3	48·2	21·0
East Madhya Pradesh Division.	14·1	1·6	51·0	19·3
South-West Madhya Pradesh Division.	26·3	5·2	50·1	22·4

It will be observed that the variation in the proportion of literates in the three Natural Divisions is, in general, more pronounced in the rural than in the urban population. It points to the conclusion that the people living in towns, whether situated in the progressive or backward areas of the State are, in general, more inclined towards education than their rural counterparts.

17. The great disparity in the literacy ratio in the rural and urban areas is just what might be expected. The facilities for education, even of an elementary nature, in villages are very much less than those available in the towns. Not only Municipalities, but also private educational societies have considerably furthered the cause of education in urban areas by opening schools, colleges and other educational institutions. In rural areas, on the other hand, there are numerous villages with hardly a a Primary School within several miles. Another important cause is that the urban population, in general, stands in much greater need of education than the rural population to earn a living. As has been observed in Chapters II and III, 85·4 per cent of the rural population looks to agriculture for its sustenance while 85·3 per cent of the urban population derives its subsistence from occupations other than agriculture. As many of the non-agricultural occupations call for a minimum ability to read and write, it is obvious that several persons in the urban areas learn to read and write just to be able to earn a living. A cultivator or a village artisan, on the other hand, does not need any educational attainment to carry on his profession. In fact, what he can learn in his village school is of little help to him in carrying on his occupation.

Literacy by Livelihood Classes

18. The following table shows the proportion of males and females in each livelihood class who have attained the different educational standards:—

Table 165

Literacy Standard of Livelihood Classes in Madhya Pradesh.

Educational standards	Number per 1,000 males and 1,000 females of each livelihood class, by literacy and educational standards															
	Agricultural Classes								Non-Agricultural Classes Persons including dependants who derive their principal means of livelihood from							
	I		II		III		IV		V		VI		VII		VIII	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Literate (below Middle School Standard).	179	25	123	20	91	12	325	80	242	67	455	170	307	123	317	143
Middle School	9	1	5	1	2	..	31	5	20	6	54	12	58	18	56	21
Matriculate or S. L. C. Higher Secondary.	1	..	..	..	..	..	9	1	7	1	19	2	37	4	39	8
Intermediate in Arts or Science.	..	..	..	..	..	..	2	..	1	..	3	..	6	1	8	2
Total—Degrees or Diplomas.	1	..	..	..	..	..	5	1	2	..	5	1	7	1	28	22
Graduate in Arts or Science.	..	..	..	..	..	..	1	..	1	..	2	..	3	..	7	1
Post-Graduate in Arts or Science.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Teaching	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	2
Engineering	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Agriculture	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Veterinary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Commerce	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Legal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..
Medical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Others	1	..	..	..	..	..	2	1	..	..	1	..	2	1	4	18
Total—All Educational Standards.	190	26	129	21	94	12	371	87	271	75	537	185	415	147	448	195

19. It will be seen that the percentage of literacy for males fluctuates from 9·4 in the case of livelihood class III (cultivating labourers) to 53·7 in that of livelihood class VI (Commerce). The percentage of literate females varies from 1·2 in the case of livelihood class III (Cultivating labourers) to 19·5 in that of livelihood class VIII (Other services and miscellaneous sources). We will now review the position in the different livelihood classes with the help of Table 165 and Subsidiary Table 7·2 given in Part I-B-Report.

Livelihood Class I—Cultivators of Land Wholly or Mainly Owned and their Dependants

20. Next to Livelihood Class IV (Non-cultivating owners of land; agricultural rent receivers and their dependants), this class claims the highest percentage of literate males and females among the four agricultural classes. The percentage of total literate males and females in the State, belonging to any educational standard whatever, is 19·0 and 2·6 respectively. The educational attainment of by far the largest proportion of literates in this class is below the Middle School standard. Even the percentage of those, who have passed the Middle School examination, is exceedingly low, being 0·9 for males and 0·1 for females. The percentage of literacy varies from 14·6 for males and 1·3 for females in the case of East Madhya Pradesh Division to 38·6 in the case of males and 8·9 in the case of females in the South-West Madhya Pradesh Division. The variations in the case of districts are larger still. Literacy for males varies from 3·8 per cent in Surguja and 7·2 per cent in Bastar, both aboriginal districts, to 50·1 and 49·5 in the rich cotton growing districts of Amravati and Akola. Generally speaking, the percentage of literacy for males and females is the highest in all the districts of South-West Madhya Pradesh Division. The backward districts comprised in the Plateau and Chhattisgarh Plain Sub-Divisions have, in general, low literacy ratios.

Livelihood Class II—Cultivators of Land Wholly or Mainly Unowned and their Dependants

21. Among the agricultural classes, this class stands third in literacy attainment. The percentage of literate males and females in this class is 12·9 and 2·1 respectively. The highest standard reached by the literates of this class is Middle School examination, which too has been got through by a very small fraction of the population. The percentage of males and females who have passed that examination is 0·5 and 0·1 respectively. A glance at Subsidiary Table 7·2 will show that the districts of the South-West Madhya Pradesh Division have got high literacy ratios for this class as well. The figures in respect of some of the districts of the East Madhya Pradesh Division differ very considerably from one another. The percentage of literate males is 2·1 in Surguja and 2·7 in Bastar as against 16·6 in Raipur and 15·7 in Bhandara.

Livelihood Class III—Cultivating Labourers and their Dependants

22. Of all the eight livelihood classes, the lowest proportion of literates is to be found in this class. The percentage of literate males and females in this livelihood class is 9·4 and 1·2 respectively and save 0·2 per cent males who have only passed the Middle School examination, the entire literate population, males and females alike, consists of persons who are just able to read and write or have passed some examination below the Middle School standard. A perusal of Subsidiary Table 7·2 given in Part I-B shows that considerable variations in the degree of literacy exist in different parts of the State. The percentage of literate males belonging to any educational standard whatever, varies from 0·9 and 1·3 for the backward districts of Surguja and Bastar respectively to such high figures as 19·8 for Akola and 19·4 for Amravati. More or less uniform figures obtain in the case of Bilaspur (4·2), Betul (4·4), Mandla (5·4) and Chanda (5·5). It is significant that all the districts of the South-West Madhya Pradesh Division have a high percentage of literate males as well as females. Amravati (5·9) beats all other districts of Madhya Pradesh in the matter of literacy of females in this class, Akola (2·6) being second. In other districts of South-West Madhya Pradesh Division, the percentage of female literacy for this class varies from 0·6 to 1·7. The percentage of literate females of Class III in the other districts of the State, except Balaghat, is generally much below one per cent. The reasons for the staggeringly low percentage of literacy in livelihood class III are not far to seek. The agricultural labourers constitute one of the poorest classes in the State and the cost of education, howsoever small, proves too great a strain on the slender means of most of them. Again, in this livelihood class, a considerable proportion of boys and girls are required to work to earn their living or to supplement the family income and are, therefore, withdrawn from school. A glance at Subsidiary Table 4·4 given in Part I-B of the report will show that as many as 67·3 per cent of the persons *belonging to this class are active and semi-active* workers. It will also be seen from Table C-II given in Part II-C of the Report that the percentage of persons, belonging to livelihood class III, in the Age-group 15—64 is 61·3, indicating that 6 per cent of active and semi-active workers of this class are drawn from Age-groups 0—14 and 65 and over. The latter two age-groups contain 35·9 per cent and

2·8 per cent respectively of the population of livelihood class III. It is, therefore, obvious that several boys and girls of this livelihood class have to work in the fields for their living.

Livelihood Class IV—Non-cultivating Owners of Land; Agricultural Rent Receivers and their Dependants

23. Among the four agricultural classes, this class has the highest percentage of literate males and females. The percentage of literacy in this class is 37·1 for males and 8·7 for females. These percentage figures are not only much higher than those for the other three agricultural classes, but also exceed those relating to non-agricultural class V (Production other than cultivation). Another feature distinguishing it from the other agricultural classes is that while the Middle School examination only seems to be the highest attainment of the literates in the other livelihood classes, the literates of this class are found to have reached higher educational standards like Matriculation, Intermediate and a Degree. The percentage of literate males in the urban and rural areas are 68 per cent and 34 per cent. The proportion of literate population in this class shows considerable variation from district to district. The districts of South-West Madhya Pradesh Division have, generally speaking, recorded a high literacy ratio. The percentage of literate males varies from 14·0 and 19·1 in Surguja and Chanda districts to 61·2 and 78·5 in the districts of Amravati and Raipur. The highest percentage of literate females belonging to any educational standard whatever, is to be found in Amravati (22·9) and Jabalpur (21·6) districts. This class has made greater progress in education than the other agricultural classes mainly on account of two causes. The economic condition of persons of this class is, generally, better than that of persons belonging to the other agricultural classes. Again, as Subsidiary Table 3·6 given in Part I-B of the Report will show, a much greater proportion of persons of this class lives in urban areas than those of Classes I, II and III.

Livelihood Class V—Production other than Cultivation

24. The lowest percentage of literacy amongst the four non-agricultural classes is found in livelihood class V (Production other than cultivation). There are 27·1 per cent literate males and 7·5 per cent literate females in this class. A glance at Subsidiary Table 7·2 given in Part I-B of the Report will show that the South-West Madhya Pradesh Division (35·1 per cent males and 11·5 per cent females) leads the remaining two Natural Divisions of the State, *viz.* North-West Madhya Pradesh Division (25·7 per cent males and 9 per cent females) and East Madhya Pradesh Division (22·1 per cent males and 3·4 per cent females). The percentage of literate males varies from 10·6 in Bastar and 11·9 in Surguja to 38·5 in Akola and 42·2 in Amravati. The percentage of literate females varies from 1·2 in Bastar and 1·6 in Raigarh to 15·1 in Nagpur and 18·7 in Jabalpur. A study of the occupational groups falling under this livelihood class (given in Annexure II in Part II-B of the Report) shows that this class consists of a large number of labourers in mines and factories, petty artisans, sawyers, carpenters, basket-makers, bidi makers, blacksmiths, cobblers, handloom weavers, wood-cutters and the like. A perusal of Subsidiary Table 3·6 given in Part I-B of the report reveals that the great majority of persons of this class live in villages, the rural/urban ratio for the population of this class being 96·4:3·6. Obviously, those rural artisans have not gone in for schooling, which imparts to them only book learning, instead of the technical skill essential to their vocations, for much the same reason as cultivators have eschewed schooling. It will be observed that the percentage of literate males belonging to this class and living in rural areas is 19·4 per cent which is very nearly the same as that of cultivators. The percentage of literate males residing in the urban areas and belonging to livelihood class V (Production other than cultivation) is 41·3.

Livelihood Class VI—Commerce

25. This livelihood class contains a higher percentage of literate males (53·7) than any other class and as regards the percentage of female literacy as well, it is a very close second (18·5), being beaten only by class VIII (19·5) in this respect. It will, however, be noticed that although the over-all percentage of literacy in this class is high, yet the figures relating to the higher educational standards do not compare favourably with those in respect of the other two educationally advanced classes VII and VIII. The causes of such a phenomenon are obvious. Livelihood Class VI comprises the business community, which, of necessity, takes care to impart to children the minimum educational qualifications required for managing the family business. Again, as the needs of business are generally adequately met by an education even up to the Middle School standard, most of them stop their education at that or the Matriculation stage. The result is that while the proportion of literates in the class is high, there are not many amongst them who have gone in for higher studies. A perusal of Subsidiary Table 7·2 given in Part I-B of the Report shows that the percentage of literacy amongst males is the lowest in the Bastar district (30·5) and highest in the Balaghat district (92·9). But for these stray exceptions, the percentage of literate males in the different districts of Madhya Pradesh generally

varies from about 44 per cent to about 63 per cent. The highest percentage of literate females (31·4) in class VI is found in the Raipur district. Raipur is followed by Nimar for which the corresponding figure is 24·7. The percentage of literate females is found to vary generally from about 11 to about 20 from district to district.

Livelihood Class VII—Transport

26. This is one of the three livelihood classes in which the literacy ratio is most encouraging, the other two being classes VI and VIII. The percentage of literate males and females of this class in the State are 41·5 and 14·7 respectively. The proportion of literates in the higher educational standards, however, is greater in this class than in class VI. This is natural in view of the large number of railway employees possessing various kinds of educational attainments coming within this livelihood class. A reference to the District Index of Non-Agricultural Occupations given in Part I-B of the Report will show that about 48·5 per cent of the self-supporting persons of livelihood class VII come under the sub-division 7·4—Railway Transport. It will also be seen from Table D-VII (Livelihood Classes by Educational Standards) given in Part II-C of the Report that the percentage of literate males belonging to livelihood class VII in rural and urban areas of the State are 35·5 and 44·2 respectively. This high literacy ratio in rural areas is due to the fact that out of the total number of persons engaged in 'Railway Transport', as many as 39·7 per cent reside in rural areas, as a glance at the Economic Table B-III given in Part II-B of the Report will show. A glance at Subsidiary Table 7·2 given in Part I-B of the Report will show that the percentage of literacy amongst males is uniformly high in almost all districts. The percentage of literate males is found to be highest in Bastar district (70·8). The reason for this abnormally high figure for a most backward district like Bastar is that the total number of males belonging to livelihood class VII in the district is itself very low. A reference to Subsidiary Table 1·8 given in Part I-B of the Report will show that only 0·18 per cent of the total number of persons belonging to livelihood class VII in Madhya Pradesh were enumerated in Bastar, this percentage being by far the lowest of all the 22 districts. The percentage of literate males is the lowest in the Surguja district (29·5). It is a most backward and jungly district, having extremely poor communications by rail as well as road.

Livelihood Class VIII—Other Services and Miscellaneous Sources

27. This is another livelihood class containing a high proportion of literates. The percentage of literate females in this class is the highest (19·5) amongst all the eight livelihood classes and, as regards the percentage of literacy of males (44·8), it is next only to that in class VI. The proportion of persons possessing higher educational qualifications is much higher in this class than in any other. There are 2·8 per cent male and 2·2 per cent female degree and diploma holders in this class as against 0·7 per cent males and 0·1 per cent females in Class VII and 0·5 per cent males and 0·1 per cent females in each of the livelihood classes IV and VI. This class claims some proportion of its literate persons under almost every 'educational standard'. The preponderance of persons with higher educational attainment in this class, as also the overall high percentage of literacy, are clearly due to the fact that a considerable proportion of persons in class VIII is engaged in various kinds of work relating to public health, education and public administration. A study of Table B-III in Part II-B of the Report reveals that about 35·2 per cent of the self-supporting persons of livelihood class VIII belong to Division 8-Health, Education and Public Administration.

28. Amravati leads the other districts of Madhya Pradesh in regard to the percentage of literacy amongst males and females alike, of class VIII. The percentage figures for that district are 61·3 for males and 38·6 for females. The percentage of literate males is the lowest in Raigarh and Surguja (both 25·8). Surguja (9·3) contains the lowest percentage of female literates in the State.

SECTION IV.—EDUCATIONAL SERVICES AND RESEARCH

This section deals with the perons engaged in the various kinds of educational services for earning their livelihood. At the present Census, such persons have been classified into three categories. One is of those who are employed as professors, lecturers, teachers and research workers in universities, colleges and research institutions. In the next class fall all those persons who are on the teaching staff in educational institutions other than universities, colleges and research institutes. This class mainly comprises the vast multitude of teachers of primary, middle and high schools and other such recognised and unrecognized educational institutions. In the third group are included all those persons who, though connected with educational activities, are not actually engaged in imparting instruction or carrying on research. Managers, clerks and servants of educational and research institutions, libraries, museums, etc., come in this category.

Comparability with the Data of the Past Censuses

2. At the 1941 Census, the data on this subject had not been tabulated as the exigencies of war obliged the Government of India to restrict tabulation in British India.

3. Statistics on this topic are available for the 1921 and 1931 Censuses. They are, however, only partially comparable with those of the present Census, because the persons earning their living through educational activities have been classified differently at each of the three Censuses, 1921, 1931 and 1951. The three categories into which such persons had been placed at the 1931 Census were professors and teachers of all kinds, clerks and servants connected with education and scientists (astronomers, botanists, etc.). For the 1921 Census, figures are available separately for two categories only, namely, professors and teachers of all kinds and clerks and servants connected with education. Figures for astronomers, botanists, etc., are given jointly with those for authors, editors, journalists, artists, photographers, sculptors, meteorologists, astrologers etc. As, however, the number of returns of research workers at this Census must be exceedingly small, a fair comparison of the combined figures for professors, lecturers as well as schoolmasters, etc., for the three Censuses, 1921, 1931 and 1951 can be attempted.

4. The statistics regarding the persons engaged in educational activities in the State, Natural Divisions, Sub-Divisions and Districts will be found in Subsidiary Table 7·3 (Educational Services and Research) given in 'Census of India, 1951, Volume VII—Madhya Pradesh, Part I-B'. The relevant data for the 1931 Census are contained in groups 174, 175 and 180 of Table X (Occupation or means of livelihood) in 'Census of India, 1931 Volume XII—Central Provinces and Berar, Part II' and those for the 1921 Census in Groups 173 and 177 of Table XVII (Occupation or means of livelihood) in 'Census of India, 1921, Volume XI—Central Provinces and Berar, Part II'.

Distribution of Persons Engaged in Educational Services in Different Parts of the State

5. The following Table gives the details regarding the persons engaged in each category of the educational services :—

Table 166

Number of Males and Females in Different Categories of Educational Services and their Proportion per Lakh of population.

State, Natural Divisions and Sub-Divisions	Managers, clerks and servants of educational and Research Institutions, including Libraries and Museums, etc.		Professors, lecturers and teachers other than those employed in Universities, Colleges and Research Institutions		Professors, lecturers and research workers employed in Universities, Colleges and Research Institutions		Total	
	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Madhya Pradesh	2,970	813	29,322	4,105	701	86	32,993	5,004
North-West Madhya Pradesh Division	1,578	335	8,194	1,265	277	30	10,049	1,630
Nerbudda Valley	1,187	231	5,613	1,038	277	30	7,077	1,299
Plateau	391	104	2,581	227	..	..	2,972	331
East Madhya Pradesh Division	314	258	9,701	1,249	51	1	10,066	1,508
Chhattisgarh Plain	227	201	6,642	1,091	51	1	6,920	1,293
East Maratha Plain	87	57	3,059	158	..	..	3,146	215
South-West Madhya Pradesh Division (West Maratha Plain).	1,078	220	11,427	1,591	373	55	12,878	1,866

Table 166—*concld.*

State, Natural Divisions and Sub-Divisions	Managers, clerks and servants of educational and Research Institutions, including Libraries and Museums, etc.		Professors, lecturers and teachers other than those employed in Universities, Colleges and Research Institutions		Professors, lecturers, teachers and research workers employed in Universities, Colleges and Research Institutions		Total	
	Males	Females	Males	Females	Males	Females	Males	Females
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Madhya Pradesh	14	4	138	19	3	0·4	155	24
North-West Madhya Pradesh Division ..	29	6	149	23	5	0·5	183	30
Nerbudda Valley	35	7	165	30	8	0·9	208	38
Plateau	19	5	124	11	..	..	143	16
East Madhya Pradesh Division	3	3	95	12	1	..	99	15
Chhattisgarh Plain	3	3	89	15	1	..	93	18
East Maratha Plain	3	2	112	6	..	..	115	8
South-West Madhya Pradesh Division (West Maratha Plain). ..	19	4	206	29	7	1	232	34

6. It will be seen from Table 166 above that in Madhya Pradesh 37,997 persons earn their livelihood through educational services, of whom 32,993 are males and 5,004 females. Amongst them, 2,970 males and 813 females are such as do not actually impart any instruction to pupils or carry on any research work. They are simply employed as managers, clerks and servants of educational institutions, libraries, museums, etc. 701 males and 86 females in Madhya Pradesh are working as professors and lecturers in Universities and Colleges or doing research work. The number of males and females on the teaching staff of the primary, middle and high schools and other such recognized and unrecognized educational institutions are 29,322 and 4,105 respectively. It will be noticed that the sex ratio of persons engaged in educational activities in Madhya Pradesh is approximately 6 males for every female. The corresponding ratio in respect of professors and lecturers of universities and colleges and research workers is roughly 8:1 and for school teachers about 7:1. Among the three Natural Divisions, the proportion of males and females subsisting on income derived from educational activities is the highest in the South-West Madhya Pradesh Division, being 232 males and 34 females per 100,000 of population. The North-West Madhya Pradesh Division comes next, the corresponding proportional figures being 183 and 30 while the East Madhya Pradesh Division with 99 males and 15 females comes last. The South-West Madhya Pradesh Division is the most progressive part of the State, its literacy ratio is the highest as Table 157 will show and it is natural to find a larger percentage of the population in this part securing employment in the field of education. The East Madhya Pradesh division, on the other hand, includes some of the most backward areas of Madhya Pradesh.

7. Amongst the Natural Sub-Divisions, however although the proportion in respect of males is the largest (232) in the West Maratha Plain Sub-Division (which is the same as the South-West Madhya Pradesh Division), that in respect of females is the highest (38) in the Nerbudda Valley Sub-Division which includes the progressive and industrial districts of Jabalpur and Nimar. Amongst the districts, Wardha claims the largest proportion (327) of males in educational services, Amravati (262) being second and Nimar (256) a close third. As for the proportion of females, the pride of first place goes to Jabalpur (52), with the districts of Amravati (44·6), Nagpur (44·0) and Raipur (43·7) close competitors.

Rural/Urban Distribution

8. The following Table shows the number of males and females and their proportion per lakh of population, engaged in educational services, in the rural and urban areas of the State and its three Natural Divisions.

State and Natural Divisions		Persons engaged in educational services of all kinds			
		Total		No. per 100,000 of Total Population	
		Males	Females	Males	Females
(1)		(2)	(3)	(4)	(5)
Madhya Pradesh	Rural	19,276	1,795	105	10
	Urban	13,717	3,209	477	112
3·24 North-West Madhya Pradesh Division	Rural	5,498	465	118	10
	Urban	4,551	1,165	540	138
3·32 East Madhya Pradesh Division	Rural	7,186	850	75	9
	Urban	2,880	658	494	113
3·41 South-West Madhya Pradesh Division	Rural	6,592	480	161	12
	Urban	6,286	1,386	433	95

It will be seen that in the rural area of the State, the proportion of males and females deriving a living from educational services, is 105 and 10, while the corresponding figures for the urban area are as high as 477 and 112 respectively. This is natural in view of the great disparity in educational attainment in the urban as compared with the rural areas of the State. The proportion of males and females engaged in educational activities in urban areas are also far in excess of the corresponding figures in respect of the rural areas in all the three Natural Divisions. The proportions in the case of the urban area of the East Madhya Pradesh Division are higher, not because the number of persons in educational services in that Division is very large but because the total urban population itself is much smaller in that Division compared to that in the other two Divisions.

9. We now proceed to consider the case of each of the three different categories of the educational services.

Distribution of School Masters, etc.

10. A glance at Table 166 will show that in Madhya Pradesh there are 138 males and 19 females per lakh of population working on the teaching staff of the various grades of schools and other such educational institutions. Again, the South-West Madhya Pradesh Division has a higher proportion of males (206) and females (29) working as school masters, etc., than any other Natural Division, the North West Madhya Pradesh Division with 149 males and 23 females school teachers, etc., per lakh of population, being next. Amongst the Natural Divisions and Sub-Divisions of Madhya Pradesh, the proportion of male school teachers, etc., is the highest (206) in the West Maratha Plain (*i.e.*, the South-West Madhya Pradesh Division) while that of female school teachers, etc., is highest (30) in the Nerbudda Valley Sub-Division. Among the districts, Wardha (323) beats all in the matter of proportion of male school teachers in the population, Nimar (237) is second, Akola (233) is third and Buldana (232) is a close fourth. On scanning the column relating to the proportional figures for female school teachers, it is found that Jabalpur (42) leads the rest of the districts and the figures in respect of all except the four districts of Amravati (39), Raipur (38) and Wardha (36) are much lower.

Distribution of Professors, Lecturers, etc.

11. A reference to Table 166 will show that the proportion of males and females in the State employed as professors or lecturers in the Universities and Colleges and as research workers, per lakh of population is 3 and 0·4 respectively. As before, the South-West Madhya Pradesh Division contains the highest proportion of males (7) and females (1) alike among the Natural Divisions. Next comes the North-West Madhya Pradesh Division, the corresponding figures being 5 for males and 0·6 for females. Among the Natural Divisions and Sub-Divisions, however, the highest proportion of male professors, etc., is to be found in the Nerbudda Valley Sub-Division (8), the West Maratha Plain Sub-Division (*i.e.*, the South-West Madhya Pradesh Division) with 7 being second. The Nerbudda Valley Sub-Division contains within it Jabalpur City, which has a number of Arts and Science Colleges besides the Law, Veterinary and Engineering Colleges and the town of Sagar which is now the seat of a University. These factors account for the high proportion of

professors, lecturers, etc., in the Sub-Division. The proportion of female professors, lecturers, etc., is the highest (1) in the West Maratha Plain Sub-Division, *i.e.* (the South-West Madhya Pradesh Division), that in the Nerbudda Valley Sub-Division being slightly lower, *viz.*, 0·9 per lakh of population. The higher proportion of females on the teaching staff of colleges in the South-West Madhya Pradesh Division is, due presumably to the difference in social outlook of the Marathi-speaking people, who form the overwhelming majority in this Division. They favour the idea of middle class ladies entering service to a much greater extent than do the Hindi-speaking population who inhabit other parts of the State. It will be noticed that there are no returns for professors, etc., in the East Maratha Plain and Plateau Sub-Divisions. This is just what might be expected, as both these Sub-divisions comprise some of the most backward and jungly districts of Madhya Pradesh and there is not a single college in any of them. As regards the districts, the proportion of male and female professors, lecturers, etc., in the population is highest in Nagpur, being 20 for males and 4 for females. Jabalpur, with the corresponding figures of 18 and 3 respectively, is a close second. Next in order come the districts of Amravati and Sagar, the proportion of males and females being 8 and 0·8 in the former and 7 and 0·3 in the latter.

Distribution of Managers, Clerks, Servants, etc., of Educational Institutions

12. It will be seen from Table 166 that 14 males and 4 females per 100,000 of the population in Madhya Pradesh earn their livelihood by working in the various educational institutions, not as professors, lecturers or teachers but as managers, clerks, servants, etc. Among the Natural Divisions, the North-West Madhya Pradesh Division has the largest proportion of such persons in the population, the figures being 29 for males and 6 for females. The South-West Madhya Pradesh Division with the corresponding figures of 19 and 4 respectively, comes next. The Nerbudda Valley Sub-Division with 35 males and 7 females, however, beats all the Natural Divisions and Sub-Divisions in this respect. Amongst the districts, the proportion of males of this category is the highest in Jabalpur (72) and Nagpur (44), which is natural in view of the large number of private and Government educational institutions in those districts. As for the proportion of females employed as clerks, servants, etc., in the educational institutions, Nagpur district (10) tops the list.

Comparison with Past Censuses

13. It is obvious that the number of persons finding employment in any capacity in the educational services will always be directly proportional to the spread of education and consequent establishment of educational Institutions of all kinds. It will, therefore, be useful to compare, as far as it is possible to do so, the figures of the present Census in this respect with those of previous Censuses.

14. The following Table gives the proportion of persons engaged in educational services at this and previous Censuses.

Table 167

Number of Males and Females engaged in Educational Services in 1921, 1931 and 1951 Censuses per lakh of Population.

State, Natural Divisions and Sub-Divisions	Number per 100,000 of total population engaged in Educational Service in					
	1921		1931		1951	
	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh	61	11	95	10	155	24
North-West Madhya Pradesh Division	62	16	100	15	183	30
Nerbudda Valley	68	22	116	19	207	38
Plateau	51	5	74	9	143	16
East Madhya Pradesh Division	33	9	62	6	99	15
Chhattisgarh Plain	30	7	57	6	93	17
East Maratha Plain	42	15	77	5	115	8
South-West Madhya Pradesh Division and West Maratha Plain.	109	9	146	14	232	34

15. It will be seen from Table 167 above that the proportion of males in educational services per lakh of population in the State has increased from 61 in 1921 to 95 in 1931 and 155 in 1951. The proportion of females in the educational services in Madhya Pradesh has, however, fluctuated differently during the last 3 decades. It actually diminished by 1 per 100,000 of the population during the decennium 1921-30 and registered a rise from 10 to 24 from 1931 to 1951. It will also be noticed that while the proportion in respect of males has shown a steady increase from Census to Census in respect of each Natural Division, the rise has been comparatively large only in the South-West Madhya Pradesh Division (+37 during 1921-31 and +86 during 1931-50) and the North-West Madhya Pradesh Division (+38 during 1921-30 and +83 during 1931-50) than in the East Madhya Pradesh Division (+29 during 1921-30 and +36 during 1931-50). The South-West Madhya Pradesh Division and the North-West Madhya Pradesh Division are much more prosperous and advanced than the East Madhya Pradesh Division and it is natural that the field of education should offer scope for employment to a larger number of persons in those two Divisions than in the latter. As for the proportion in respect of females, it has steadily risen in the South-West Madhya Pradesh Division (+5 during 1921-30 and +20 during 1931-50) but in the case of the North-West Madhya Pradesh Division and the East Madhya Pradesh Division it actually decreased by 1 and 3 respectively during 1921-30 but increased by 15 and 9 respectively during 1931-50. The explanation of this phenomenon will be found in the difference in the social outlook of the Marathi-speaking people inhabiting the South-West Madhya Pradesh Division and the Hindi-speaking people living in the other two Divisions of Madhya Pradesh. It is very much commoner to find Marathi speaking middle class ladies, with their lesser insistence on 'purdah', taking up jobs than their Hindi-speaking counterparts. Female education has also received more attention at the hands of the Marathi-speaking people. Among all the Natural Divisions and Sub-Divisions of Madhya Pradesh, the Nerbudda valley Sub-Division has shown the largest increase in the proportion in respect of males (+48 during 1921-30 and +91 during 1931-50) while in the West Maratha Plain Sub-Division the maximum increase in the proportion of females is found (+5 during 1921-30 and +20 during 1931-50).

Comparison in regard to Professors, Lecturers, School Masters, etc.

16. The following Table gives the proportion of persons working as professors, lecturers, school masters, etc., at this and past Censuses.

Table 168

Number of Males and Females employed as Professors, Lecturers, School Masters, etc., in 1921, 1931 and 1951 Censuses

State, Natural Divisions and Sub-Divisions	Number per 100,000 of total population employed as professors, lecturers and school masters in					
	1921		1931		1951	
	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh	59	11	91	9	141	20
North-West Madhya Pradesh Division	58	15	94	13	154	24
Nerbudda Valley	62	22	108	16	173	31
Plateau	50	5	72	7	124	11
East Madhya Pradesh Division	31	9	60	5	96	12
Chhattisgarh Plain	27	7	55	5	90	15
East Maratha Plain	42	15	74	5	112	6
South-West Madhya Pradesh Division and West Maratha Plain	109	9	141	13	212	30

17. Table 168 will show that in Madhya Pradesh, the proportion of males working as professors and lecturers in Colleges and Universities and as teachers in schools and other educational Institutions has increased steadily since 1921. In 1921, there were 59 males in this category per lakh of

population. It rose to 91 in 1931 and 141 in 1951. In the case of females, although the proportion fell by 2 during the decade 1921-30, it registered a rise from 9 to 20 in 1951. The changes in the proportion of males and females alike, have been more pronounced in the case of North-West Madhya Pradesh Division (+36 for males and —2 for females during 1921-30 and +60 for males and +11 for females during 1931-50) and South-West Madhya Pradesh Division (+32 for males and +4 for females during 1921-30 and +71 for males and +17 for females during 1931-50) than in the case of the East Madhya Pradesh Division (+29 for males and —4 for females during 1921-30 and +36 for males and +7 for females during 1931-50). The South-West Madhya Pradesh Division is the only Natural Division which has seen an increase in the proportion in respect of females in the decennium 1921-30. In the remaining two Divisions, the proportion in respect of females diminished during that period. Among all the Natural Divisions, and Sub-Divisions, the Nerbudda Valley Sub-Division saw the maximum rise in the proportion of male professors, lecturers and school teachers during the decade 1921-30. During the period 1931-50, however, it was in the West Maratha Plain Sub-Division (*i.e.* the South-West Madhya Pradesh Division) that the proportion of males, attracted to the teaching profession, registered the highest increase. The proportion of females, on the teaching staff of Universities, Colleges and schools, recognized, or unrecognized, showed the maximum increase in the West Maratha Plain Sub-Division. (*i.e.*, the South-West Madhya Pradesh Division) both during 1921-30 and 1931-50.

COMPARISON IN REGARD TO MANAGERS, CLERKS, SERVANTS ETC., OF EDUCATIONAL INSTITUTIONS

18. The following Table gives the proportion of persons working as managers, clerks, servants, etc., in the educational Institutions at this and past Censuses :—

Table 169

Number of Males and Females employed as Managers, Clerks, Servants, etc., in 1921, 1931 and 1951 Censuses.

State, Natural Divisions and Sub-Divisions	Number per 100,000 of total population employed as managers, clerks, servants, etc., in					
	1921		1931		1951	
	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Madhya Pradesh	2·0	0·3	4·0	1·1	14·0	3·8
North-West Madhya Pradesh Division	4·0	0·3	5·9	2·1	28·7	6·1
Nerbudda Valley	5·8	0·5	8·4	2·7	34·8	6·8
Plateau	0·9	0·1	1·8	1·0	18·8	5·0
East Madhya Pradesh Division	1·8	0·5	2·2	0·5	3·1	2·5
Chhattisgarh Plain	2·5	0·6	2·2	0·5	3·0	2·7
East Maratha Plain	..	..	2·4	0·6	3·1	2·1
South-West Madhya Pradesh Division and West Maratha Plain	0·2	0·1	5·3	1·2	19·4	4·0

19. A glance at Table 169 will show that the proportion of persons employed as managers, clerks, servants, etc., in the educational Institutions has steadily increased in the State and all the Natural Divisions since 1921. This testifies to the fact that the number of educational institutions has constantly grown in Madhya Pradesh during the last three decades. The proportion of males and females in this State, belonging to this category, has increased during 1921-30 by 2 and 0·8 and during 1931-50 by 10 and 3 respectively. The proportion of males and females alike, has risen more substantially in the South-West Madhya Pradesh Division (+5 for males and +1 for females during 1921-30 and +14 for males and +3 for females during 1931-50 and the North-West Madhya Pradesh Division (+2 for males and +1·8 for females during 1921-30 and +23 for males and +4 for females during 1931-50) than in the East Madhya Pradesh Division (+0·4 for males and no change in the case of females during 1921-30

and +0·9 for males and +2 for females during 1931—50). Amongst all the Natural Divisions and Sub-Divisions, the rise in the proportion of males as well as females, particularly during 1931-50 has been most pronounced in the Nerbudda Valley (+26 for males and +4 for females). Education has taken great strides in the districts of Jabalpur and Sagar of the Nerbudda Valley Sub-Division during the last decade, and at Sagar a University was actually founded in 1946.

Conclusion

20. It will be noticed that at present the proportion of males and females in every category of the educational services is much lower in the East Madhya Pradesh Division than in the other two Natural Divisions. A comparative study of the statistics of the previous Censuses also reveals that the South-West Madhya Pradesh Division and the North-West Madhya Pradesh Division have made much more rapid progress in education than the East Madhya Pradesh Division. All this is natural in view of the general backwardness of the East Madhya Pradesh Division.

Comparative Statistics of the Education Department

21. General progress of education in Madhya Pradesh can also be gauged from the statistics regarding the number of educational institutions of different kinds in the State and of persons finding employment in them at different periods, furnished by the Education Department.

22. The following Table gives the details supplied by the Education Department, regarding the number of educational institutions of different kinds in the State in 1931, 1941 and 1951 :—

Table 170

Number of Educational Institutions of different kinds, For Males and Females, in the State in 1931, 1941 and 1951

Educational Institutions	Number of Institutions of each kind					
	1931		1941		1951	
	For Males	For Females	For Males	For Females	For Males	For Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Primary Schools	4,152	414	4,678	488	7,941	601
Middle Schools—English Vernacular	548	60	627	88	759	76
High Schools	67	11	113	22	211	47
Colleges	9	1	16	1	36	3
Universities	1	..	1	..	2	..
Research Institutions	..	..	..	..	..	..
Board of Secondary Education	1	..	1	..	1	..
Special Schools	58	14	61	12	55	12
Total number of recognised Institutions	4,836	500	5,497	611	9,005	739
Total number of unrecognised Institutions	223	34	704	59	804	54
Total number of all kinds of Institutions	5,059	534	6,201	670	9,809	793

23. Table 170 will show that, with very few exceptions, educational institutions of all kinds have steadily grown in number during the last 20 years, notably in the decade 1941—50. The total number of educational institutions, recognized and unrecognized, of all kinds in the State, increased from 5,059 in 1931 to 6,201 in 1941. In 1951, the figure stood at 9,809. A rise of 3,608 was registered during the decade 1941—50 as against 1,142 in 1931—40. The figures for 1951, unlike those for 1941 and 1931, cover the Integrated States also but this fact alone cannot account for the 1951 figure rising by 3,608, particularly as most of those States are educationally very backward. It is obvious that there has been a very significant all-round increase in the number of educational institutions during the decennium 1941—50. The figures of Middle Schools for females

indicate a decline by 12 from 1941 to 1951. Actually, however, their number has not gone down. What has happened is that Middle Departments attached to certain High Schools, which were treated as 'Indian English Middle Schools' in 1941, had been taken under 'High Schools' in 1951.

24. The following Table shows the number of persons employed on the teaching staff of the different kinds of colleges and schools in Madhya Pradesh in 1931, 1941 and 1951 as reported by the Education Department :—

Educational Institutions	Number of professors, lecturers and teachers employed in the various kinds of institutions					
	1931		1941		1951	
	Males	Females	Males	Females	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Primary Schools	10,215	1,192	11,466	1,610	18,087	2,377
Middle Schools— English / Vernacular	4,151	356	4,882	529	4,865	518
High Schools	562	42	1,006	116	3,836	755
Colleges (including professional)	..	..	..	..	615	52
Universities	Not available.					
Research Institutions	..	..	..	..	24	2
Normal Schools and others	Not available.					
Special Schools	..	..	..	..	363	55

Unfortunately the figures in respect of professors and lecturers of colleges are not available for 1931 and 1941. But it will be noticed that the number of schoolmasters has increased considerably since 1931. The slight decrease in the number of Middle School teachers is, presumably, due to the classification in 1951 of Middle Departments attached to the High Schools under the category " High Schools ". An increase in the number of schoolmasters is natural in view of the growth in the number of educational institutions of all kinds in the State.

25. Education has taken very rapid strides in the State in the post-war period. In addition to a large number of Primary, Middle and High Schools and Normal Schools for the training of Primary School teachers opened by the Government, local bodies and several private bodies, there have also been established by the Government a Medical College at Nagpur and an Engineering College and a Veterinary College at Jabalpur. A University was founded at Sagar in 1946.

SECTION V.—CONCLUDING REMARKS

In the foregoing Sections we have seen how education has progressed in the State from decade to decade. There have also grown up in different parts of Madhya Pradesh, a number of educational Institutions of all kinds with the result that today the field of education offers employment to a larger number of persons than ever before.

The Geographic Distribution of Literacy

2. It will, however, be noticed that it is only in the South-West Madhya Pradesh Division (*i.e.*, the West Maratha Plain Sub-Division) and the Nerbudda Valley Sub-Division, more particularly in the former, that education has made impressive headway. In the East Madhya Pradesh Division, consisting of the two Natural Sub-Divisions, Chhattisgarh Plain and East Maratha Plain, as well as in the Plateau Sub-Division, it has progressed to a much lesser extent. The obvious reason is that the South-West Madhya Pradesh Division, comprising the rich cotton-growing districts of Berar, and the Nerbudda Valley Sub-Division are much more progressive than the East Madhya Pradesh Division consisting of densely forested districts like Bastar, Surguja and Chanda, and the Plateau Sub-Division containing the very backward districts like Mandla and Betul. Not only are the people inhabiting the West Maratha Plain and Nerbudda Valley Sub-Divisions of a more progressive outlook, but they are also financially much better off than their counterparts in the other three Natural Sub-Divisions. There has also taken place in the West Maratha Plain and Nerbudda Valley Sub-Divisions a much greater degree of urbanisation than in the rest of the State. The percentage of town-dwellers in the West Maratha Plain and Nerbudda Valley Sub-Divisions are 26·1 and 21·1 respectively, as against the corresponding figures of 4·9, 8·0 and 5·8 for Chhattisgarh Plain, East Maratha Plain and Plateau Sub-Divisions respectively. These are some of the factors responsible for the great disparity in the progress of education in the South-West Madhya Pradesh Division and the Nerbudda Valley Sub-Division on the one hand and the other Natural Sub-Divisions of Madhya Pradesh on the other. Education always receives a greater response from people with a progressive outlook. Education in its turn further broadens the outlook and thus helps to create a more congenial atmosphere for the spread of education. In the backward areas, on the other hand, "the illiterates are caught in a vicious circle—they are ignorant because they are poor, and they are poor because they are ignorant".*

Rural/Urban Literacy

3. Another important feature that attracts attention is the very large degree of divergence between the literacy ratios for the rural and urban areas. The percentage of literacy among males and females in the State is 17·3 and 2·5 respectively in the rural area as against 49·7 and 21·3 in the urban area The gap between the literacy attainments of the rural and urban population is equally wide in the case of Natural Divisions as well. One of the chief reasons why education did not evoke a proper response from the villagers in the past was the defective system of education prevailing in the country. Perhaps the most serious defect which was responsible for the ineffectiveness and slow progress of education was the complete absence of a close contact with the life of the people. "The scheme of studies for elementary schools is not sufficiently related to the life and surroundings of both parents and pupils. This is particularly so in the rural elementary schools. The teaching usually tends to divorce the pupil from the village life and hereditary occupations rather than help to train better villagers. Such was the confession made by the Government of Madras in a press communique issued as long ago as in June 1937."† What was true of Madras was equally true of this State. The truth is that there never was a comprehensive, well-balanced plan of education directed to objective and cultural ends. As J. R. Cunningham observes: "Parents are not satisfied that education does their children good and it deprives them of their services. The Indian peasant has ordinarily no occasion, religious or secular, to read or to write. Such reckoning as he has to do he can do without formal instruction".‡ Education as it is, provides training mainly for urban occupations which are non-agricultural in character and is, in consequence, adopted to a growing commercial and

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*'Toward a Literate World' by Frank C. Laubach (New York: World Literacy Committee of the Foreign Missions Conference of North America, 1938), page 92—quoted in "The Population of India and Pakistan" by Kingsley Davis (Princeton University Press, Princeton, New Jersey, 1951), page 161.

†'Through Freedom Towards Peace and Progress in Central Provinces and Berar' published by the Government of the Central Provinces and Berar, page 90 (Government Printing, C. P. and Berar, Nagpur).

‡J. R. Cunningham, "Education" in L. S. S. O'Malley (ed.) Modern India and the West (London: Oxford University Press, 1941), page 176—quoted in "The Population of India and Pakistan" by Kingsley Davis (Princeton University Press, Princeton, New Jersey, 1951), pages 159—160.

industrial society. For this very reason, we find literacy almost wholly concentrated amongst persons belonging to only three livelihood classes, *viz.*, VI (Commerce), VII (Transport) and VIII (Other Services and Miscellaneous Sources). To quote Kingsley Davis: "The rural masses find no real utility in book learning designed for businessmen, scientists, and scholars, and requiring leisured years to master. To them the Western Schoolhouse is a nonfunctional institution, a needless expense".* Another serious obstacle to educational progress in the countryside is the extreme poverty of the average Indian villager. As education, *prima facie*, appears to him of little utility, he is not inclined to spend anything out of his hard-earned money on that account. Cunningham observes: "Education further is an expensive luxury. Even free education costs money, and money is a commodity which is very scarce in the Indian countryside. It is not only that the child has to be supplied with books, slates and other school materials, the cost rising with the stage of advancement; the matter of apparel is even more important. The cultivator's child who would at home spend most of his days in a loin-cloth, has to be much more expensively equipped for school-going".† In fact the majority of the parents, who first send their children to school, generally on the persuasion of the school-master, take them away as soon as they become old enough to be useful. "Relapse into illiteracy" is another major problem in the countryside. Most of the school children forget almost all they learnt within a few years of leaving school, as in their village they have no chance of making any use of the knowledge gained at school.

Sex Inequality in Education

4. Another striking characteristic is the great inequality in literacy prevailing between males and females. We have already considered in Section III, paragraph 9, the various causes hampering the growth of female education in the State. The difficulties in the way of female education, more particularly in the villages cut off from the modernising influence of towns, are immense. The difference between males and females with respect to education is, in fact, the outgrowth of an ancient prejudice against the education of women. There are, however, unmistakable signs that the prejudice is vanishing even in the remote rural areas. It is also significant that the gulf between the literacy ratios for the two sexes tends to shorten in the urban areas. The reason is, clearly, the greater degree of modernization in the towns. The conclusion is not unwarranted that with the growth of urbanisation, female education in the State is destined to progress.

Conclusion

5. Literacy, in the State, is still in a nascent stage. To accelerate the pace of improvement in literacy and to bridge or even narrow the gulf that exists between one region of the State and another, between the town and the countryside, between men and women, and between the various classes of persons following different economic pursuits, is, undoubtedly, an uphill task. As Kingsley Davis remarks : "The obstacles to educational progress .....seem almost overwhelming, and they are all intricately inter-connected so that one reinforces the other. The extreme poverty of the masses makes even the small outlay necessary for school expenses difficult for parents to bear. It also hinders the provincial governments in their attempt to support education in the manner required for really rapid gains. The predominantly agricultural character of the economy has made formal education seem of little value, and since the educational ideas have been imported from industrial nations, they have often proved inappropriate to the Indian scene. Parents have often seen little value in sending older children to school, when they could be adding to the family income at home.....Finally, the rate of population growth, with the inevitably large proportion of the population in the children ages, has made education still more of a burden. Reflecting on this network of inter-related obstacles, one is amazed at the progress that has actually been made."‡

*"The Population of India and Pakistan' by Kingsley Davis (Princeton University Press, New Jersey, 1951), page 159.

† J. R. Cunningham, "Education" in L. S. S. O'Malley (ed.), Modern India and the West (London: Oxford University Press 1941), page 176—quoted in 'The Population of India and Pakistan' by Kingsley Davis (Princeton University Press, Princeton, New Jersey, 1951) page 160.

‡"The Population of India and Pakistan" by Kingsley Davis (Princeton University Press, Princeton, New Jersey, 1951) page 152.

CHAPTER VIII

Language

SECTION I.—PRELIMINARY REMARKS

Reference to Statistics

The statistics of languages are contained in Main Tables D-I (i)—Mother-tongue and D-I (ii)—Bilingualism given in Part II-C of the Report. Contrary to the past practice of classifying the languages, they have been shown in the Tables after this Census exactly as returned. At the Census the mother-tongue of every person was ascertained as also the name of an Indian language, commonly spoken in daily or domestic life in addition to mother-tongue. Only one subsidiary language was recorded. The instructions issued to the Enumerators on the subject were as follows:—

"7. Mother-tongue—Write 1 for Hindi; and 2 for Marathi. In any other case, write the mother-tongue fully.

8. Bilingualism—If a person commonly speaks any Indian language other than his mother-tongue, record it. For others write 0."

Supplementary instructions in the Census Code required that only the language spoken from the cradle should be treated as the mother-tongue, and that infants and deaf mutes should be given the *language of the mother.*

Accuracy of the Language Tables

2. The figures in respect of the main languages may, in general, be safely assumed to be very accurate. Slight errors might have crept into the returns of some of the minor languages and dialects. The number of such mistakes would, however, be very small and they do not really vitiate the results.

Statistics of the Past Censuses

3. On account of the curtailment of tabulation in British India as a result of the war, data on this subject were not tabulated after the 1941 Census.

4. The statistics on language were, however, compiled in 1921 and 1931. The figures for the 1921 Census are exhibited in Table X of 'Census of India, 1921, Volume XI—Central Provinces and Berar, Part II' and those for 1931 in Table XV of 'Census of India, 1931, Volume XII—Central Provinces and Berar, Part II'. Table XV of the 1931 Census is in two parts. Part I relates to 'mother-tongue' and Part II to 'bilingualism', the statistics for which were collected in 1931 for the first time. Part II deals with only ten important languages of the State. In the Tables of both the 1921 and 1931 Censuses, languages were arranged according to their family affinity. Figures for the minor languages were shown separately in an Appendix to the Tables.

SECTION II.—MOTHER-TONGUE

Distribution of Population among Speakers of Different Languages

1. As many as 377 names of languages and dialects have been returned as mother-tongue at this Census. Of these 247 are spoken by less than 100 persons each, while 146 languages do not claim more than 10 speakers each in the whole of the State. Only in the case of 69 languages, do the speakers number more than 1,000. In the Table below are shown the number of speakers of the languages which have been returned as mother-tongue by not less than 20,000 persons each and the percentage which the speakers of each language bear to the total population of Madhya Pradesh. The twenty-four languages listed in this Table cover 98·75 per cent of the population of the State.

Table 171

Distribution of Population of the State among Speakers of different Languages.

Language	Number of speakers	Percentage to the total population of the State speaking the language
(1)	(2)	(3)
1. Hindi	10,320,875	48·57
2. Marathi	6,186,438	29·12
3. Gondi	1,089,141	5·13
4. Chhattisgarhi	902,900	4·25
5. Urdu	478,418	2·25
6. Oriya	304,261	1·43
7. Halbi	262,894	1·24
8. Telugu	172,557	0·81
9. Korku	169,882	0·80
10. Banjari or Labhani	156,826	0·74
11. Mari or Maria	140,583	0·66
12. Nimadi	110,577	0·52
13. Kurukh or Oraon	92,537	0·44
14. Marwari	89,859	0·42
15. Sadari	86,396	0·41
16. Sindhi	83,229	0·39
17. Gujarati	76,660	0·36
18. Bhatri	62,583	0·29
19. Marari	46,998	0·22
20. Panjabi	36,111	0·17
21. Powari or Pawari	35,979	0·17
22. Kolami	34,352	0·16
23. Bengali	23,815	0·11
24. Mahari	21,054	0·10

By far the largest majority speak the two regional languages of the State, Hindi and Marathi, the former being the mother-tongue of 48·57 per cent and the latter of 29·12 per cent of the total population of Madhya Pradesh. Gondi, covering 5·13 per cent of the population, comes third and Chhattisgarhi spoken by 4·25 per cent, a close fourth. Speakers of the above four languages together constitute 87·07 per cent of the population of the State. The other languages are not of any numerical importance.

Variation in the Proportion of Speakers of the Different Languages from Census to Census

2. The following Table shows the distribution of population of the State according to the percentage of speakers of the different languages since the 1921 Census.

Table 172

Percentage of the Total Population of Madhya Pradesh speaking the various languages as Mother-tongue in 1921, 1931 and 1951.

Language (1)	1951 (2)	1931 (3)	1921 (4)
Hindi	48·57	..	41·14
Marathi	29·12	25·06	30·02
Gondi	5·12	6·16	6·94
Chhattisgarhi	4·25	16·70	12·23
Urdu	2·25	..	2·24
Oriya	1·43	1·88	1·71
Halbi	1·24	0·95	0·96
Telugu	0·81	0·79	0·72
Korku	0·80	0·81	0·65
Banjari or Labhani ..	0·74	0·67	0·60
Mari or Maria	0·66	0·84	0·28
Nimadi	0·52	0·60	0·01
Kurukh or Oraon ..	0·44	0·79	0·63
Marwari	0·42	0·53	0·43
Sadari	0·41	..	..
Sindhi	0·39	..	..
Gujarati	0·36	0·31	0·25
Bhatri	0·29	0·25	0·21
Marari	0·22	..	..
Panjabi	0·17	0·06	0·03
Powari or Pawari ..	0·17	0·02	..
Kolami	0·16	0·16	0·15
Bengali	0·11	0·03	0·02
Mahari	0·10	..	..
All languages with less than 20,000 speakers each.	1·25	..	0·78

While calculating the percentage figures in respect of the 1921 and 1931 Censuses, care has been taken to exclude completely the returns for dialects from the gross figures for languages given in the relevant Census Tables. It is not possible to give in Table 172, the figures for Hindi, Urdu and Hindusthani

for 1931, as at that Census all language returns of Urdu, Hindusthani and "Hindi unspecified" were included under Hindusthani which appeared as a dialect of Western Hindi.

3. The proportion of speakers of Hindi has registered a higher increase since 1921 than that recorded by any other linguistic group in the State. Increased immigration of Hindi speaking people from the neighbouring States is, presumably, one of the reasons. The growing tendency of dialects to lose ground gradually to the standard languages is another. The steep fall during the past two decades in the proportion of persons returning their mother-tongue as Chhattisgarhi, which was treated as a dialect of Hindi till 1931, is an instance in point. Obviously the literate and more modern sections of the population are gradually adopting Hindi as a medium of conversation in place of Chhattisgarhi with the result that returns of Hindi have been swollen at the cost of Chhattisgarhi. Returns of Hindi are found to be large in all districts of the North West Madhya Pradesh Division and the Chhattisgarh Plain Sub-Division except Nimar and Bastar and in the district of Balaghat in the East Maratha Plain Sub-Division. Chhattisgarhi has been returned as mother-tongue by a comparatively large number of persons in the districts of Raipur, Durg and Bastar.

4. Marathi, the speakers of which are mostly to be found in the districts of the South West Madhya Pradesh Division and in the Chanda and Bhandara districts of the East Maratha Plain Sub-Division, has, more or less, maintained the position it had in 1921. Shri Shoobert observed in the 1931 report: "The total number speaking the language throughout the Province is 5,617,544 which is 31 per cent of the whole population, exactly the same proportion as in 1921". Table 172, however, shows a marked fall in the proportion of Marathi speakers at the 1931 Census. The reason for this apparent discrepancy will be found in the fact that while Shri Shoobert treated the speakers of dialects of Marathi like Koshti, etc., also as Marathi speakers, the figures for dialects were completely excluded while calculating the percentages for Table 172. A reference to the relevant Census Tables will show that the figures under "C. P. dialects" of Marathi were much higher in 1931 than in 1921, while the Koshti dialect which claimed about 12,000 speakers in 1931 was conspicuous by its absence in 1921. The result is that when the figures for all the dialects are excluded, the number of Marathi speakers in 1931, is found to fall short of the 1921 figure.

5. The importance of Gondi, the language of the principal tribe of the State, has been slowly but steadily falling since 1921. Like all other tribal languages, Gondi has no script or literature. The diminution in the percentage of speakers of Gondi is typical of many other tribal languages. With the gradual development of communications, closer association between the aborigines and outsiders and spread of education, the pace of displacement of tribal languages by languages like Hindi or Marathi is bound to be accelerated. As Shri Roughton pointed out in the Report of 1921, "Gonds, unlike many jungle tribes, do not confine themselves entirely to the more remote places, but are also found scattered in the open country, where they are much prized as agricultural labourers; it is among this class that the tribal language is no longer used". At this Census, a comparatively large number of persons speaking Gondi have been found in the districts of Bastar, Chhindwara, Bhandara, Betul, Mandla, Chanda, Balaghat, Yeotmal and Nagpur.

6. The speakers of Urdu constitute 2·25 per cent of the population at this Census. The proportion of Urdu speakers has risen very slightly during the past three decades. Urdu has been returned as a mother-tongue by most of the Muslims. In Madhya Pradesh, the proportion of Muslims in the population is 3·8 per cent, while that of Urdu speakers is 2·3 per cent, showing that 1·5 per cent of the Muslims do not speak Urdu. The Urdu returns are principally from the districts of Berar, Nagpur and Nimar.

7. Persons returned as speaking Oriya as their mother-tongue comprise 1·43 per cent of the population at this Census. The proportion of speakers of Oriya in the State has registered a decline of 0·45 per cent since 1931. The fall is clearly due to the transfer of the Oriya speaking tracts of 1,432 square miles from the Raipur district and 80 square miles from the Bilaspur district to Orissa in 1936, when the State was first formed. Out of 304,261 persons returning their mother-tongue as Oriya, as many as 96·2 per cent are found in the two districts of Raipur and Raigarh, the former accounting for 205,334 and the latter for 87,357.

8. Halbi, which, in the words of Shri Shoobert, the Superintendent of Census Operations in 1931, "is a mixed border language containing elements of Oriya as well as of Marathi and Eastern Hindi" is spoken by 1·24 per cent of the population. The proportion of speakers of Halbi declined during 1921—30 but the loss was more than made up in the course of the next 20 years. There are 262,894 persons speaking Halbi in the State, of whom all except only 2,114 are to be found in the district of Bastar alone. 1,790 Halbi speakers have been enumerated in the Chanda district. The remaining 324 speakers are spread over the districts of Betul, Durg, Bhandara, Wardha and Yeotmal.

9. The proportion of Telugu speakers has been rising steadily in proportion since 1921, due presumably, to the increased immigration of Telugu-speaking people from the bordering districts of Madras and Hyderabad. The total number of Telugu speakers in the State is 172,557. The districts of Chanda, Yeotmal and Bastar account for 96,873, 27,298 and 17,327 speakers respectively. About 9,500 of them reside in the Nagpur district.

10. Korku, another important tribal language of the State, is spoken by 0·80 per cent of the population. The districts in which the returns of Korku are appreciable at this Census are Nimar, Betul and Amravati, the 3 districts together containing 137,805 out of the 169,882 Korku speakers in the whole of Madhya Pradesh. About 16,000 Korku speakers are also found in Hoshangabad and nearly 10,000 in Surguja.

11. Banjari or Labhani has been returned as a mother-tongue by 0·74 per cent of the population, the bulk of whom reside in the districts of Yeotmal, Akola, Nimar and Buldana. The proportion of speakers of this language has registered a slight increase since 1921.

12. The other tribal languages, spoken by more than 20,000 persons each, are Mari or Maria, Kurukh or Oraon and Kolami. They accounted for 0·66 per cent, 0·44 per cent and 0·16 per cent of the population respectively. During 1921—30, the proportion of speakers of each of these languages registered a slight increase. At this Census, however, the proportion of speakers of Kurukh and Maria is found to have declined while that of persons speaking Kolami has increased. Maria is spoken by 140,583 persons in the State, all except 5, of whom have been enumerated in the jungly districts of Bastar (113,054) and Chanda (27,524). Kurukh, the language of the Oraon tribe, is almost completely confined to the districts of Surguja (62,562) and Raigarh (29,558). Speakers of Kurukh in these two districts together constitute 99·5 per cent of the total speakers of the language in Madhya Pradesh. Kolami returned by 34,352 persons is the language of the Kolam tribe. As many as 31,598 of them are found in the Yeotmal district alone. Wardha has also about 2,400 Kolam speakers.

13. Nimadi, returned solely in the district of Nimar only, is spoken by 0·52 per cent of the population of the State. The proportion of speakers of this language increased by 0·59 during 1921—30 but registered a fall of 0·08 per cent in the period 1931—50. The number of persons returning Nimadi as their mother-tongue is 110,577. The Nimar district alone accounts for 110,406, the remaining 171 being spread over the rest of the State.

14. Marwari and the other languages given below it in Table 172 have all been returned as mother-tongues at this Census by less than 90,000 persons each. Marwari, the language of a large section of the business community of the State, is spoken by 0·42 per cent of the population. The proportion of speakers of this language rose during 1921—30 but declined during 1931—50. It has mainly been returned in the commercially important districts of the South-West Madhya Pradesh Division, and the districts of Raipur, Bilaspur, Raigarh, Durg and Nimar, all of which contain important centres of trade.

15. Sadari, accounted for 0·41 per cent of the population, is found to have slightly improved its position in 1951. There are 86,396 returns of Sadari all of them from Raigarh district.

16. The increase in the percentage of Sindhi speakers who constitute 0·39 of the population at this Census is due to the influx of Sindhi displaced persons into the State after partition. The rise in the proportion of persons speaking Panjabi and Bengali is also attributable partly to this cause. Unlike the Sindhi speakers, the speakers of Panjabi and Bengali have been steadily gaining in number during the past 3 decades. Sindhi displaced persons are mainly businessmen and have settled in those places where trade thrives, hence the returns of Sindhi are mainly from the districts of Nagpur, Jabalpur, Amravati, Akola, Raipur, Bilaspur, Bhandara, Sagar and Nimar. Some Sindhi speakers were found in all districts.

Speakers of Panjabi constitute 0·17 per cent of the total population of the State, their actual number being 36,111. The majority of persons returning Panjabi as a mother-tongue are to be found in the districts of Nagpur, Jabalpur, Raipur, Bilaspur and Hoshangabad. The Panjabis are generally engaged in industries like the extraction of timber, manufacture of charcoal, furniture making, etc., for which there is considerable scope in those districts.

23,815 persons in Madhya Pradesh have returned their mother-tongue as Bengali. They form 0·11 per cent of the population of the State. Comparatively large returns of Bengali speakers are found in the districts of Jabalpur, Nagpur, Raipur, Mandla, Chhindwara, Bilaspur, Durg, Raigarh, Surguja and Bhandara, though every district returned some speakers.

17. The proportion of persons speaking Gujarati was 0·36 per cent at this Census. The steady rise since 1921 is, presumably, the result of increased immigration of Gujarati-speaking people from Bombay State, who have come here for trade. The number of Gujarati speakers is largest in the Nimar district, which, apart from its contiguity to the Bombay State, has a large concentration of Bohras who generally speak Gujarati. The other areas in which their number is found to be large are the six districts of the South-West Madhya Pradesh Division and those of Jabalpur, Raipur and Bhandara. As all these districts are commercially important, the Gujaratis who, in general, belong to the trading class, have settled there.

18. Bhatri, which Shri Shoobert characterizes as "a link between Oriya and Halbi", accounts for 62,583 speakers at this Census, all of whom come from the Bastar district. The percentage of Bhatri speakers has risen slightly from Census to Census, the corresponding figures for 1921, 1931 and 1951 being 0·21, 0·25 and 0·29 respectively.

19. There were no returns of the three languages, Marari, Powari or Pawari and Mahari at the 1921 Census. There was an increase in the number of speakers of these languages between 1931 and 1951. The total number of Marari speakers in the State is 46,998, practically all in Balaghat district.

Powari or Pawari is spoken by 35,979 persons in Madhya Pradesh. The two adjacent districts of Balaghat and Bhandara account for as many as 35,877 speakers. The remaining 102 are spread over the districts of Chanda, Yeotmal, Durg and Chhindwara.

All the 21,054 speakers of Mahari of the State come from the Balaghat district.

Linguistic Homogeneity

20. The following Table shows the percentage of the population of each district speaking as a mother-tongue the language which is numerically most important in that district :—

District (1)	Language (2)	Percentage to the population speaking the language as mother-tongue (3)
1. Sagar	Hindi	98·3
2. Jabalpur	Do.	93·4
3. Hoshangabad	Do.	94·0
4. Nimar	Do.	33·7
5. Mandla	Do.	78·3
6. Betul	Do.	42·7
7. Chhindwara	Do.	69·8
8. Raipur	Do.	56·9
9. Bilaspur	Do.	98·2
10. Durg	Do.	71·4
11. Bastar	Halbi	28·5
12. Raigarh	Hindi	72·9
13. Surguja	Do.	88·3
14. Chanda	Marathi	73·5
15. Bhandara	Do.	66·7
16. Balaghat	Hindi	60·0
17. Wardha	Marathi	83·4
18. Nagpur	Do.	74·9
19. Amravati	Do.	77·9
20. Akola	Do.	78·9
21. Buldana	Do.	82·9
22. Yeotmal	Do.	69·3

21. The districts of Sagar, Bilaspur, Hoshangabad and Jabalpur, with well over 90 per cent of the population speaking only one language, are linguistically the most homogeneous in the State. Next come the districts of Surguja, Wardha and Buldana in which between 80 and 90 per cent of the population speak the principal language of the district. Linguistic homogeneity is the least in evidence in the Betul, Nimar and Bastar districts. The heterogeneous character of the language returns in Betul district is due to the co-existence of two important linguistic groups namely speakers of Gondi (121,357) and Marathi (88,155) side by side with Hindi speakers numbering 192,908. Gondi is of importance in the jungly tahsil of Bhainsdehi, while in the Multai Tahsil, adjoining Berar, Marathi predominates. In the district of Nimar comparatively large number of speakers of languages like Nimadi (110,406), Marathi (81,142) and Korku (58,881) are responsible for lack of linguistic homogeneity. In Bastar district, there are, besides Halbi (260,780), which is numerically the most important language, five other languages which have been returned by a large number of speakers. Gondi, with 249,761 speakers, is almost as important as Halbi, while Mari or Maria (113,054), Chhattisgarhi (90,570), Hindi (71,904) and Bhatri (62,583) also cover a substantial proportion of the population.

SECTION III.—BILINGUALISM

The test of bilingualism at the Census was not the ability to speak another Indian language, but its employment in daily life. As already stated in Section I, only one Subsidiary language was to be recorded.

2. Of the 377 languages returned as mother-tongues at this Census, speakers of all but 60 exhibit bilingual. In the case of 209 languages spoken as mother-tongues, however, the number of speakers returned as bilingual is less than 100 each. In the Table below is shown the percentage of bilingualism among the persons, who speak as mother-tongue, the 24 languages which have been returned as mother-tongue by not less than 20,000 persons each in the State.

Table 173

Number of Total Speakers, number returned as Bilingual and the proportion of Bilingual Persons to the Total Speakers.

Language	Number of persons returning the languages as mother-tongue	Number of persons with language shown in column (1) as mother-tongue who have been returned as bilingual	Percentage of bilingual persons among those returning language shown in column (1) as mother-tongue
(1)	(2)	(3)	(4)
Hindi	10,320,875	413,326	4·0
Marathi	6,186,438	458,761	7·4
Gondi	1,089,141	571,367	52·5
Chhattisgarhi	902,900	68,390	7·6
Urdu	478,418	155,337	32·5
Oriya	304,261	66,584	21·9
Halbi	262,894	30,643	11·7
Telugu	172,557	71,906	41·7
Korku	169,882	87,428	51·5
Banjari or Labhani ..	156,826	94,167	60·0
Mari or Maria	140,583	8,992	6·3
Nimadi	110,577	136	0·1
Kurukh or Oraon ..	92,537	74,303	80·3
Marwari	89,859	55,844	62·1
Sadari	86,396	10,107	11·7
Sindhi	83,229	31,229	37·5
Gujarati	76,660	39,426	51·4
Bhatri	62,583	3,798	6·1
Marari	46,998	6,373	13·6
Panjabi	36,111	22,017	61·0
Powari or Pawari ..	35,979	12,341	34·3
Kolami	34,352	26,735	77·8
Bengali	23,815	13,747	57·7
Mahari	21,054	..	..

3. The percentage of bilingualism is by far the highest among the speakers of the two tribal languages, Kurukh or Oraon (80·3) and Kolami (77·8), while it is lowest among the persons whose mother-tongue is either Hindi (4·0) or Nimadi (0·1). Among the speakers as mother-tongue of as many as 9 languages, shown in Table 173, over 50 per cent are bilingual. Besides Kurukh or Oraon and Kolami, those languages are Marwari (62·1), Panjabi (61·0), Banjari or Labhani (60·0), Bengali (57·7), Gondi (52·5), Korku (51·5) and Gujrati (51·4). It is interesting to note that of these 9 languages, 4 are tribal and one *viz.* Banjari or Labhani is spoken by the Nomadic pack-bullock traders who carry on their traditional occupation in various parts of the State. None of the other 4 languages, too, is indigenous to the State. It is, therefore, natural to find a high percentage of bilingualism among the persons speaking those tongues.

4. The total number of bilingual persons among Kurukh speakers is 74,303. They are mainly bilingual in Hindi (56,708) and Sadari (12,284). The former is of importance in both the districts, Surguja and Raigarh, while the latter is largely spoken in Raigarh. Persons speaking Kurukh or Oraon as mother-tongue are mainly to be found in these two districts only.

5. All but 91 out of 26,735 bilingual persons, returning Kolami as their mother-tongue, have declared their subsidiary language as Marathi. This is natural as all the persons whose mother-tongue is Kolami are found in the South West Madhya Pradesh Division where the bulk of the population speaks Marathi.

6. Among the persons speaking Marwari as a mother-tongue, 55,844 are bilingual. Hindi is the second language of 32,217 and Marathi of 20,810. Speakers of Marwari as a mother-tongue are to be found trading in all parts of the State, Hindi speaking and Marathi speaking alike. That is why the percentage of bilingualism in both the languages is high.

7. 18,960 out of 22,017 bilingual persons with Panjabi as their mother-tongue speak Hindi as a subsidiary language. As has already been seen in paragraph 16 of Section II, the Panjabi speakers are mainly to be found in the Hindi speaking districts, and hence the other language commonly used by the majority of them is Hindi.

8. Among persons speaking Banjari or Labhani as a mother-tongue, who have been returned as speaking a subsidiary language, 86·16 per cent are bilingual in Marathi and 10·74 per cent in Hindi. The returns in respect of the other subsidiary languages are much less. Banjari or Labhani speakers have mostly been enumerated in the Marathi speaking districts of Berar and in Nimar.

9. Out of 23,815 speakers of Bengali in the State, 13,747 are bilingual, the second language being Hindi in the case of as many as 13,014. This is natural as the large majority of them are found in only the Hindi speaking areas of Madhya Pradesh.

10. Among the languages which have been returned as mother-tongue by a comparatively large population of the State, Gondi alone has, in its speakers, a high percentage of bilingualism. The total number of Gondi speakers returned as bilingual is 571, 367, the main languages in which they are bilingual being Hindi (313,748), Marathi (195,172), Chhattisgarhi (28,514) and Halbi (20,412). Persons speaking Gondi as a mother-tongue are concentrated in several Hindi, Marathi and Chhattisgarhi speaking areas of Madhya Pradesh and in the district of Bastar, where Halbi is spoken by the majority. This explains the high returns in respect of the four subsidiary languages, Hindi, Marathi, Chhattisgarhi and Halbi.

11. Among the persons speaking Korku as a mother-tongue, 87,428 are bilingual. The second language has been returned as Hindi by 82,128, as Marathi by 2,925 and as Nimadi by 1,534, these three languages being important in and around the districts of Betul and Nimar and in the Melghat Taluq of the Amravati district where there is a concentration of Korku speakers.

12. Hindi and Marathi have been returned as subsidiary languages by 70·00 per cent and 26·61 per cent respectively of the persons, with Gujarati as a mother-tongue, who are bilingual. Gujarati speakers, who are mainly engaged in trade, are spread over all commercially important places in the State, both in Hindi and Marathi areas.

13. The percentage of bilingualism ranges between about 30 and 40 per cent among persons with Urdu (32·5), Powari or Pawari (34·3), Sindhi (37·5) and Telugu (41·7), as their mother-tongue. Neither Telugu nor Sindhi are indigenous languages of the State. Marathi is the subsidiary language of 72·09 per cent and Hindi of 24·25 per cent of the total number of Telugu speakers returned as bilingual, most of whom hail from the Marathi speaking districts of Chanda and Yeotmal and the district of Bastar. Among the speakers of Sindhi who have been returned as bilingual, 95·99 per cent speak Hindi as the second language. Sindhi displaced persons are found in Hindi as well as Marathi speaking districts but they are mainly confined to the urban areas and important trading centres where Hindi is commonly understood.

12,341 persons, speaking Powari (Pawari) as a mother-tongue, have returned themselves as bilingual, 7,617 being bilingual in Hindi, 4,723 in Marathi and only one in Chhattisgarhi.

Hindi and Marathi between them account for 98·46 per cent of the total bilingualism among persons speaking Urdu as a mother-tongue. Hindi is commonly spoken by 49·72 per cent and Marathi by 48·74 per cent of the total number of Urdu speakers, returned as bilingual. Urdu is the mother-tongue of most of the Muslims who are scattered throughout the State and who speak as a second language, the regional language, Hindi or Marathi, of the area in which they reside.

14. Among 304,261 persons speaking Oriya as a mother-tongue, only 21·9 per cent are bilingual. The main subsidiary languages returned by them are Hindi and Chhattisgarhi which are spoken by 59·70 per cent and 24·18 per cent respectively of the total number of Oriya speakers who are bilingual.

15. Percentage of bilingualism among speakers of Marari (13·6), Sadari (11·7) and Halbi (11·7) as a mother-tongue is very low. Out of 6,373 persons speaking Marari as a mother-tongue, who have been returned as bilingual, 4,351 speak Hindi, 2,019 Marathi and only 3 Telugu. Marari is mainly spoken in the district of Balaghat where Hindi and Marathi are the mother-tongues of large sections of the population.

Among persons speaking Sadari as a mother-tongue, 10,107 are bilingual. The languages mainly spoken by them as subsidiary languages are Kurukh or Oraon (4,503), Hindi (4,010) and Oriya (1,122), each of which language is of importance in the district of Raigarh, where alone Sadari has been returned as a mother-tongue.

Among persons speaking Halbi as a mother-tongue, 99·20 per cent of whom are found in the district of Bastar , 30,643 are bilingual. Hindi, Gondi and Chhattisgarhi spoken by 11,386, 8,745 and 5,014 persons respectively are numerically the more important subsidiary languages. Each of these three languages is largely spoken in Bastar.

16. Bilingualism among speakers of Chhattisgarhi, Marathi, Mari or Maria, Bhatri and Hindi— all indigenous languages of the State— is also very low, ranging from 4 per cent in the case of Hindi speakers to 7·6 per cent in the case of Chhattisgarhi speakers.

The subsidiary languages chiefly used by the bulk of the 68,390 Chhattisgarhi speaking persons returned as bilingual are Hindi, Halbi, Oriya and Gondi. In the districts of Raipur, Durg and Bastar, where Chhattisgarhi is largely spoken, each of these four languages is important.

Among the total speakers of Marathi, numerically the second important language of the State, 7·4 per cent are bilingual. The actual number of persons returned as bilingual is 458,761 who speak in all 55 subsidiary languages. The great majority of them however, speak one of four languages, Hindi (417,499), Telugu (12,800), Gondi (10,428) and Chhattisgarhi (6,460). Speakers of Marathi are to be found in large number in the districts of Yeotmal and Chanda where Telugu and Gondi are of importance and also in several other districts where Hindi and Chhattisgarhi are largely spoken.

Unlike other tribal languages, Maria has among persons who speak it as a mother-tongue a very low proportion (6·3 per cent) of bilingualism. The total number of bilingual persons is 8,922, of whom 2,969, are bilingual in Telugu, 2,269, in Halbi, 1,325, in Gondi, 1,157 in Hindi and 1,123 in Marathi. Each of these languages is spoken by a considerable number of persons in the jungly districts of Bastar and Chanda, where the return of Maria as mother-tongue is almost wholly confined.

The number of persons speaking Bhatri as a mother-tongue, who have returned themselves as bilingual, is 3,798. They constitute 6·1 per cent of the total Bhatri speakers in the State. All the Bhatri speakers hail from the Bastar district. The subsidiary languages chiefly spoken by them are Oriya (2,076) and Halbi (1,422), both of which are of importance in Bastar district.

Among the speakers of Hindi, numerically the most important language in the State, the percentage of bilingualism is as low as 4 per cent. This is natural as Hindi is more or less understood almost everywhere in the State and the necessity of using some other language is, generally, not felt by persons speaking Hindi as a mother-tongue. 413,326 speakers of Hindi have returned themselves as bilingual in as many as 88 subsidiary languages. By far the largest number of persons are bilingual in Marathi (223,561), the other regional language of the State. Comparatively large returns are also found in respect of Chhattisgarhi (69,313) and Gondi (35,961), which are spoken as second language, by Hindi speakers in the Chhattisgarh Plain Sub-Division. Persons speaking Marathi, Chhattisgarhi and Gondi as subsidiary languages comprise 79·6 per cent of the total number of Hindi speakers returned as bilingual at the Census.

17. Among 110,577 persons speaking Nimadi as a mother-tongue, only 136 (0·1 per cent) have been returned as bilingual. The subsidiary languages spoken by them are Hindi (84), Marathi (40) and Chhattisgarhi (12).

18. None of the 21,054 persons, who have returned their mother-tongue as Mahari, is bilingual.

19. It will be seen that bilingualism is an important feature generally among speakers of languages which are not indigenous to the State. This is natural because persons speaking those languages as mother-tongue have often to employ another local language of the place, where they reside, as a means of communication. A high percentage of bilingualism among speakers of indigenous languages will generally be found only in those areas where more than one numerically important linguistic group co-exist.

20. The principal languages in which people in the State have declared themselves as bilingual are shown below in order of importance :—

Language	Number of persons speaking the language in column (1) as mother-tongue	Number of persons returning the language in column (1) as their subsidiary language
(1)	(2)	(3)
1. Hindi	10,320,875	1,273,103
2. Marathi ..	6,186,438	743,384
3. Chhattisgarhi	902,900	134,698
4. Gondi ..	1,089,141	67,225

Hindi and Marathi outclass all other languages in the State as the declared second language of persons in Madhya Pradesh.

21. It is interesting to note that 300 persons speaking Hindi and 107 persons speaking Marathi as a mother-tongue returned themselves as bilingual in Sanskrit.

SECTION IV.—CONCLUDING REMARKS

"The language composition of a nation's population has more than ordinary demographic interest because language is not only a means of communicating with others but also constitutes a powerful implement for developing both individual and national personality. Language can both be a dash that divides and a hyphen that unites a people. It can create and enhance social, economic and cultural diversities. The fact that India does not have one language that everybody *understands*, and she shelters many tongues, has been her political weakness whether or not it has been her cultural strength."*

2. In Section II we have seen that as many as 377 spoken languages have been returned as mother-tongues in the State. The problem of linguistic diversity is, however, not so formidable as it appears at first sight. The great majority of the languages are spoken by relatively very small groups and the two regional languages, Hindi and Marathi, alone cover about 80 per cent of the population. Then there are several languages, very much akin to these two main languages, the speakers of which together comprise a fair proportion of the population of the State.

3. Languages like Hindi and Marathi are slowly tending to oust the tribal languages, particularly of those aborigines like the Gonds who are gradually leaving their inaccessible habitations and coming into greater contact with the outside world.

4. We have also seen how, like the aboriginal languages, the dialects, too, are slowly giving way to the standard languages, with the spread of education among the masses. Shri Marten observed as far back as 1911 in the Census Report of the State. "The spread of school education among the lower classes no doubt tends to obliterate dialectic distinctions as the standard language is taught in all the schools. Owing to the backwardness of female education and their greater seclusion women are less able to free themsleves from their particular dialect, which they conserve and are even apt to exaggerate, and an educated man who usually converses in the standard language will often speak a dialect in his family."

5. Increased immigration from other States during the past decades, of persons speaking various languages, has rendered the linguistic picture in the State slightly more diversified and heterogeneous. Excepting a few districts where more than one important linguistic group co-exist, the greater part of Madhya Pradesh is, linguistically fairly homogeneous.

6. Although a large number of mother-tongues have been returned at the Census, the proportion of bilingualism is significant only in a very few linguistic groups. Among the speakers of languages, not indigenous to the State, and of those tribal languages, the speakers of which have come down in considerable numbers to the plains from their abode in the forests and hills, the percentage of bilingualism is very high. Bilingualism is to be found to a much lesser degree among persons speaking the regional languages Hindi and Marathi, and other indigenous languages of the State as their mother-tongue.

*"India's Population--Fact and Policy" by S. Chandrasekhar (Indian Institute for Population Studies. Annamalai University, Chidambaram, India), pages 71-72.

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APPENDICES

APPENDIX A

The Hon'ble Sardar Vallabh Bhai Patel's Address delivered during the Inauguration of the Provincial States Advisory Board on the 4th November 1948

I myself was looking for an opportunity to say a few words on the interesting and important subject of the States and as you will realise, such opportunities do not often recur. Few people in India can realise how this great change in the structure of the States has been brought about, why it was so sudden and how far it is opportune to appraise its benefits and disadvantages.

Let me first thank you for the address which you have presented and the kind terms in which you have spoken of, what you call, my achievements. I should like to explain to you how it was that the whole idea of integrating the States and bringing about their unification occurred to me. When I accepted the Home Membership of the Central Government, I had no idea that the work of the States Ministry would ever come to me or of the picture that it would assume.

Some time after my assumption of office, I received a report regarding the State of Bastar which has now merged in the Central Provinces. I was told that this State was full of resources vouchsafed to it by nature and it was merely a question of time that these resources could be turned to the service of the country. I was warned that these resources were going to be exploited to the prejudice of India and that all this wealth was to be mortgaged to Hyderabad State by means of a long lease. I was also informed that the Raja was a minor and a weakling and the Prime Minister, a foreigner. I immediately made enquiries of the Political Department who first tried to evade it, but eventually the papers came to me. Then I realised how far they had already gone and with what hurry they were trying to complete the whole deal. I told them that they could not barter away the interests of the people of the State in this way. The Political Department told me that they were the guardians of the minor and that they could enter into this contract in the interests of the minor. I told them that they were now going away and should not bother about their wards. Their guardianship would now devolve on us and they should do nothing without our agreement or which was contrary to the interests of the people. Before going they invested the Ruler with full authority. I then called him to Delhi along with his relative, the Maharaja of Mayurbhanj, who is an intelligent and clever person. But I found that his relative had little influence over him.

When I saw how young and inexperienced the Ruler was, I felt that it was a sin to make him sign such an agreement. It was then that I was made fully conscious of the extent to which our interests were being prejudiced in every way by the machinations of the Political Department and came to the conclusion that the sooner we were rid of these people, the better. Their main aim was to further their own interests and to cause as much damage to India as possible. I came to the conclusion that the best course was to drive out the foreigners even at the cost of the partition of the country. It was also then that I felt that there was only one way to make the country safe and strong and that was the unification of the rest of India. Even then, however, I was not quite sure how far my efforts would meet with a satisfactory response from the Princely Order.

As soon as my hands were free, I went to Orissa and called the Princes of the Eastern States together. I explained to them at length what my ideas were and how the solution that I had propounded, namely, merger in the Province of Orissa, was both in the interests of themselves and the people. I told them also that there would be no compulsion and they must sign only after they were convinced of the rightness of their course. They should place their signature only when they understood the nature of the document. Some of them, the smaller States, agreed after a few hours of deliberation, but the bigger Rulers hesitated almost up to the end. I left Cuttack and was actually on the train preparing to leave for the aerodrome when I received a message from them that I should delay my departure for some time.

I could not do so indefinitely, but agreed to stay on for another hour. At the end of that hour, they had signed the agreement. Some people say that I compelled them to do it. This is all nonsense. The only compulsion that was exercised over them was that of events. I told them that speed was most important and that the greater the delay, the more difficult would be the task of saving them should any trouble arise in their States in future.

From Orissa, I came to Nagpur. Here without any compulsion or inducement, I got the Rulers of Chhattisgarh States to sign the merger agreement in 24 hours. Here again, I explained the full implications of what my proposals were and how they affected them and their people. You can ask them for yourselves whether at all they signed under any compulsion.

These were the beginnings of the series of mergers and integrations which have subsequently taken place. But even these small beginnings were hailed by people in India and outside as a miracle. Whatever has since followed is due to the patriotism and wisdom of the Princes. I merely explained the significance of the schemes, which were unfolded to them from time to time. The Union of Saurashtra followed. Saurashtra contains more than half of the total number of Indian States. To unify such a large area of heterogeneous elements was undoubtedly a great achievement, but I got full support from the Princes, among them some from whom people had not expected any co-operation.

The Deccan States followed suit. They had already entered into arrangements for a separate existence on the basis of Responsible Government to their people. But they were also influenced by the decisions which we took in Cuttack and Nagpur. Some young Rulers amongst them came to me and told me that they wanted to merge. I was pleased to see their desire to seek closer association with the Province of Bombay, but they were doubtful whether other Rulers would agree in view of the settlement which had been reached with the local Prajamandal. I told them this would not be a difficulty. After all, Responsible Government for such small units was an impossibility. The Central Government would have to intervene in an emergency. If they came into conflict with the people or if the people themselves were faced with difficulties, the Central Government could not come to their rescue until they entered into an understanding with the Central Government right then. A deputation of all the Rulers met me in Bombay and I explained this aspect of the matter. The people also agreed. Thereby we achieved the merger of these Deccan States into Bombay. The Gujarat Rulers followed suit.

As an illustration of how we managed to achieve all this without any show of force or compulsion I would give you one instance. When I went to Orissa, the Ruler of Mayurbhanj told me that he had granted full Responsible Government to his people and that he could not sign any document without their consent. I told him I fully understood that position and I could not compel either him or his people to come into the scheme of merger. But I warned him that some day or other, he would have to regret staying away from the merger scheme. The position in his State, however, developed in such a manner that he has not been able to visit it ever since he granted Responsible Government. He was thoroughly disgusted with the way matters shaped their course. He, as I had foretold, regretted that he had not come into the scheme. Now, not only he, but also his Prime Minister and the people realise that they should merge.

I should now like to congratulate the Rulers of these States and the Government of the Central Provinces and Berar for the excellent and amicable manner in which they have managed their affairs. Not one complaint has been received by me about any difficulties created by the Rulers or about any dissatisfaction with the manner in which the Rulers were being treated. You have seen how we have settled the question of other States and lastly Hyderabad itself, but I should like to say this, that this is not a real change.

It is a mere change in the map. The time for a correct appraisal of what has been achieved has not yet come. I have promised the Rulers that their prestige and position shall be maintained. We have also to see that a real change of heart is brought about among the people. Ultimately, the benefits of the change must be felt by the people before we can say that we have actually taken an advantageous step. They must taste the sweetness of the fruit, before we can congratulate ourselves. The people, the Rulers and the Province must all be thrilled by the gleam of a new life. Their blood, fresh and strong, must flow into the veins of the whole country. Then alone will the time come for receiving addresses and for congratulations.

The excellent way in which you have managed your affairs has come to my assistance in another manner. I used to quote your example of amicable settlement to others as an illustration of how a change could not only be brought about smoothly and with goodwill, but also how the new relationship could be worked with ease and mutual adjustments. It is only when the Rulers saw how finely matters were progressing here that they expressed their desire to merge with other Provinces. The secret of your success is the adroitness with which you adjusted Yourselves to the new relationship. The Advisory Board which I am inaugurating today is another step forward. I said to your Premier in the very beginning, and I have repeated that advice to other Premiers also, that we must take the people with us.

A democratic Government cannot be run on slogans alone. Democracy has to be cultivated and acquired. Autocracy is in a way easy and beneficent but then, if you do not take the people with you, you miss the very essential element of Government. It is our duty to ensure that the people derive the fullest benefits from Government activities. In your Province, there are many backward people. They have had no experience of modern amenities. Many foreigners are carrying on some work in their midst. It is hartly selfish, partly selfless; but we have been doing neither. I hope, therefore, that you will so conduct matters as to confer on the poorest of the land the full benefits of a modern administration and create in them a sense of confidence and security. You should also maintain the prestige and position of the Rulers. Those among them who possess talents and experience are being taken by us in service.

We ourselves do not have all the man-power we need. People are absorbed at present in small things. The secretaryships and other positions in the Congress organisation are the subject of agitated scrambles. We concentrate on these petty things forgetting the wider opportunities of service that are before us.

We have not sufficient men for our administration. You have only to prove your fitness and you can take part in full measure in the administration of the country. Where then is the need for a scramble for power? We should have strength of character, wisdom and prudence enough to utilise these opportunities and not waste our efforts in profitless and harmful enterprises for securing so-called seats of power. Later on we shall have ample opportunities to render service in the whole field of Asia. We should not let go all these opportunities of service by concentrating on non-essentials. I pray that your efforts in the interests of the welfare of the people whom you represent and who have been committed to your charge may bear fruit.

APPENDIX B

A Note on the Janapada Sabha Scheme by Shri R. D. Beohar, I.A.S., Secretary to Government, Madhya Pradesh, Local Self-Government (Janapada) Department

It is generally accepted that the aim of modern Government making is to reconcile local autonomy with Central control on the one hand, and officialism with popular control on the other. The full benefits of democratic Government cannot be realised unless problems which are not central in their incidence are decided at the place, and by the person, where and by whom the incidence is most deeply felt. As far back as 1907, the late Shri Gokhale had advocated decentralization in district administration. And the grounds on which he pressed his scheme then, have even greater force today. The State Governments cannot meet the requirements of far off districts and remoter villages. The need of associating the popular element with the district administration and of securing to it greater deconcentration of power is paramount. With a popular Government at the top it is impossible to rest content with a purely official Government in the districts. A popular Central Government cannot be successfully built up unless Local Government is also built up on democratic foundations. A Central Government remaining and operating from outside and not drawing its life and purpose from the local institutions of the people cannot hope to enlist their patriotism in its favour and its appeal to the people may not meet with adequate response in times of trial and difficulty. This is the reason why political thinkers have blessed schemes of decentralization which make the nation fitted for political duties and rights of citizenship in the town and village, in the district and State. The Janapada Scheme, which seeks to transfer power from officials to the people in the field of local administration marks a significant change in the system of local administration.

The Old System

2. The administrative system prevailing in the districts of the Madhya Pradesh until the "Janapada" Act came into force might well be called a system of 'administrative dualism'. On the one side, there were district officials administering certain subjects on behalf of the State Government. On the other side, there were the local bodies administering certain specified subjects in the same local area. Similar independent departments were run in the district both by the Government and the local bodies, *e.g.*, the Public Works Department, Medical Department, Education Department, etc. Two different agencies thus functioned in the same area in relation to the same subject-matter, and there was neither oneness nor unity of purpose in the administration. This 'dualism' was wasteful and resulted in administrative inefficiency. There was no logical basis for this artificial division. It was true that the local bodies were entrusted with what were called "nation building" subjects, but they never had enough money to provide adequate services or facilities to the people. On the other hand, Government offices were primarily in charge of Law and Order and they could always command enough funds for carrying out their functions. The result of this policy was that although Law and Order was maintained, services intimately connected with the life of the people remained inadequate and undeveloped. The defects in the old system may be summed up as follows :—

(1) Legislative and executive functions were concentrated in the same body.

(2) Efficient and expert administrative staff was not available to the local bodies without an expenditure which was beyond their means.

(3) The artificial orthodox division between subjects of general district administration and subjects of Local Self-Government—the one administered by the Government district staff and the other by the local bodies—did not evoke the interest or enthusiasm of the people.

(4) The local bodies suffered from lack of adequate resources.

(5) The franchise was limited.

(6) The units of administration were too large to admit of intensive supervision and control.

The New Scheme

3. "Janapada" sound new, but the word has been adopted from similar institutions in ancient India. A rural area comprised of a collection of villages and administered as one unit was known as "Janapada" in contradistinction to "Pura" which signified a township or urban area. A local authority in the village has been given the name of the "Gram Panchayat" and a local administrative authority over a group of villages or "Janapada" has been given the name of "Janapada Sabha". People are familiar with Local Board or Taluq Board. Janapada Sabhas are akin to Local Boards but these Sabhas have special features and it is these which constitute their newness and utility. District Councils and Local Boards have been abolished.

4. A brief description of the constitution and functions of Janapada Sabhas may now be given. The jurisdiction of Sabhas is confined to a Tahsil or Taluq, roughly an area of 1,500 to 2,000 square miles and a population of 2 to 3 lakhs. These small units will permit of intensive administration. The Sabha consists of 20 to 40 Councillors according to the population of the local areas based on the principle of one Councillor for about ten thousand people. The Councillors are elected both from rural and urban areas on the basis of adult franchise. As there was not sufficient time for holding elections, the first body is a nominated body. The Sabha functions through six Standing Committees, *viz.*, Finance Committee, Public Works Committee, Education Committee, Agriculture Committee, Development Committee and Public Health Committee. Each of these Committees has an independent Chairman elected by the Standing Committee itself. The object of forming these Committees is that a limited number of Councillors is better able to deal with the administrative matters and guide the Chief Executive Officer. The former District Councils had certain compulsory and optional functions. These functions have been enlarged in the new scheme. In addition, the State Government would gradually entrust certain functions to the Sabhas. There are 72 subjects mentioned in the Local Government Act which can be entrusted. Any subject other than that relating to Revenue, Police, Law and Order can thus be delegated to the Janapada Sabha. The scheme envisages the delegation of even these excepted subjects when the Sabhas have worked for some years and sound traditions have been built up. In respect of entrusted subjects, the Sabhas will act as the agent of the State Government and will be bound to carry out their policy and instructions.

5. The Chief Executive Officer of the Janapada Sabha is a responsible officer of Government In addition to his duties as Chief Executive Officer, he is also the Chief Revenue Officer, and Chief Magistrate of the Janapada area. Every Chief Executive Officer is ex-officio Additional Deputy Commissioner and Additional District Magistrate of the Janapada area. He is the administrative head of all officers and officials of all Government departments serving within the Janapada area. The Tahsildar of the tahsil functions as the Deputy Chief Executive Officer of the Sabha. The services of other departmental Government officers serving in the Janapada area, in connection with the functions entrusted to the Sabha would, as far as possible, be placed at the disposal of the Sabha. The salaries of all such Government officers would be paid by the State Government. To sum up there is an independent deliberative body (Janapada Sabha), small elected executive committees (Standing Committees) and an experienced Chief Executive Officer (Additional Deputy Commissioner-*cum*-Additional District Magistrate). The Chief Executive Officer with the other Government officers deputed to the Janapada authority is expected to bring to bear his intrinsic weight and authority on the local administration in the Janapada area.

6. A word may be added about the finances of the Janapada Sabha. Adequate sources of revenue have been provided to the Janapada Sabha. The State Government will reimburse to the Sabha all extra expenditure incurred by it in connection with entrusted functions. Municipalities are also liable to make contributions to the funds of the Sabha. Powers have been taken to declare all private markets as public markets, which will bring large income to the Sabha. Compulsory cesses are payable at the rate of eighteen pies per rupee of land revenue or rent by every proprietor, malik-makbuza, holder of a survey number or tenant. Optional cesses can be imposed at the rate of twelve pies per rupee and special school rate on non-agricultural income can also be imposed. With the sanction of Government the Sabha can impose any other tax or rate. To ensure that Sabhas do not starve themselves, the State Government have taken powers to impose all necessary taxes in case the Sabha fails to do so. There is no doubt that if the Sabhas use their powers of taxation wisely they will have no financial embarrassment.

7. The Janapada Sabhas have close association with other local authorities in the Janapada area. In respect of their ordinary functions, Gram Panchayats, municipalities, regulated market committees, etc., work independently but the Janapada Sabhas have got a supervisory control. The Municipal Corporations at Nagpur and Jabalpur will, however, be entirely independent of the Janapada Sabhas.

8. If a municipality does not perform its duties properly in certain specified matters like water-supply, prevention of epidemics, medical relief, maintenance of roads, and the like, the Sabha can complain to Government and Government can, after enquiry, order the local authority concerned to take the measures required. In cases of emergency, Government can transfer the subject-matters of the complaint to the Sabha for a specified period and the Sabha can recover the costs incurred in performing the transferred duties.

9. Gram Panchayats are an integral part of the Janapada Scheme. Sabha has general powers of inspection, supervision and control over the performance of administrative duties of the Gram Panchayats in its area. It is an important function of the Janapada Sabhas to ensure proper working of Panchayats.

10. Janapada Sabhas were established in the integrated States also. Unlike the districts of Madhya Pradesh the integrated States had no incorporated local authorities. The result was that when Sabhas were established in these States, they had no institutions of their own to administer or maintain, and no assets to form the beginning of the Janapada authority and Janapada fund. Government, therefore, gave large grants to these Janapada Sabhas to enable them to start their work. Government institutions and functions, in the compulsory and optional spheres, were transferred to these Janapada Sabhas.

11. It will thus be seen that the purpose of the scheme has been to evolve a single system of local organisation which, without impairing the principle of autonomy, will deal both with decentralised general administration and with increased responsibilities laid on it in respect of subjects included under the head Local Self-Government.

12. This historic reform in the structure of State administration was inaugurated on the 1st July 1948 in the merged States and on the 15th August 1948 in the rest of the State. There are at present 96 Janapada Sabhas in Madhya Pradesh—14 in the 14 merged Eastern Chhattisgarh States and 82 in the 82 tahsils of the former Madhya Pradesh. The far reaching significance of this reform was admitted by Shri C. Rajagopalachari when he inaugurated the Janapada Sabha at Nagpur. He called it a great experiment in the fundamentals of democracy and said that if it succeeds it will be wonderfully useful all over India.

13. The Honourable the Chief Minister made an important announcement in the State Assembly on the 10th March 1950 and in pursuance of that announcement Government have introduced a new set up of District, Janapada and Tahsil administration from 1st July 1950 in order that the Janapada-*cum*-tahsil would become the unit of administration instead of the district. From the 1st July 1950 the Chief Executive Officer of the Janapada Sabha has been invested with the powers of the Additional Deputy Commissioner and the Additional District Magistrate. He exercises administrative control over all the officers and officials of all departments of Government posted to the Janapada area except those officers who function as district heads and he is also the principal co-ordinating authority in respect of all the activities of the various departments of Government in his area. As Additional District Magistrate he exercises his power subject to the control of the District Magistrate for the maintenance of Law and Order and tries cases under preventive sections of the Criminal Procedure Code arising from his jurisdiction. As Additional Deputy Commissioner he exercises such powers and discharges such duties as the Deputy Commissioner of the district may direct. He is, where necessary, assisted by a separate Sub-Divisional Officer/Sub-Divisional Magistrate.

14. Correspondence between the Chief Executive Officer on behalf of the Janapada Sabha and the State Government is direct but the Deputy Commissioner is kept informed.

15. For administrative purposes and for effecting economy in expenditure Janapada Sabhas have been classified into two categories—major and minor. The former have Chief Executive Officers stationed at their headquarters and the latter are linked with one of the major Janapadas under the same Chief Executive Officer. Every Janapada, however, continues to have the Tahsildar as Deputy Chief Executive Officer and in the case of a minor Janapada, the Chief Executive Officer delegates such of his powers as will enable the Deputy in his absence to carry on the day-to-day administration properly and expeditiously. To meet public convenience and to maintain personal contact with members of the Janapada Sabha and close touch with the affairs of the Janapada, the Chief Executive Officer spends at least a week to ten days in a month at the headquarters and in the interior of the minor Janapada. During his stay there he disposes of all important matters and also case work pertaining to that area.

16. At the district level the Deputy Commissioner continues to be the administrative head and is the Chief authority for controlling and supervising the activities of all Government Departments as the Commissioner used to function in the revenue division. He is also the District Magistrate in charge of criminal administration in accordance with the scheme for the separation of Judiciary from the Executive. He acts largely as a supervising and co-ordinating agency in his district. The authority to effect transfers and to exercise disciplinary powers continues to vest in the Heads of Departments but they have to consult the Deputy Commissioner, who also continues to have power to initiate the question of transfer of any particular officer within the district if he considers such transfer essential in the public interest. Similarly, he has authority to report employees of other departments for disciplinary action, and to start preliminary enquiries in urgent cases.

17. The various Heads of Departments continue to exercise control in departmental and technical matters but they have to consult the Deputy Commissioner and keep him in touch with all important proposals concerning the district.

18. The principle underlying this new scheme of reforms is to bring about the gradual decentralization of the powers and functions of the State Government. In course of time it is hoped that the Janapada Sabhas may become the replicas of the State Government and the tahsil parliaments of their own areas. This will be the last step in the implementation of the Janapada Scheme.

APPENDIX C

PART I

Climatological, Geological and Soil Classification Summary of the Natural Divisions of Madhya Pradesh

[NOTE.—The Climatological and Geological summaries have been very kindly made available by the Meteorological and the Geological Departments of the Government of India respectively. The Soil Classification Summary has been similarly supplied by the Director of Land Records, Madhya Pradesh.]

THE NORTH-WEST MADHYA PRADESH DIVISION

Climatological Summary.—This division comprises of the districts of Sagar, Jabalpur, Hoshangabad, Nimar, Betul and Chhindwara. Of these, Sagar and the northern part of Jabalpur lie on the Vindhyan plateau while the southern part of Jabalpur is situated at the head of the narrow valley through which the Nerbudda flows between the Vindhyan and Satpura ranges. Hoshangabad and Nimar extend from east to west along the southern bank of the Nerbudda river, while Betul and Chhindwara lie on the hills to the south of the valley. The division, thus generally consists of hilly country, lying at a considerable elevation and enjoys comparatively a more temperate climate than many other parts of Madhya Pradesh. The westerly winds which blow across north India during most of the dry season affect this division, but not generally the areas south of the Satpura range.

The average annual rainfall varies from 31" at Khandwa, 42" at Chhindwara to 50" at Hoshangabad and 70" at Tamia. At Pachmarhi a hill station 3,500 ft. a.s.l. in the Hoshangabad district, it is 80". Most of the annual rainfall is recorded during the months June to September.

In December, the coldest month of the year, the mean maximum temperature is 84° F at Khandwa, 80° F at Hoshangabad, 78° F at Seoni and 77° F at Sagar and Jabalpur and 71° F at Pachmarhi. The mean minimum temperature is 51° F at Khandwa, 54° F at Hoshangabad, 51° F at Seoni, 53° F at Sagar and 47° F at Jabalpur and 46° F at Pachmarhi. It would thus be seen that excluding the hill station Pachmarhi, Jabalpur and neighbourhood is perhaps the coldest area in the division at this time of the year. The lowest minimum temperature recorded is 37° F at Seoni, 34° F at Sagar, 33° F at Khandwa, 32° F at Jabalpur and Chhindwara and 30° F at Pachmarhi. These are generally recorded in January or February. Except for a little rainfall in association with the passage of winter disturbances, weather during the period is clear and fine.

The hot season commences in March and lasts up to about the second week of June when the monsoon generally sets in. May is the hottest month of the year when the mean maximum temperature varies from 107° F at Khandwa and Hoshangabad to 105° F at Jabalpur and Sagar, 104° F at Seoni, 102° F at Chhindwara and 96° F at Pachmarhi. On individual days the maximum temperature shoots up to much higher values, Khandwa having registered a maximum temperature of 117° F, Jabalpur 115° F, Hoshangabad and Sagar 114° F, Seoni 112° F and Pachmarhi 105° F. This is generally a period of hot dry weather with occasional thunderstorms. The low humidity of the atmosphere makes the hot weather bearable.

The onset of the monsoon, as stated already, generally takes place in the second week of June and is preceded and accompanied by thunderstorms. July is on an average, the rainiest month of the year, with August coming as a close second. The rainfall is, however, variable from year to year. Thus Khandwa with an average rainfall of 31" recorded only 9" in 1899 and had 45" in 1892. Hoshangabad with an average rainfall of 50" recorded 81" of rain in one year whereas in another year it had only 23" of rain. In association with cyclonic storms or depressions from the Bay of Bengal travelling across this division, very heavy rains sometimes occur, Pachmarhi having recorded 18" of rain in a day, Jabalpur 13", Hoshangabad 12" and Sagar 11". The monsoon withdraws by the beginning of October and thereafter there is a marke'd change in the weather with rapidly clearing skies, and falling temperatures. The cold weather commences by the beginning of December.

Climatological data for Jabalpur, Sagar and Pachmarhi and rainfall data of selected stations are given in Part I-B of this Report.

Geology and Mineral Resources of the North-West Madhya Pradesh Division.—The Mahadeva hills and the plateau region of Bhopal, Khandwa, Jabalpur, Hoshangabad, Chhindwara and Betul districts are covered by a thick formation of horizontal flows of basaltic lavas of Deccan trap age (Cretaceous). Coal-bearing Gondwana sandstones and shales occur in the Mahadeva hills of Nerbudda valley, Jabalpur and the Son valley in Rewa State. A narrow fringe of limestones with subordinate sandstones and clays occur along the edge of the Deccan trap plateau in Jabalpur and other places. The low country along the Nerbudda valley carries a thick deposit of older alluvium.

The region is economically important for its large reserves of Vindhyan limestones which are being extensively quarried and utilised for lime and cement manufacture and for building purposes in the Son valley in Uttar Pradesh, Rewa State, Katni and Satna areas in Jabalpur district and other places. The total annual production of limestone is of the order of about 600,000 to 800,000 tons and that of lime about 10,000 tons. The Vindhyan sandstones are extensively quarried for building and architectural purposes, as they withstand weathering well and are eminently suited for dressing and carving. Some of the limestones are beautifully coloured and form good ornamental and decorative stones. In addition there are good deposits of bauxite in the Jabalpur district where the annual production has increased from about 7,000 tons in 1946 to nearly 15,500 tons in 1949. The Gondwana coal-fields in Rewa State produce about 500,000 to 600,000 tons of coal annually. There are also some reserves of fireclays and ochres in Vindhya Pradesh and Jabalpur. The steatite and soapstone deposits of Jabalpur produce over 2,000 tons of the mineral per annum. The Gondwana clays and Lamets sands at Jabalpur are utilised for fire-bricks, stone-ware pipes and glass manufacture. Other less important minerals are copper in Jabalpur and Sagar districts, corundum, felspar and gypsum in Rewa State., etc. The Panna State in Vindhya Pradesh is noted for many centuries for diamonds recovered from some conglomerate horizons and igneous breccias in the Vindhyan rocks. The average annual production of diamonds from Panna, Charkhari and Ajaigarh States during the last 4 or 5 years is about 1,600 carats of gem quality.

Soil Classification in the North-West Madhya Pradesh Division

1. This division comprises of the districts of Nimar, Hoshangabad, Sagar, Jabalpur, Mandla, Chhindwara and Betul. The districts of Jabalpur and Hoshangabad form the part of Nerbbuda Valley. The district of Sagar is adjacent to Vindhya Plateau. Nimar district is partly divided in Nerbbuda Valley, Satpura hills and plain. The districts of Mandla, Chhindwara and Betul occupy hilly country known as Satpura hills. The soil classes that obtain in this division are shown below :—

(1) Kabar I, (2) Kabar II, (3) Mund I, (4) Mund II, (5) Morand I, (6) Morand II, (7) Sihar, (8) Mutbarra or Khardi, (9) Rankar, (10) Kheri I, (11) Kheri II, (12) Barra, (13) Domatta, (14) Ritna, (15) Bhatna, (16) Patarua I, (17) Patarua II and (18) Kachhar.

2. The value of the soil depends on the quantity of plant food contained in it and the ease with which such food can be converted into an assimilable condition. Wheat is the staple crop of the division and the black soil which is rich in humus and is retentive of moisture is the best soil for its growth and it stands first in regard to fertility.

3. Kabar I is a very black and tenacious kind of soil. It is retentive of moisture and is free from grit. It brings rabi crops to harvest without winter rains.

Kabar II is coarser in texture than Kabar I.

Mund I is an ordinary loam soil and contains an admixture of lime stone nodules. It is fertile and grows a good wheat crop.

Mund II is inferior to Mund I and is insecure for remunerative wheat crop. Juar, Cotton, Gram and Maghet, Til, etc., can be grown well in it.

Morand I is brown in colour, digs deep and contains only a small admixture of any lime stones. It is friable and the clods crumble easily. It is used both for rabi and kharif crops and may occasionally grow a double crop.

Morand II is lighter in colour than Morand I and contains a large admixture of sand, pebbles or lime-stones. It is generally sown with gram, cotton, juar or tilli.

Sihar is the soft sandy soil and is fine wash off from sand stone hills. Rice is grown in it.

Mutbarra or Khardi is a mixture of morand and barra and is not less than 6″ in depth and it is usually put under kharif crops.

Rankar is a light soil having rock at a depth of about 1 to $1\frac{3}{4}$ feet and contains a large proportion of lime-stones, pebbles, sand and its surface is generally uneven. It is generally sown with cotton, tilli kodonkutki and sawan.

Kheri I-the depth of the soil is about 8″ and is often red or yellow and it generally grows cotton and juar.

Kheri II is four to five inches in depth, a very light soil in colour and generally grows til or inferior kharif millets.

Barra is a stony ground and grows inferior kharif millets.

Domatta is a soil which distinguishes the sandy clay or inferior kabar and is much more suited for kharif and leguminous crops.

Ratna and Bhatna only distinguish different grades of sandy soils.

Patarua I and II are inferior coarse loam soils mixed with sand and chunkankar and usually they are sown with gram, juar and rahar, etc.

Kachhar is the alluvial soil, is found in narrow strips along nallas and rivers and covers a wide variety of riverian soil.

The East Madhya Pradesh Division

Climatological Summary.—This division consists of the districts of Mandla, Balaghat, Bhandara, Chanda, Raipur, Bilaspur, Durg, Bastar, Raigarh and Surguja and includes about half the area of the Madhya Pradesh State. The orographical features vary from place to place, the height above mean sea level being about 630 ft. at Chanda, 800 ft. at Champa, 970 ft. at Raipur, 1,320 ft. at Kanker, 1,820 ft. at Jagdalpur and 2,040 ft. at Pendra. The north eastern corner district of Surguja and the south eastern corner district of Bastar consist of hilly country and in between lie the open country of Raipur and Bilaspur districts forming the upper basin of the Mahanadi river. The Wainganga, a tributary of the Godavari, and its numerous feeders traverse the districts of Chanda, Bhandara and Balaghat while another tributary of the Godavari, *viz.*, the Indravati and its branch streams traverse the Bastar district. In a division of such varying orographical features, the climatological conditions also vary from place to place. This is particularly noticeable in the case of temperature. Rainfall data from fairly good network of rainguage stations and meteorological data from the observatory stations—Pendra, Raipur, Kanker, Chanda and Jagdalpur—illustrate the climatological features of the division.

December is the coldest month of the year when the mean maximum temperature varies from 83° F at Raipur and Kanker, 79° F at Jagdalpur and 74° F at Pendra. The mean minimum temperature during the month varies from 55° F at Raipur to 53° F at Chanda, 51° F at Kanker and 50° F at Jagdalpur and Pendra. The lowest minimum temperature recorded so far is 40° F at Jagdalpur, 39° F at Kanker and Raipur, 37° F at Chanda and 35° F at Pendra. These have been recorded in one or other of the three months December to February. Generally very little rain occurs in the months December and January but in February about an inch of rain occurs over the area. This is usually associated with the winter disturbances travelling across north India at this time of the year. In certain years, the falls are heavy and Chanda has recorded 3·71″ of rain and Jagdalpur 4·74″ in 24 hours in February.

The hot weather commences in March and continues up to the onset of the monsoon by about the 10th of June. May is the hottest month of the year. The mean maximum temperature during this month is 107° F at Chanda and Raipur, 104° F at Kanker, 101° F at Jagdalpur and 100° F at Pendra. The highest maximum temperature so far recorded is 119° F at Chanda, 117° F at Raipur, 115° F at Kanker and Jagdalpur and 111° F at Pendra. Thunderstorms occur occasionally during these months and some of them result in rain. The frequency of these thunderstorms is maximum just before the onset of the monsoon in June.

The monsoon sets in by about the 10th of June and its activity lasts up to about the beginning of October with intermittent breaks. The period, June to September, is the rainiest part of the year and accounts for most of the annual rainfall which varies between 43″ at Gandai (in the Durg district) to 54″ at Pendra (in the Bilaspur district), 63″ at Jagdalpur (in Bastar) and 69″ at Dhuti (in the Balaghat district). The rainfall is generally controlled by the formation and movement of the monsoon depressions and as such there is sometimes large fluctuation in the rainfall in a month, from year to year, but taking the season as a whole, the variability is not as large as in the areas to the north-west of this division. In association with the Bay depressions, very heavy falls of rain sometimes occur, Raipur having recorded 14·58″ in 24 hours, Kanker 10·13″, Jagdalpur 8·00″, Chanda 7·53″ and Pendra 7·45″. In the process of withdrawal of the monsoon current, thunderstorm activity gets more pronounced. The rains generally come to an end by about the second week of October. The days get slightly warmer for a brief period, but these gradually cool down, the skies become more and more lightly clouded and cool weather starts by about the middle of November.

Climatological data for Raipur and Jagdalpur and rainfall data of selected stations are given in Part I-B of this Report.

Geology and Mineral Resources of the East Madhya Pradesh Division.—This division is a part of the north-east plateau sub-region, which consists of the Chhota Nagpur division, East Madhya Pradesh Division and Orissa Inland division, and is the most highly mineralised region in the whole of the

Indian sub-continent and carries large reserves of iron-ore, manganese-ore, copper, bauxite, coal, limestone and mica, in addition to the other less important minerals like kyanite, chromite, wolfram, tantalite, pitchblende, vanadiferous magnetite, asbestos, graphite, clays, etc. The greater portion of the region is occupied by crystalline schists, gneisses and granites of Archaean age in which occur patches and large basins of sedimentary rocks of Purana group as well as coal-bearing Gondwanas.

The plateau region of western Chhota Nagpur, Ranchi, Palamau, Jashpur, Surguja, Raigarh and Bilaspur is composed of granite, gneisses and other metamorphic rocks known as Bengal gneiss and is well-known for the large reserves of bauxite estimated to be of the order of 15 million tons. The deposits have not yet been fully exploited but the present production from Ranchi plateau amounts to over 6,000 tons annually.

A linear basin along the valleys of the Ib, Hasdo, Mand, etc., in south Rewa, Surguja, Korea, Raigarh, north-east Bilaspur and Gangpur is occupied by coal-bearing sandstones and shales of Lower Gondwana age. There are here numerous small coal-fields like Rampur and Hingir along the Ib river, Singrauli, Kerar, Umaria, and others in south Rewa, and Tatapani-Ramkola, Kurasia, Bisrampur, Chirmiri, Hasdo-Arand (or Rampur), Korba, Mand river and others in the Chhattisgarh region. The total annual output of coal from all these fields has varied between 1.7 and 2 million tons in recent years.

The basin of Upper Mahanadi extending over a large portion of Durg, Raipur and Bilaspur districts of Madhya Pradesh including the adjoining States of Nandgaon, Khairagarh, Raigarh, etc., is formed of a thick series of quartzites, grey, pink and purple shales, compact limestones belonging to the Cuddapah formation. Except for the large untapped reserves of limestones and one deposit of fluorite in Khairagarh State now worked by the Tatas, the area possesses few mineral resources.

The plateau region of Mandla, south Rewa, Baihar, north Bilaspur and Durg districts in Madhya Pradesh is covered mainly by the Deccan trap lava flows and laterites. Fairly large deposits of bauxite occur in the Baihar plateau and other areas and the estimated reserves are of the order of 3 million tons with further potentialities.

The large undeveloped hilly tract of Chanda, Durg and Bastar in southern Madhya Pradesh are occupied by gneissic and granitic rocks traversed here and there by quartzites, schists, phyllites, banded hematite quartzites, etc. Large reserves of iron-ore are known to occur in Bailadila range of Bastar, Rowghat and Dhondi-Lohara hills in Chanda and Durg and in other places. Owing to poor communications this area remains still undeveloped but will undoubtedly produce much iron-ore in future.

The plains of central Madhya Pradesh comprising the Balaghat and Bhandara districts are formed of slates, phyllites, schists, quartzites, hematite quartzites, gneisses and granites belonging to the Sakoli and Chilpighat series of Archaean age. A large tract of this country is occupied by a thick cover of black to brown loamy soil washed from the Deccan trap plateau to the west and north. The Balaghat and north Bhandara areas, along with the adjoining districts of Nagpur and Chhindwara carry some of the largest manganese-ore deposits in India. These deposits extend as a curved belt over a distance of 150 miles in an east-west direction and include some of the largest mines like Kachhidhana, Sitapur, Ramdongri, Kandri, Mansar, Dongri, Buzrug Sitasaongi, Chikla, Tirodi, Balaghat and Ukua. The reserves of workable manganese-ores of this belt are not known but may be of the order of 30 to 40 million tons. The annual output of manganese ore from Madhya Pradesh has increased from 160,000 tons in 1946 to nearly 400,000 tons in 1949 and generally amounts to about two-thirds of the total Indian production.

Along the Wardha Valley in Chanda, Yeotmal and Wardha districts, there is a narrow belt of coal-bearing Gondwana sandstones and shales with some producing coal-fields like Warora, Rajpur, Chanda and Ballarpur. The annual production of coal from these fields aggregate to 250,000 to 300,000 tons.

Soil Classification in the East Madhya Pradesh Division

1. This division comprises of the districts of Raipur, Bilaspur, Durg, Bastar, Raigarh, Surguja, Chanda, Bhandara and Balaghat. The division is drained by many river systems, *i.e.*, Mahanadi, Sheonath, Nerdudda, Wainganga, etc. For several miles on either side of these rivers, the soil is rich black formed by alluvium brought down by these rivers. The black soils of this division are not of same origin as trappean black cotton soils of the south-west Madhya Pradesh division or the wheat soils of the north-west Madhya Pradesh division. The soil classes that obtain in this division are—

(1) Kanhar I, (2) Kanhar II, (3) Dorsa I, (4) Dorsa II, (5) Matasi I, (6) Matasi II, (7) Bhata, (8) Patparkachhar and (9) Palkachhar.

2. Rice is the staple crop of the division and sandy loam in which water can move freely is the best soil for its growth, for although black soils are rich in humus, rice does not flourish in them on account of the defective root aerition to which they give rise. The black soils, however, produce excellent crops of pulses after rice and the value of the two crops exceeds greatly the value of rice reaped off sandy loam.

The Kanhar and the Matasi are the two extremes between which the soils vary. Kanhar is a rich deep black or brown black clay. It is extremely fine in texture, breaks into layers or absorbs large clods with flat and shining faces, retains moisture for a long time and is by far the best wheat soil in the division. As a rice soil it is apt to suffer from water-logging, but as it grows excellent second crops or utera, it is considered to be the most valuable soil in the division. All Kanhar of superior quality has been classed as Kanhar I, but it has been classed down to Kanhar II if it was of brown black colour and was found to contain limestones. Kanhar II soil is locally termed Ghurri-Kanhar. It must, however, be remembered that according to local terminology, ghurri means any soil, which contains lime-stones on a large scale.

3. Matasi is a sandy loam of yellow or brownish yellow colour. All Matasi or a superior quality has been classsed as Matasi I. Matasi I is a deep soil with fine particles of sand and free from stones. It is pre-eminently a rice soil and gives an excellent yield of that crop in good years,or with artificial irrigation. It does not, however, yield a double crop other than perhaps a meagre outturn of linseed. Matasi II is either a very shallow soil admixed with stones, which dries up rapidly, on account of the rocky bed underneath, or , it is as deep as Matasi I, but is so largely admixed with sand that it is impossible to obtain a clod, when dug, as the stuff crumble away under the spade. Such a soil is locally known as khudra. It gives a much better yield of rice and is, therefore, slightly higher valued than the other Matasi II. On account of their sandy nature, the Matasis are not retentive of moisture for a long time, but with a heavy rainfall, the Matasi I gives a far better outturn of rice than any other soil in the division.

4. The Dorsa is a mixture of Kanhar and Matasi. It is of two kinds—Dorsa I and Dorsa II. It is Dorsa I if Kanhar predominates over Matasi in its composition; but if the proportion of Matasi is greater, or, if it contains a large number of limestones it is Dorsa II.

5. The two Kanhars and Dorsa I are capable of growing any crop from rice and wheat to minor millets, and when under rice are generally double cropped with linseed or rabi pulses notably urad. Dorsa II will grow rice, gram, linseed, rabi pulses, castor, sesamum, arhar, minor millets and also occasionally wheat under favourable seasonal conditions. If under rice, it will yield a second crop of linseed or inferior rabi pulses in low-lying position and elsewhere, provided the late monsoon has given sufficient rain.

6. Bhata is the most inferior soil of the division. It is a very poor detritus of laterite and consists of a slight sprinkling of sandy earth over gravel. It, therefore, retains hardly any moisture. It will grow nothing but sesamum and minor millets. It is incapable of yielding a crop every year and has to be given rest for two or three years, after each cropping.

7. Patpar-kachhar is the sandy stuff beside, or in the bed of rivers and nalas. It has never much consistency. It is devoted chiefly to the cultivation of sweet potatoes and other root crops, water-mellons brinjals or to the plantation of mango groves or guava gardens. Pal-kacchar is a rich dark brown silt, found on the banks of rivers and large streams and in the back water of the Mahanadi. It is particularly good for vegetable crops and sugarcane. It is also cropped occasionally with rice and wheat.

Similar soils exist in other districts of the east Madhya Pradesh division, *i.e.*, in Bhandara, Balaghat and Chanda districts as shown below :—

Name of district	Names of soils
Bhandara	Kanhar, Morand I, Morand II, Khardi, Sehar, Bardi, Ratadi, Marhani.
Balaghat	Kanhar, Kanhar-Morand, Morand I, Morand II, Morand-Sihar, Sihar I, Sihar II, Retadi, Bardi.
Chanda excluding Sironcha tahsil ..	Kanhar, Barsi Kanhar, Morand, Khardi, Wardi, Bardi, Retari. In Warora group of this district there exists one more soil known as Kali. It is very heavy soil, gritless and of great depth and fertility. It gets water-logged in years of heavy and even normal rainfall. It is almost useless for kharif crops and requires stronger bullocks to plough it than the average tenant possesses.

Sironcha tahsil of the Chanda district Nomenclature in Telgu is adopted so as to make it intelligible to the Sironcha cultivators as shown below :—

For Kanhar and Barsi Kanhar	Regadi.
For Morand	Rewa.
For Wardi	Dubha.
For Khardi and Retari	Burre.
For Kachhar	Wandoo.

The following table will show the local names of the soils in these districts in resemblance to those of the Chhattisgarh districts :—

Chhattisgarh districts	Bhandara district	Balaghat district	Chanda district
(1)	(2)	(3)	(4)
Kanhar I	Kanhar ..	Kanhar	Kanhar.
Kanhar II		Kanhar-Morand ..	
Dorsa I	Morand I	Morand I	Barsi Kanhar.
Dorsa II	Morand II	Morand II	Morand.
Matasi I	Sihar	Sihar I	Khardi.
Matasi II	Khardi	Sihar II	Wardi.
Bhata	Bardi	Bardi	Bardi.
Palkachhar	Marhani	Kap.	..
Patpar-Kachhar	Retadi	Retadi	Retadi.

The South-West Madhya Pradesh Division

Climatological Summary.—This division includes the districts of Amravati, Buldana, Akola, Yeotmal, Wardha and Nagpur and varies in elevation from 900 ft. a. s. l. at Akola, 1,200 ft. at Amravati, 1,000 ft. at Nagpur, 1,600 ft. at Yeotmal and 2,150 ft. at Buldana. The area is drained by the Purna, a tributary of the Tapti, and the branch streams of the Penganga, the Wardha and the Wainganga which are tributaries of the Godavari. The climatological features of the division are illustrated by the rainfall data of a network of raingauge stations and meteorological data for the observatory stations, Buldana, Akola, Amravati and Nagpur.

The mean annual rainfall is maximum in the Nagpur district (about 45″), Wardha and Yeotmal (with about 40″) coming next, and decreasing further in Akola, Amravati and Buldana. During April and May, and until the rains set in by about the middle of June, the sun is very powerful and there is severe heat during day, but without the scorching winds of northern India. The nights are comparatively cool throughout and during the rains the air is moist and fairly cool.

December is the coldest month of the year when the mean maximum temperature is 85°F at Akola, 83°F at Amravati, 82°F at Nagpur and 80°F at Buldana while the mean minimum temperature is 57°—58°F at all these stations except at Akola, where it is only 53°F . The lowest minimum temperature recorded so far has also been appreciably lower in Akola being 36°F as against 39°F in Nagpur and 41°F at Amravati. These have been recorded in January or February. There is generally very little rain during the cold weather season.

The hot weather commences in March and continues up to about the middle of June when the monsoon sets in. During summer, this is one of the hottest areas in India. In May, the hottest month of the year, the mean daily maximum temperature is as high as 109°F at Nagpur, 108°F at Akola and Amravati. On account of its higher elevation, Buldana is cooler with a mean maximum temperature of 101°F. The nights are, however, comparatively cool. In May, Nagpur has recorded a maximum temperature as high as 118°F, Akola 117°F, Amravati 116°F and Buldana 110°F in association with the heat waves passing across the country. The hot weather period is also generally dry except for an occasional heat thunderstorm which may culminate in a shower.

The monsoon season June to September is the rainiest part of the year. There is a tendency for rainfall to decrease from east to west. The monsoon rain is generally not continuous but occurs in spells, which are often controlled by the formation and movement of depressions or storms from the Bay of Bengal. In association with the movement of such storms very heavy rain is sometimes recorded, Nagpur having recorded a fall of 12·4" of rain in 24 hours. But the intensity of rainfall decreases as one proceeds further to the west. There is considerable variation in the amount of rainfall from year to year. At Nagpur with an average fall of 49·24" of rain only 14·36" were recorded in 1899 while 76·04" fell in 1933. In Akola, which has an average rainfall of 32·15" the rainfall in the driest year on record has been only 12·08" while in the wettest year has been 66·26". Large variations occur in the individual months also. The monsoon generally withdraws by the end of September or early in October. Dry clear weather prevails in October and November and the cold weather commences in December.

Climatological data of Amravati and Nagpur and rainfall data of selected stations are given in Part I-B of this Report.

Geology and mineral resources of the South-West Madhya Pradesh Division.—This division is a part of the north Deccan sub-region, the major portion of which consists of the South-West Madhya Pradesh Division, North Hyderabad Division and Bombay-Deccan North Division, and consists of flat-topped plateau and hills made up of basaltic rocks (Deccan trap) age, capped with ferruginous and aluminous laterite. The trap rocks on weathering have given rise to a thick black soil, 'regur' which is particularly suitable for raising cotton and leguminous crops. The laterites in several places of Khaira, Kolaba, Kolhapur and Belgaum districts of Bombay are rich enough in alumina to be high grade bauxite.....Belgaum district is the chief producer of bauxite in this region, but the annual output of the mineral has varied from 500 to 3,000 tons in recent years.

A small tract of metamorphic rocks known of Archaean age occur in the Nagpur district at the north-east corner. The rocks comprise mica-schists, sillimanite-mica-schists, quartzites, crystalline limestones, dolomites, calc-granulites, impure dolomitic rocks and manganese-silicate rocks. The manganese deposits of the north-east plateau sub-division have already been referred to.

Soil Classification in the South-West Madhya Pradesh Division

1. This division comprises of the districts of Akola, Amravati, Buldana, Yeotmal, Wardha and Nagpur. The division is undulated by many rivers, *viz.*, the Tapti, the Purna, the Penganga, the Wardha, the Katepurna, the Adan, the Arunawati, the Kanhan and the Pench, forming level tracts along their banks.

2. In the plain tracts of this division, the regar or the black cotton soils of the first quality or heavy type are found. They occupy central plains of Berar, the Purna valley, the Wardha valley and stretching to just a little east of Nagpur. These soils are largely a deep black loam which cakes into a solid mass in the beginning of the dry weather and cracks freely in all directions later. These fissures run to a depth of several feet and give the soils a reticulated appearance. The depth of the soil varies from place to place up to a stratum of unknown depth. They reach their greatest depth in the valleys into which they have been washed as a fine silt from the higher lands. This soil is locally known as "Awal kali". It is of very fine texture and very retentive of moisture. It becomes sticky when wet and cracks freely in dry weather. This soil is comparatively heavy to work. It is capable of growing cotton, juar, kharif pulses and wheat and rabi oil-seeds in the cold season, if rainfall is sufficient.

3. In different places of the plain tracts and valleys, the soil is known under different names such as "Chikni" which means a sticky soil, "Gawhali" a wheat soil and the like. This soil is very fertile and well suited to the cultivation of all the different crops. As it is mainly found in low-lying and level areas, its retentivity sometimes results in water-logging in years of excessive rainfall. In such years cotton grown in this soil suffers badly while in years of short but well-distributed rainfall, the same soil gives a bumper crop. The soils of the plains rest on a layer of marl of a light yellow colour. The water-bearing stratum is generally very deep. Black soil containing small percentage of lime in this tract in a finely powdered state is known as "Kali". If there is a still higher percentage of lime present in the form of nodules about as large as peas, this soil is known as "Morandi". These soils containing lime are lighter to work than pure black soil and are less retentive of moisture. They are comparatively less fertile too. They are found particularly in plains by the sides of the Wardha river and in some parts of Akola and Amravati districts, along the banks of the rivers Purna, Katepurna, etc. They differ from "Kali" in being composed of large particles which do not stick together so closely. Their clods are less hard and when saturated, they do not turn into fine mud while in dry weather they crack less. These soils can carry double crops in embanked fields.

4. Bordering on this central plain to the north and south lie the second quality of medium regar soils of trap origin. Not so black in colour often brown, less deep in character carrying more stones and lime and occupying rather higher areas, these constitute soils of less mature type intermediate between the immature thin red and brown soils on the trap high lands and the full regar of the plain. It occupies considerable areas in Yeotmal and Buldana districts and is commonly found in hilly tracts of the remaining districts. This soil is primarily fit for kharif crops, cotton, juar and pulses only. Uncommon to this, Wun taluq contains a quality of soil of inferior class, of a uniform but coarser texture and of a very reddish colour. Whole of this tract being prominently hilly, the soils here excepting those in valleys of the rivers *e.g.*, Penganga, Adan, Arunwati, etc., suffer, throughout from common defects of having slopy surface, a mixture of nodular pieces of limestones and an excessive admixture of sand. These soils are locally known by various names as under: (i) Those shallow stony soils found on high-lying places and producing only inferior grass and brush-wood are called "bardi", (ii) thin layer of red soil over-lying trap rock of muram on the plateaux is known as "Lal-matti or Murmati", (iii) a shallow hilly soil interspersed with stones and boulders is known as "gotar", (iv) the patches of greyish coloured marly soils which occur in certain fields and which are very wet owing to the sub-soil being impervious to water are known as "Chopan" and (v) land lying high or on slopes and liable to dry up quickly is known as "Pathar". All of these soils are very common in this tract. They form a very thin layer of some inches depths and rest on yellow coloured stony soil known as murum. They are shallow and require frequent showers to prevent crops from drying up and in the days of excessive or continuous rainfall, the crops sown in these soils fail due to the excess of moisture accumulated in them owing to the impervious nature of the sub-soil, to water. There are also vast patches of black soil on the plateaux in this tract ; but they are not mary. They are naturally drained and friable and easy to work but are not sufficiently retentive of moisture.

5. In every village, near the Basti are soils known as "Khari" or "Pandhari". Those manured by drainage from the village sites are known as "Khari" and light coloured of these soils are "Pandhari". The colour is supposed to be due to the chemical changes which take place in black soil when impregnated with much fermentable organic matter. Pandhari is the soil par excellence for garden cultivation.

PART II

A Brief Report on the Progress of Geological Survey of India in Madhya Pradesh [1942—1951]

(This report is very kindly supplied by the Geological Survey, Government of India.)

The activities of the Geological Survey of India in Madhya Pradesh during the ten years, 1942– 1951, were mainly concentrated on mineral investigations and problems regarding water-supply and dam sites. The former included detailed examination of some of the deposits of bauxite, clays, coal, dolomite, iron-ore, limestones, etc. A brief statement giving the results of the more important investigations is given below :—

District	Region or locality	Reserves, if estimated	Remarks
(1)	(2)	(3)	(4)
		Bauxite	
		Tons	
1. Balaghat	.. Baihar Plateau ..	.. 1,475,000	
2. Do.	.. Topla Highland..	.. 265,000	Good quality.
3. Bilaspur	.. Korba Zamindari	.. 460,000	Good quality, massive and pisolitic.
4. Do.	.. Uprora Zamindari	.. 365,000	Good quality, pisolitic ore.
5. Jabalpur	.. Katni-Sleemanabad	.. 535,000	Very good pisolitic ore.
6. Surguja	.. Satpatharikhar Pahar	.. Included under 3 above.	

District	Region or locality	Reserves, if estimated	Remarks
(1)	(2)	(3)	(4)
	Clays—(i) China Clay		
1. Amravati and Betul.	Southern edge of Chikalda range.	666,000	Suitable for ordinary purposes.
2. Chhindwara ..	Kundali	..	Good quality.
3. Durg ..	Dhaba	2,161,000	Good.
4. Do. ..	Nine other localities ..	..	Do.
5. Jabalpur ..	Hardua (23°55′ : 80°18′)	..	Suitable for manufacture of pottery, tiles and pipes.
6. Do. ..	Bhaganwara (23°41′ : 80°14′).	..	Do. do.
	(ii) Fire Clay		
1. Amravati ..	Belkhed (21°27′ : 77°31′) Pandhri (21°22′ : 77°33′)	..	Inferior quality.
2. Bilaspur ..	Korba Coal-field (about 10 localities).	..	Small pockets.
3. Chanda ..	Kothari (19°47′ : 77°59′)	..	Fairly good.
4. Chhindwara and Hoshangabad.	Northern slope of Satpura Range.	1,750,000	Poor.
5. Nagpur ..	Khapri (21°15′ : 78°49) Chorkhari (21°27′ : 78° 40′). Shemda (21°27′ : 78°42′) Khairi (21°9′ : 78°49′)	..	Suitable for pottery.
	Coal		
1. Bilaspur ..	South-Central part of Korba Coal-field.	..	Non-caking coal.
2. Do. ..	Mand river Coal-field ..	..	Non-caking and coaly shale.
3. Nagpur ..	Kamptee Coal-field.		
4. Surguja ..	Chirimiri Coal-field	.. 200 maunds	Select and first grade coal.
	Jhilmili Coal-field	.. 200 maunds	Non-caking coal.
	Dolomite		
1. Bilaspur ..	Akaltara (22°1′ : 82°25′) 22 other places.	123,971,760	Mostly suitable for steel industry.
2. Durg ..	Kodwa (20°37′ : 81°22′)	27,878,400	Do. do.
3. Raipur ..	Patpar (21°43′ : 81°57′) and several other localities.	1,396,200	Do. do.
	Iron-ore		
1. Bastar ..	Narayanpur Tahsil, Antagarh area.	17,000,000	High grade Hematite-ore.
2. Do. ..	Rowghat area	800,000,000	Do. do.
3. Do. ..	Bhanupratappur Tahsil, Hahaladdi area.	12,251,250	Good quality Hematite-ore.
4. Chanda ..	Lohara area	21,900,000	High grade Hematite ore.
5. Durg ..	Dondi-Lohara Zamindari.	31,363,200	Do. do.
	Limestone		
1. Amravati ..	Chikalda Range ..	..	Inferior, suitable for lime-burning.
2. Bilaspur ..	18 deposits	44,379,600	Mostly suitable for cement industry.
3. Durg ..	32 deposits	20,998,350	Do. do.
4. Raipur ..	25 deposits	17,256,900	Do. do.
5. Nagpur ..	Chicholi (21°30′ : 78°42′)	..	Inferior quality.
6. Yeotmal ..	Wun Tahsil	..	Fairly good quality.

The above investigations were mainly carried out by the ordinary methods of surface work aided with shallow pitting, where necessary. In addition the Geo-physical Section of the Geological Survey of India undertook, in 1947, the survey of an area about twelve miles north-east of Nagpur by electrical resistivity method and mapped the boundary between the coal-bearing strata of the Kamptee coal-field and the crystalline rocks, which is completely hidden under a mantle of alluvium. The survey was undertaken with a view to help in selecting sites for drilling ; in 1948 and 1949 the Geo-physical Section undertook a detailed magnetic survey of Tirodi and Pawnia areas in Balaghat district. The data obtained was interpreted for the location of probable manganese-ore deposits along with their depths of existence, and sites were suggested for trial pitting. The survey proved very successful and already several thousand tons of ore has been obtained from these places. In 1951, magnetic survey was carried on in Chikmara and Jamrapani areas in Balaghat district and at Nagardhan, south of Ramtek in Nagpur district. Here also a large number of sites have been indicated where ore-bodies are expected underground.

Investigations were carried out for road metals for parts of the following roads—(1) Great Eastern Road, (2) Nagpur-Chanda Road, (3) Chanda-Mul Road, (4) Great Northern Road, (5) Sihora-Silondi Road, (6) Jabalpur-Mirzapur Road, (7) Sagar-Damoh Road, (8) Singa-Kawardha Road and (9) Raipur-Dhamtari Road. Detailed investigations were also carried out for road materials along different roads totalling 320 miles in the sub-divisions of Seoni, Narsimhapur, Hoshangabad, Pachmarhi, Betul, Harda, Akola, Khamgaon and Chanda.

The Engineering Geology and Ground Water Division, which was organised as a separate unit in the earlier part of the decade under review, examined many dam sites, which included four on the Nerbudda river (Bargi and Jhapni sites in Jabalpur district and Hoshangabad and Malikheri sites in Hoshangabad district), one on the Mahanadi, one on Tawa, two on Indravati, two on Pairi, one on Wardha river, one on Pench river, one on Bornala, etc., and advised on their suitability for the proposed dams.

This division also investigated the problem of water-supply of a very large number of towns and villages in the State. These included Akola, Akot, Amravati, Bhandara, Balaghat, Betul, Bilaspur, Chanda, Chhindwara, Damoh, Durg, Achalpur, Jabalpur, Katni, Khamgaon, Malkapur, Mandla, Sonegaon aerodrome, Nagpur, etc. In many cases sites for new wells were located; in others, sites for possible reservoirs were examined and schemes were suggested for improving the existing supplies. A detailed examination of the entire tract in the Purna valley, Berar was also undertaken, which included the survey of a zone about 100 miles long and 30 miles wide by a party of the Geo-physical Section, adopting resistivity method to determine the variations in the salinity of the soil. Suggestions have been made to alleviate the scarcity of fresh water in the region. Systematic surveys were carried out in parts of Bastar, Balaghat, Bhandara, Chanda, Durg, Raigarh and Yeotmal districts, covering a total area of about 1,500 square miles.

It may also be mentioned here that with a view to closer contact with the local Government and allied State Departments the Geological Survey of India opened a Circle Office in Nagpur in the summer of 1947. Owing to shortage of accommodation, however, this office has not yet been able to develop substantially.

APPENDIX D

Census Tabulation—Forms and Procedure

[Memorandum No. 693-50-RG, dated New Delhi-2, the 2nd July 1950, issued by the Office of the Registrar General, India, Ministry of Home Affairs.]

1. The tabulation for the 1951 Census will be done by hand-sorting of slips in Central Tabulation Offices which will be set up by the State Census Superintendents for their respective areas. The offices will be organised on the same pattern as in 1931 Census, when there was full tabulation on census material. Instructions regarding the setting up of these offices and other matters connected with their administration will be issued in due course to the Superintendents.

In 1931 and earlier censuses, enumeration was done on schedules and the information in the schedules was copied on slips which were later hand-sorted to produce various tables. In 1941, enumeration was done direct on slips which dispensed with the intermediate operation of slip copying. For the 1951 Census also, enumeration will be done direct on slips which will be later sorted.

But at this Census, in addition to the sorting of the slips to produce the tables, it is proposed to incorporate essential census information relating to every person enumerated in every village and every town/ward in a National Register of Citizens which will be preserved as an unpublished administrative register for purposes of reference during the inter-Census decade. The Government of India have already invited State Governments to take steps for the preparation of the register. ....The register will be compiled in the districts along with or immediately after enumeration and before tabulation operations start.

There will be four main differences between the procedure for tabulation adopted at the 1931 and earlier censuses and the procedure to be adopted at the next census. These are explained in paragraphs 2 to 5 below.

2. **Substitution of Economic Classification for Classification based on Religion.**—In the past, Census slips were, at the very outset, sorted on the basis of religion, and the figures of population by religion thus obtained were the basis of village statistics. The separation of slips by religion and sex was maintained throughout the sorting operations ; and thus certain characteristics were cross tabulated by religion. During tabulation of the 1951 Census, the slips will be sorted, in the first instance, into the following eight livelihood classes of the population :—

Agricultural Classes

I. Cultivators of land wholly or mainly owned ; and their dependants.
II. Cultivators of land wholly or mainly unowned ; and their dependants.
III. Cultivating labourers ; and their dependants.
IV. Non-cultivating owners of land ; agricultural rent receivers ; and their dependants.

Non-agricultural Classes

Persons (including dependants) who derive their principal Means of Livelihood from—

V. Production other than cultivation.
VI. Commerce.
VII. Transport.
VIII. Other services and miscellaneous sources.

The resulting figures will be given in the Primary Census Abstract..... .....and this Abstract will be the basis for village statistics. The slips as thus initially separated, will be kept separate throughout the sorting operations.

3. **The concurrent 10 per cent sample.**—When the slips are initially sorted, a 10 per cent sample will be taken out..... ....The figures required for the Economic Tables (which are the first ones to be prepared) will be compiled separately for the 90 per cent slips and the 10 per cent sample. The two results will be

combined to produce figures for the total population. The operations on the 90 per cent slips and the 10 per cent sample will proceed simultaneously. There will thus be a record for every Census tract in each district, of the comparison between 10 per cent sample figures and the total figures ; for the Economic Tables as well as many other tables. The "Age Tables", however, will be constructed, only from the 10 per cent sample.

4. **Household size and composition.**—In the past Censuses, the characteristics of individuals only were tabulated. At the present Census, certain characteristics of households will be sorted and tabulated. It is not possible to hand-sort for households, slips which relate to individuals. The National Register of Citizens which gives the details of the individuals arranged by households will be utilised for this purpose. The study of the households will be made on the basis of a 4 per cent sample of households. An abstract from the National Register of Citizens called the "Census Abstract of Sample Households" .....will be first prepared for the sample households. The construction of "Household" (size and composition), table will be based on this abstract.

5. **Preservation of Census records and registers.**—In the past, the abstract (first prepared in the process of sorting and compilation) was used for compiling village statistics, which were retained as unpublished administrative records by some States ; and printed and published by others.

At the forthcoming Census, the following records (prepared during the process of sorting and compilation) will be brought together and bound in a single manuscript volume, called the District Census Handbook :—

(i) District Census Tables (furnishing district data with break-up for Census tracts, within the district).

(ii) Census Abstracts—
  (*a*) Primary Census Abstracts,
  *(*b*) Occupational Abstracts, and
  (*c*) Census Abstracts of Small-scale Industries.

The Sample Household Abstracts will be found together in a single manuscript volume separately. .....The Occupational Abstracts will be compiled from Sorters' Tickets prepared during the sorting of slips for the Economic Tables. The Census Abstract of Small-scale Industries will be compiled from returns of the Census now in progress.

It will be suggested to State Government that the District Census Handbook (with or without the addition of other useful information relating to the district) should be printed and published in the same manner as "Village Statistics" in the past. The 'Sample Household Abstract' will be unpublihsed. Together with the National Register of Citizens, it will be used for purposes of reference, and also as a Sampling Base for Population Surveys in the inter-Census decade. One of the columns of this Abstract is designed to facilitate the taking of sub-samples of the different livelihood classes separately.

6. The following tables will be prepared and published for the 1951 Census :—

A.—General Population Tables

I. Area, houses and population.
II. Variation in population during fifty years.
III. Towns and villages classified by population.
IV. Towns classified by population with variation since 1901.
V. Towns arranged territorially with population by livelihood classes.

B.—Economic Tables

I. Livelihood classes and sub-classes.
II. Secondary means of livelihood.
III. Employers, employees and independent workers by industries and services divisions and sub-divisions.

*In accordance with the instructions contained in paragraph 12 of the " Tabulation Instructions ", subsequently sent by the Registrar General, the Occupational Abstracts were replaced by the manuscript volumes, duly bound for each district and containing the District Index of Non-Agricultural Occupations and the Sorter's Tickets 2 for the district.

C.—Household and Age (Sample) Tables

I. Household (size and composition).
II. Livelihood classes by age groups.
III. Age and civil condition.
IV. Age and literacy.
V. Single year age returns.

D.—Social and Cultural Tables

I. Language.
II. Religion.
III. Scheduled castes and tribes.
IV. Migrants.
V. Displaced Persons.
VI. Non-Indian Nationals.
VII. Livelihood Classes, by Educational Standards.

E.—Summary Figures for Districts

.....

.....

Comparison between the foregoing tables and those prepared for the 1931 Census is explained in the following paragraphs.

7. **A—General Population Tables.**—Tables I, II and IV follow the 1931 model without change.

Table III follows an old table and provides some more information. Sex details will be given for each group of towns and villages. The groups in the table will be arranged under three major groups, for each of which the number of towns and villages and population by sexes will also be given. This change has been made with reference to a recommendation of the Population Commission of the United Nations.

The basis of Table V differs from the 1931 Census. In the 1931 Census the population of individual towns was shown classified by religion. Now it is proposed to give the same information under livelihood classes, instead of religion.

8. **B—Economic Tables.**—These correspond to the "Occupation or Means of Livelihood Table" prepared at the 1931 Census. The forms, as well as the contents of these tables, have been recast completely. This is the most important among the changes made in Census tabulation.....

9. **C—Household and Age (Sample) Tables.**—Table I—Household (size and composition) Table is new, as already explained in paragraph 5 above.

Tables II, III, IV and V will be prepared on the 10 per cent sample slips.

Table II (Livelihood classes by age groups) is new. Tables III and IV correspond to similar tables of the 1931 Census.

In the past, it was customary to apply a smoothing formula to the actual age returns. The published tables contained only the smoothed figures. This was done in order to offset the observed preference for particular digits (especially O) in actual age returns. At this Census, tabulation will proceed on the basis that the Census should publish the information as actually furnished by the people.

Accordingly, it is proposed—

(*a*) to discard the smoothing formula,

(*b*) to adopt certain decennial groups recommended by the United Nations Population Commission which includes all the digits with the most favoured digit (O) at the Centre ; and are, therefore, likely to be most free from the effect of preference for particular digits, and

(*c*) to prepare and publish a table of individual year age returns (which may be made use of by actuaries and research workers for constructing any desired age groups and smoothing the figures by any desired formula).

10. **D—Social and Cultural Tables.**—Tables I (Language), II (Religion) and IV (Migrants) correspond to similar tables prepared at the 1931 Census. The form of Table I has been simplified in so far as it relates to mother-tongue. Table IV (Migrants) will be in the same form as the Birth-place Table of the 1931 Census.

Table III furnishes the numbers of the Scheduled Castes and Scheduled Tribes. The numbers of Anglo-Indians will be indicated on a fly-leaf. Other race-caste-tribe data published in 1931 and prior Censuses will not be published. (But such data as may be required for the Backward Classes Commission will be collected and preserved.)

Table V is new and relates to displacement of population consequent on partition.

Table VI relates to Non-Indian Nationals. It is new and based on a suggestion made by the United Nations Population Commission.

Table VII is also new. It is designed to show the distribution of educated man-power among the different livelihood classes.

11. **E.—Summary Figures for Districts.**—This table will furnish selected data, by districts in the All-India Table and correspondingly by Tahsils/Thanas in the State Tables. The selected data will be in the same form as in previous Censuses; but livelihood classes will be substituted for religion.

APPENDIX E

Net Migration

An important point to be considered in calculating net migration is about the change in the mode of enumeration since 1941. Seasonal migrants were fully recorded in the State up to the 1931 Census, but were not so recorded in 1941 on account of the change in the enumeration procedure. Up to 1931, the *de facto* system of enumeration was in force, according to which a person was enumerated wherever he was found on the Census night. From 1941, however, modified *de facto* method of enumeration was introduced, according to which a person was normally enumerated in his own house, provided that he was present there at any time during the specified enumeration period. In 1941, the period was one month; while during the 1951 Census it was reduced to twenty days. Thus, according to this rule, the seasonal migrants, who came for harvesting after leaving their homes during the period of enumeration, were not enumerated as, according to the rule, they were to be enumerated in their own houses from where they came for harvesting to this State.

2. The drop from 1.3 in column 31 (Migration-cum-Registration error for the decade 1921—30) of table 1.3 to 0.0 in column 30 (Migration-cum-Registration error for the decade 1931—40) must be due to the above changes in the mode of enumeration to a certain extent. In other words a small proportion of the error in the figures must be set off on account of the change in the enumeration procedure between 1931 and 1941 Censuses as a result of which the seasonal migrants were omitted at the 1941 Census. The migration-cum-registration error will, therefore, have to be adjusted taking into account the effect of the change.

3. The Census Report of 1921 shows that the Chaitharas or the wheat labourers actually enumerated during that Census and who were born outside the Province, numbered 38,857. It is also pointed out that these figures would be "below and not above the mark, for while an enumerator would not enter in the Census schedules any one as a Chaithara who was not, he might omit to make the necessary entry". In the 1931 Census Report, the exact number of Chaitharas counted is not forthcoming, but there is a general remark that as the Census of 1931 was held three weeks earlier than the Census of 1921 the stream of Chaitharas had not fully come in. The 1921 Census was held on the midnight of 18th March 1921, while that of 1931 was held similarly at night on the 26th February 1931. The 1941 Census was held with reference to the 1st of March 1941 and as pointed out, it was based on the modified *de facto* system of enumeration. The 1951 Census was also held with reference to the same date, *viz.*, the 1st of March.

4. For purposes of determining the approximate number of visitors and Chaitharas, who were omitted at the 1941 Census, we have the approximate figure of 38,857 (Chaitharas), who were counted in 1921. Again, in 1931, the total number of immigrants who were enumerated in Madhya Pradesh and who had migrated from the adjacent States, was found to be 553,975; while in 1951 the corresponding figure was 510,165, and the difference is of the order of 43,810. As the Census of 1941 was held on the 1st of March, *i.e.*, a few days after the date of the 1931 Census (26th February 1931), we may assume that the number of visitors and Chaitharas, who would have been enumerated during the 1941 Census according to the old rule, would have been about 30,000.

5. We will now proceed to determine the approximate number of migrants during the period 1931—1951, who have added to the growth of the population :—

	Population
Immigrants of 1951 Census	727,377
Deduct pre-1951 immigrants	655,563
	71,814
Estimated deaths of pre-1931 immigrants at the decennial death rate of 31.9 per cent during 1931—40 =209,125.	
Estimated deaths of remaining pre-1931 immigrants (655,563—209,125) at the decennial death rate of 30.3 per cent 1941—50 =135,271.	..
Add total estimated deaths of pre-1931 immigrants (209,125 +135,271) ..	344,396
Estimate of immigrants (1931—51)	416,210

	Population
Emigrants at 1951 Census	456,226
Deduct pre-1931 emigrants	421,390
Estimated deaths of pre-1931 emigrants at the decennial death rate of 31.9 per cent during 1931—40 =134,423.	..
Estimated deaths of remaining pre-1931 immigrants (421,390—134,423) at the decennial death rate of 30.3 per cent during 1941—50 =86,951.	..
Add total estimated deaths of pre-1931 emigrants (134,423+86,951)	221,374
Estimate of emigrants (1931—51)	256,210
Estimate of net gain (+) or loss (—) by migration	160,000
Adjustment for difference in enumeration procedure between 1931 and 1941	+30,000
Estimate of net gain (+) or loss (—) by migration	190,000
6. We will similarly determine the approximate number of migration during the decade 1921—30 :—	
Immigrants of 1931 Census	655,563
Deduct pre-1921 immigrants	609,563
	46,000
Add estimated deaths of pre-1921 immigrants at the decennial death rate of 31.8 per cent during the decade 1921—30.	193,841
Estimate of immigrants (1921—30)	239,841
Emigrants of 1931 Census	421,390
Deduct pre-1921 emigrants	406,599
Add estimated deaths of pre-1921 emigrants (at assumed decennial death rate of 32.2 per cent).	129,298
Estimate of emigrants (1921—30)	144,089
Estimate of net gain (+) or loss (—) by migration	+95,752

APPENDIX F

A Note on the Review of the Anti-Malaria Work done in Madhya Pradesh, recorded by Shri T. D. Shahani, F.R.C.S., Director of Health Services, M. P., Health Section

Prior to 1946, there was no malaria organisation in Madhya Pradesh. In Nagpur City, in Dharni village of Melghat taluq and in Bar Nawapara, North Raipur Forest Division, anti-larval work in a restricted scale to reduce mosquito breeding was carried out. In Nagpur and Bar Nawapara, the anti-larval work was carried out under the Assistant Health Officer specially trained in Malariology at the Malaria Institute of India, Delhi, while in Dharni, the Assistant Medical Officer, in charge of the dispensary was given the additional duties. In Dharni the population protected was only 1,000 and in Bar Nawapara about 300. In the Nagpur City the anti-larval work was restricted to the Civil Lines area. Besides quinine was freely distributed in malarious tracts through revenue staff.

In March 1946, a separate anti-malaria organisation was created in Madhya Pradesh. This organisation consisted a provincial headquarters organisation of an Assistant Director of Public Health (Malaria) and Entomologist with adequate clerical staff. In the field five malaria control units, each consisting of a Medical Officer of Health trained in Malariology, five Anti-Malaria Supervisors, two Insect Collectors, a peon, a clerk, 25 labourers with transport, laboratory and field equipments were created. These units were established in highly malarious rural areas. Malaria control was effected by indoor spraying of all the huts with D. D. T. insecticide at two monthly intervals during the malaria season. Each unit approximately protected 50,000 to 55,000 population, depending on the density of the population. Due to paucity of technical personnel, the two field units could only be established in 1946 , two in 1947 and one in 1948. In 1949, four field units were established in the merged districts. In 1951, two more units were established. In all there are now 11 units working in the field. As a measure of economy the State Government abolished the headquarters staff of Assistant Director of Public Health (Malaria) and Entomoligist in March 1950. Their duties are being performed by the Deputy Director of Health Services in addition to his own.

When these units have been working for a few years the dispensary attendance has dropped down by 60 to 75 per cent, thereby considerably reducing the sickness of the people. The mortality rate has been significantly reduced. Besides controlling malaria the D. D. T. spraying is rendering collateral benefit by reducing the fly-nuisance, bed-bugs, etc., the anti-malaria work is getting so popular that this office is receiving innumerable petitions from villages outside the control area for inclusion of these villages as well in the spraying programme. Unfortunately finance is the limiting factor.

Besides actual control of malaria in the field, the malaria organisation has conducted field researches to determine the malaria transmission season, the economical doses of application of D. D. T., the optimum interval between sprays and the effective insecticide to be used. Besides the bionomics of the rector mosquito species has been under constant study. Some of the investigations have been published. A few are yet to be completed.

In areas where malaria control could not be extended distributing anti-malaria drugs freely to revenue or medical staff. Paludrine is made available at concessional rates in multi-purpose co-operative stores and post offices.

APPENDIX G

A Note on Developments in Labour Conditions in Madhya Pradesh during the last 10 years, by Shri P. K. Sen, B.Sc., Labour Commissioner, Madhya Pradesh

During the last decade, the Factories Act, 1948, was passed completely revising the Factories Act of 1934 and consolidating all the amendments made in the Actfrom time to time. The Act which came into force from 1st April 1949, is much wider in scope and extends to a large number of unregulated factories which were formerly covered by the Central Provinces and Berar Unregulated Factories Act, 1937. The factory inspection staff has also been increased to one Chief Inspector of Factories and four inspectors. The Act makes provision for certain labour welfare measures such as creches, canteens, washing facilities, dining sheds and appointment of labour welfare officers. The other legislative measures of the Government of India during decade for bettering the conditions of labour were the Minimum Wages Act, 1948, the Employees State Insurance Act, 1948, the Industrial Disputes Act, 1947 and others.

The existing welfare measures in the Textile Mills of this State were surveyed by the Labour Welfare Enquiry Committee in a State-wide survey conducted in the year 1948 and suggestions were made for improvement and immediate adoption of certain welfare measures. Action has been taken to implement those recommendations which are statutory by law. The other recommendations of the Committee which were to be taken up voluntarily are also being implemented.

The Chief Inspector of Factories was specially deputed for this purpose and through his efforts and those of his assistants the safety provisions in most of the Textile Mills have improved and in spite of the difficulties in obtaining building materials, creches, canteens, rest-rooms and dining sheds have been constructed. A safety officer was appointed by the Empress Mills, Nagpur.

2. **Administration of Factory Legislation**—*Factories Act*.—During the decade the number of factories (both perennial and seasonal) registered under the Factories Act increased from 1,150 to 1,513 and the number of workers employed from 76,446 to 96,273. This shows that the labour employed in factories registered an increase of about 25 per cent. These figures do not include Bidi and Lac Factories which were covered by the Central Provinces Unregulated Factories Act, 1937, but are now covered by the new Factories Act.

Payment of Wages Act, 1936.—There was a progressive increase in the total wages paid to workers during the decade. The amount of deductions on account of fines increased from Rs. 5,679 in 1941 to Rs. 17,039 in 1950 thus indicating negligence or indiscipline of workers during working hours. Expenditure from the fine fund was always subjected to scrutiny by the Inspectors.

Employment of Children's Act, 1938.—The largest number of children certified by the Certifying Surgeons was 405 in the year 1947. Lately, no complaints were received by the department of any malpractices which could be controlled by this Act.

Workmen's Compensation Act, 1923.—During the decade total compensation amounting to Rs. 5,60,561 was paid under the Act by the factories in the State. Of this amount, Rs. 1,76,000 was paid as compensation for 217 deaths as a result of the accidents.

Central Provinces Maternity Benefit Act,1930.—The total amount of benefits granted under this Act during the years 1941—49 was about Rs. 1,30,000 (Figures for 1943-44 are not available as reports were not published.)

3. The following improvements in labour conditions took place during the decade :—

Housing.—Industrial Housing is unquestionably the most urgent problem in the Country today. In order to increase the productive efficiency of the worker it is necessary to provide him with a good house. The Industrial Truce Resolution adopted at the Industries Conference held in New Delhi in December 1947, recommended that immediate attention should be devoted to the problem of the Housing of Industrial Labour. In this State the question was taken up by the Provincial Labour Advisory Committee which discussed the Schemes of Industrial Housing circulated by the Government of India, Ministry of Labour, in April 1949. On the advice of the Provincial Labour Advisory Committee it was decided to set up a Housing Board which would take up the question of Housing for Industrial Labour in this State and devise ways and means to implement suitable Housing Schemes for Labour at the industrial centres in the State. The need for better housing of labour at economic rent, which they are in a position to pay is admitted on all sides. To discourage the growth of slums and to raise the standard of living of the workers, a properly planned and integrated housing scheme is essential for the social uplift of the worker.

With this end in view the Housing Board has been constituted and it has been clothed with the necessary powers to carry out its objective. A loan of Rs. 10 lakhs has been obtained from the Government of India for the purpose, and Rs. 5 lakhs is being raised from the Employers and the State Government. Building sites are being arranged from the Improvement Trust, Nagpur, for 400 labour quarters and land is also being taken at Pulgaon and Achalpur for 100 houses. The existing labour quarters already provided by the employers house nearly 11,000 workers as compared to 9,500 in the year 1941.

Creches for babies are now provided in 11 cotton textile mills and two pottery works. Here the children are provided with milk, medicines and dress and are kept incharge of trained nurses. The approximate number of children in the creches is 400.

Expansion of medical facilities was noticed during the decade. Well equipped dispensaries incharge of qualified doctors are provided by the textile mills, cement factories, ordnance factories and potteries. The medical benefits provided have recently been examined by the Director of Health Services, Madhya Pradesh, and suggestions made for improvements. This has been done as a first step to the provision of medical benefits under the Employees State Insurance Act, 1948. First Aid is also provided as under the Factories Act, 1948.

Water Supply.—Satisfactory water supply both for drinking and washing is ensured for their workers by most of the important factories and pure and filtered water is supplied either from tube wells, pipes or wells.

Canteens are now made statutory under the Factories Act, 1948, for factories employing 250 workers or more. At present, these are provided in eight textile mills, two ordnance factories, two cement factories, one pottery works and four other factories.

4. **Factory Primary Schools.**—These continued to be provided in most of the big factories. New schools were opened during the decade. A High School is also run by the Gun Carriage Factory, Jabalpur, for workers' children. The number of children of factory workers receiving education in schools maintained by Factories was about 1,300 in 1950 as against 437 in 1941.

5. **Other Labour Welfare Measures.**—Facilities for indoor and outdoor games, recreation, reading rooms, clubs, etc., are being provided in many of the textile mills and other big factories. No welfare activities could so far be undertaken by the Labour Department, but a scheme for Labour Welfare is under active consideration of the Government. It is expected that the scheme will be operated by the proposed welfare section of the Labour Office.

In the Coal Mines in the State, welfare facilities are provided under the Coal Mines Labour Welfare fund Act, 1947. These consist of ambulance cars for first-aid, anti-malaria organisation, pit-head baths, water supply, mobile cinema vans, radio sets, etc. Two regional hospitals are being constructed and three maternity and child welfare centres are also being set up. With the object of improving the standard of living and also to provide means of earning a subsidiary income by women workers through properly organised Cottage Industries, a section is working exclusively for the welfare of women and children. Provident Fund and Bonus Schemes have also been adopted for the Coal Mines Labour in the State under the Coal Mines Provident Fund and Bonus Schemes Act, 1948.

6. **Provident Fund.**—The Provident Fund has been made compulsory in the textile mills since the year 1948, as a result of the award of Industrial Tribunal while the scheme also exists in cement factories potteries, glass works and some of the big electric supply companies.

7. **Co-operative Credit Societies.**—For workers these exist in six textile mills and one pottery works.

8. **Administrative Machinery.**—A separate Labour Department has been formed in the Secretariat in charge of a Secretary to the Government. Following the recommendations of the Textile Enquiry Committee, 1941 (presided over by Shri Jayaratnam) a Labour Commissioner has been appointed for the Province in 1942, who works as the Head of the Department. For better and efficient working of labour policy of the Government, the strength of the Labour Office has been considerably increased for doing work of conciliation, and Industrial Courts have been established for adjudication of disputes. Opportunities are also being provided to the Labour Office personnel for further training and specialization. The Factory Inspectorate has been brought within the fold of the Labour Department, for better co-ordination of work in connection with labour and their welfare.

With a view to facing labour problems and improving labour relations, a State Labour Advisory Committee was constituted in December 1947, with the Minister for Labour as Chairman and representatives of employers, workers and M. L. As. as Members. Another Committee exclusively for the Textile Industry has also been constituted namely the Standing Committee (Textile) to deal with the special problems of the Textile Industry. This Committee has considered the various problems facing the Textile Industry like the Regularity Bonus, the Sporadic and illegal strikes, the question of Badli and surplus workers, normal complement of workers of the Textile Mills, etc.

This State also can claim the pride of place for having settled on a permanent footing the question of bonus for the Textile Industry. The question of Bonus for the Textile Mills of the State has been a source of constant trouble and many Industrial disputes arise on its account. In order, therefore, to settle this question on a permanent basis, a Tripartite Committee on Bonus was set up to formulate the principles according to which bonus could be calculated for the Textile Industry. This Committee has formulated those principles which have been accepted by the mill-owners and the Textile workers and bonus for individual mills will now be calculated and paid to the workers accordingly.

9. **Labour Legislation.**—As suitable machinery was not available for adjudication of Industrial disputes, use was made of Rule 81-A of the Defence of India Rules and six Industrial disputes were referred for adjudication. When Rule 81-A of the Defence of India Rules lapsed in September 1946, and its period of extension by six months under the Emergency Provisions (Continuance) Ordinance (No. XX of 1946) also expired, the awards given in cases of Industrial disputes referred to adjudicators on the continuance of proceedings under the Defence of India Rules came to an end. An Ordinance called the Central Provinces and Berar Validation of Awards and Continuance of Proceedings Ordinance was, therefore, promulgated and it was later replaced by the Validation of Awards and Continuance of Proceedings Act. Settlement of Industrial disputes by emergency legislation was, thus, continued pending permanent legislation for conciliation and adjudication of Industrial disputes in the Province.

The question of suitable permanent legislation was soon taken up and in August 1946, the Central Provinces and Berar Industrial Disputes Settlement Bill was introduced in the Provincial Legislature and it became Law in 1947. The Act for the first time provides for statutory recognition of the office of the Labour Commissioner and Labour Officer and defines their powers and duties. The Labour Commissioner was given wide powers in respect of Industrial disputes touching the discharge, dismissal, removal or suspension of any employee in any factory or class of factories. He has the power to order reinstatement of workers illegally removed or dismissed and if the employer refuses or neglects to carry out the order compensation can be awarded to the employee. The Labour Commissioner becomes the ex-officio Chief Conciliator for the Province and the Labour Officer can be invested with any of the powers of the Labour Commissioner. These Officers further possess the necessary powers of inspection of any premises used for the purpose of any industry or the office of any Trade Union. The Act further provides for the constitution of works committees, Provincial Industrial Courts, Boards of Arbitration and Conciliation Machinery. It also contains provision for registration of recognized unions and grant of necessary facilities to such unions for presentation of workers' grievances to the employers and for their amicable settlement. The Act has been applied to all industries except the following :—

(i) Employment in any industry carried on by or under the authority of the Central Government, or by an Indian State Railway.

(ii) Mines.

(iii) Saw-mills.

It has been made applicable to the Textile Industry only recently.

Under the Act Government have constituted the Provincial Industrial Court and have also instituted District Industrial Courts in eight revenue districts of the Province.

Industrial Disputes Act.—The disputes in the textile industry were referred for adjudication to an Industrial Tribunal constituted under this Act. This Tribunal passed a number of awards dealing with minimum wages, standardisation of wages, provident fund, dearness allowance and other conditions of work of textile workers including clerks and watch and ward employees. Another Industrial Tribunal was appointed to adjudicate on the dispute of sweepers employed in Municipalities and Notified Area Committees of the State. This Tribunal's award deals with matters such as basic wages and dearness allowances. Similar Tribunals were set up for the oil industry and saw-mills.

Minimum Wages Act.—Minimum wages under the Minimum Wages Act have been fixed for employment in Cement Factories, Potteries, Oil mills, Glass Factories, Bidi Factories, Transport Services, Rice, Floor or Dal Mills, employment under any local authority in road construction or building operations and stone breaking and stone-crushing and this State is one of the few States in which such minimum wages have been fixed in most of the scheduled employments.

A Wage Board has been constituted in the State under section 5 (1) (*a*) of the Minimum Wages Act, 1948. With a view to facilitate the fixation of minimum wages for Agricultural-labour an enquiry was started by the Government of India towards the end of the decade which is nearing completion by March 1951.

With a view to regulate the conditions of employment in shops, restaurants, cinema houses and commercial establishments, the Central Provinces and Berar Shops and Establishments Act was passed in the year 1947. Holidays, Payment of Wages for overtime work and leave of persons employed in these establishments are regulated by the Act. It also provides for notice pay in the event of termination of services and prohibits employment of children. The Act at present applies to 21 towns in the State and covers most of the district and sub-division headquarters with a population of 20,000 and above.

10. **Organisation of Labour and Labour Relations.**—With the increasing self-consciousness among the workers, strikes and hartals became a regular feature of labour relations during the decade. The total number of strikes recorded during the decade was 761 involving 1,058,955 workers and a loss of 6,402,743 man-days.

The majority of the strikes were in the cotton textile mills while some took place in Coal Mines and Bidi Factories.

Following the rise in the cost of living, as a result of the second world war there were demands for increase in wages, allowances or for bonus. Though many of these strikes could be attributed to these economic causes, political strikes in essential employments, Government had to declare a few employments to be essential for purposes of public safety, the maintenance of public order and for maintaining of supplies and services essential to the life of the community.

Growth of Trade Unionism was noticeable during the decade and the number of trade unions on roll increased from 52 in 1941 to 90 in 1950. The total membership increased from 17,261 in 1941 to 58,745 in 1950.

The distribution of the present membership according to industries is as follows :—

Industry	Membership	
Textile Industry	23,185	(including Jute).
Printing Presses	405	
Food beverages and Tobacco	6,035	
Railways	10,309	(All India Railwaymen's Union).
Metal Industries	5,204	
Mines	9,703	
Potteries and Cement	811	
Ginning and Pressing	899	
Others	2,194	
Total ..	58,745	

Trade Unionism has thus made great strides and more and more workers are taking part in the Trade Union movement.

In the past, no particular attention was paid by the Government to promote the healthy growth of the Trade Union movement and the socalled trade unions that had cropped up were no better than Strike Committees. Attempts are, however, now being made to put the Trade Union movement on a sound footing. Bogus trade unions are discouraged. It is being constantly impressed on the trade union organisations that the workers should develop a sense of responsibility and that they should not allow labour

interests to suffer by considerations extraneous to genuine trade unionism. Deliberate attempts are made by the leaders of some trade unions to exploit workers for narrow political ends in disregard of the needs of the country and it is essential that trade unions and specially the conscious section of the workers are made aware of the grave implications of such tendencies.

Representation has been given to the trade unions on the State Legislative Assembly and the Corporations at Nagpur and Jabalpur thus providing them with constitutional means for safeguarding their interests.

11. **Integrated States.**—Soon after the integration of the States with this Province, Officers of the Labour Department visited the important Industrial Centres, including Raigarh and Rajnandgaon and made a survey of labour conditions at these centres. In 1948, the various Provincial and Central Labour Acts were extended to the States under the Central Provinces (States) Applications of Laws Orders, 1948. The awards of the Textile Industrial Tribunal have been applied with suitable modifications to the Bengal-Nagpur Cotton Mills, Rajnandgaon. At Raigarh the minimum basic wages and dearness allowance have also been fixed by conciliation. The recommendations of the Fact Finding Committee, Central Provinces and Berar, have been implemented in the collieries of the integrated States. The Coal Mines Labour Welfare Fund Advisory Committee has also co-opted two members from the Coal fields of the integrated States, on the Central Provinces and Berar Coal field Sub-Committee

APPENDIX H

PART I

Progress of Agriculture in Madhya Pradesh (1941—50), by Shri S. P. Mushran, I.A.S., Secretary to the Government, of Madhya Pradesh, in the Agriculture Department, Nagpur

This monograph gives a brief account of the Agricultural activities of the State of Madhya Pradesh during the period 1941-51. This period has seen great changes in the country. Independence came soon after the victory of the United Nations in World War II. Partition of India took place and the State of Pakistan was formed. Inside India itself a process of administrative integration was set in. Small 'Princely' states were joined together to form bigger units or merged with the old neighbouring 'provinces'. In the economic sphere specially on the food front, however, the period has been one of continued stress. There were heavy military demands for foodgrains during the course of the second World War. The stoppage of import of foodgrains from Burma and other rice producing countries together with a series of indifferent harvests led to shortage of food. The "Grow More Food" Campaign was started. The shortage could not, however, be made up; and it was further aggravated after the partition of India by the loss of the best wheat producing tracts in the country. The "Grow More Food" Campaign was intensified. Freedom from foreign bread became the slogan of the day. It became necessary to make a supreme effort for increasing the production of foodgrains. Continuing shortage of food and raw materials thus gave Agriculture its proper significance in the economy of the country. And since this realisation has come, re-organisation of agriculture has been a subject of outstanding importance both before the Government and the people.

2. Agriculturally, Madhya Pradesh could broadly be divided into three tracts:—

(1) Cotton Zone comprising of all the four districts of Berar and Nagpur, Wardha and Nimar districts.

(2) Wheat Zone comprising of the districts of Sagar, Jabalpur, Mandla, Hoshangabad, Chhindwara and Betul, and

(3) Paddy Zone made up of (*a*) Bhandara, Balaghat, Chanda, Durg and (*b*) Raipur, Bilaspur, Bastar, Raigarh and Surguja districts.

These are further sub-divided into seven sub-zones according to the predominance of Kharif or Rabi crops grown, soil conditions, rainfall and location as shown in Table No. 1.

3. For want of up-to-date statistics in regard to the merged areas, the figures relating to the old Central Provinces and Berar have been given in this Monograph. The complete statistics for the agricultural year 1950-51 not being available, the figures for the period commencing from the agricultural year 1940-41 and ending with the year 1949-50 have been compared with the corresponding figures for the period commencing from the agricultural year 1930-31 and ending with agricultural year 1939-40.

4. **Area and production.**—Madhya Pradesh occupies a unique central position and grows almost every crop that is grown in India. The following table compares the acreage and production of certain important crops, in this State, excluding the merged areas, with those in the Indian Union for the decennium ending with the year 1949-50:—

Name of crop	Percentage of area in the State to that in India	Percentage of production in the State to that in India
Juar	14	16
Wheat	11	6·4
Rice	10	7·7
Gram	8·5	5·7
Linseed	30	19
Til	10	8·4
Groundnut	5	3·6
Cotton	22	20·7

These figures indicate that production of crops other than juar is generally lower than the acreage in India. This lower production is mainly due to the fact that the area under irrigation in this State constitutes about 6 per cent of the gross cropped area as against the all-India average of 19 per cent.

5. Trend of occupied, gross cropped, net cropped and double cropped area.—The table below gives the figures during the decade from the year 1940-41:—

Year	Occupied Area	Gross cropped area	Net cropped area	Doubled cropped area
	(Area in thousand acres			
(1)	(2)	(3)	(4)	(5)
1940-41	30,974	26,883	24,546	2,338
1941-42	32,029	26,530	24,816	1,714
1942-43	32,097	26,874	24,271	2,603
1943-44	32,202	28,109	24,989	3,120
1944-45	32,256	27,764	24,633	3,131
1945-46	32,299	27,272	24,302	2,970
1946-47	32,335	27,080	24,190	2,890
1947-48	32,289	26,726	23,855	2,871
1948-49	32,344	27,417	24,376	3,041
1949-50	32,407	27,502	24,208	3,294
Average for the ten years ending 1949-50.	..	27,216	24,419	..
Average for the ten years ending 1939-40.	..	27,260	24,603	..

These figures show that when the prices of agricultural commodities rose in 1942-43 there was a scramble for bringing more land under crop. The gross cropped area registered a sharp increase of 12·35 lakh acres and the net cropped area of 7·18 lakh acres in the year 1943-44. Soon after foodgrains control was established, the enthusiasm for bringing more land under crops gradually subsided. The result was that all that had been achieved in a single year, 1943-44, was lost in the next succeeding four years. These observations find support from the figures shown below:—

[*Variations as compared to the preceding year* (+) *increase* (—) *decrease*]

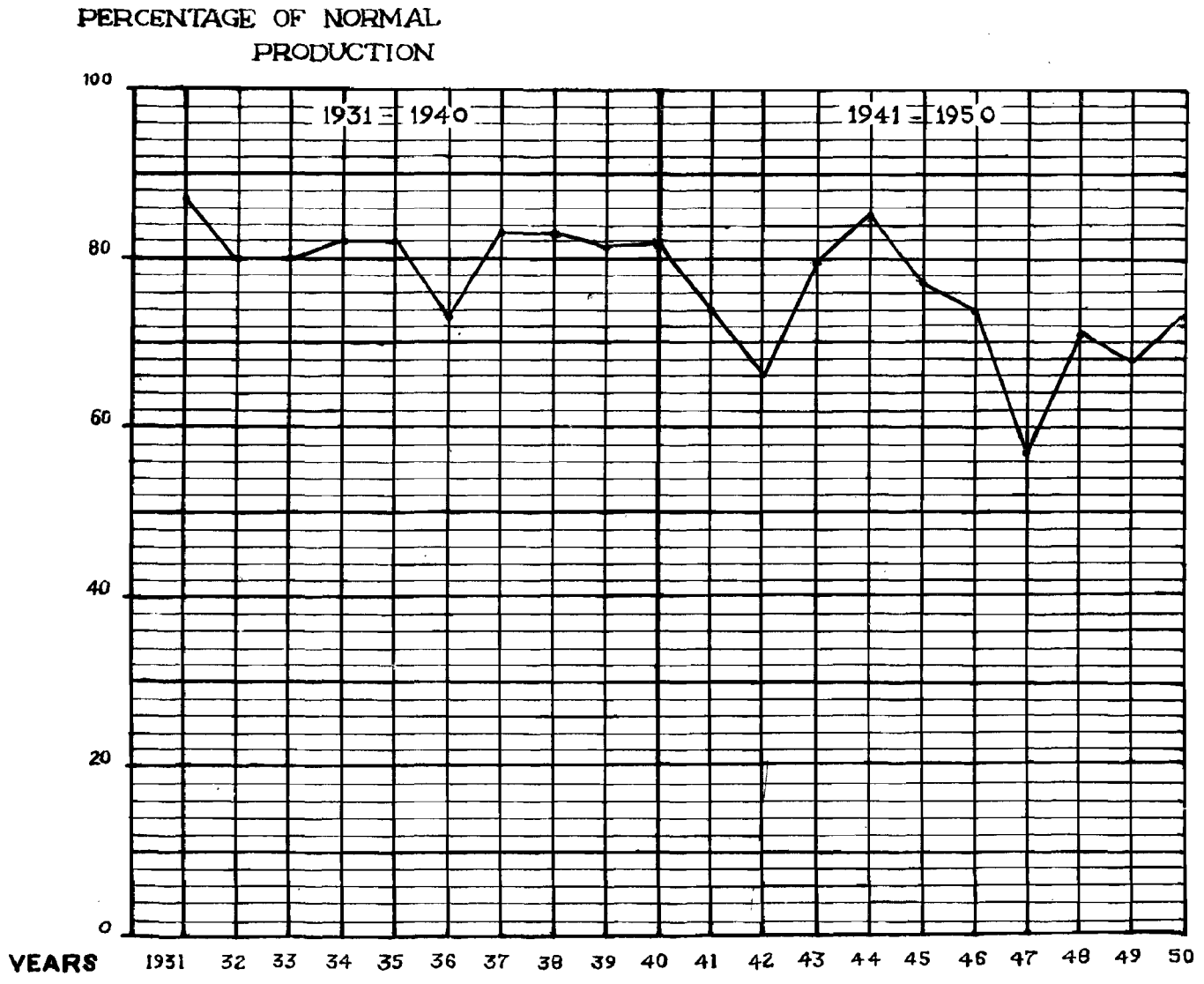
Year	Occupied	Gross cropped	Net cropped
		[In lacs of acres]	
(1)	(2)	(3)	(4)
1943-44	+1·05	+12·35	+7·18
1944-45	+0·54	—3·45	—3·56
1945-46	+0·43	—4·92	—3·31
1946-47	+0·36	—1·92	—1·12
1947-48	—0·46	—3·54	—3·35
1948-49	+0·55	+6·91	+5·21
1949-50	+0·63	+0·85	—1·68

The gross cropped area and the net cropped area were the lowest in the year 1947-48 mainly owing to the fact that the average outturn in the preceding year (1946-47) was the lowest. The downward trend in the gross-cropped area and net cropped area which started in the year 1944-45 and continued till 1947-48 was arrested by the promulgation of the Central Provinces and Berar Fallow Lands Ordinance (No. VI of 1948), which was later converted into an Act, as it laid a statutory duty on a holder to bring a specified area of his fallow land under cultivation. The enforcement of this law presented several difficulties but its effect has been generally satisfactory. In the year 1948-49 as much as 5·21 lakh acres were brought under crop and in the following year the gross cropped area further increased though not to the extent to which it did in the preceding year.

DIAGRAM No. 1

CHARACTER OF THE AGRICULTURAL SEASONS DURING 1931 – 1950

AS SHOWN BY ESTIMATES OF CROP PRODUCTION FOR MADHYA PRADESH



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6. **Trend of area under current fallow.**—Column (15) of Table II shows that though the area under current fallow varied from 35·44 lakh acres to 44·29 lakh acres the 1940-49 decennial average was 40·09 lakh acres against 38·71 lakh acres, the corresponding figure of the preceding decennium.

7. **Trend of cropping.** —Table II further shows that there has been a distinct improvement in the trend of cropping. The area under rice has steadily increased from 56·99 lakh acres the average of preceding decennium to 63·39 lakh acres in year 1949-50. The increase has mainly occurred in the rice zone but a significant increase has also taken place in the other tracts owing partly to scarcity of rice and partly to the Grow More Food efforts. The area under wheat declined from 32·29 lakh acres in year 1940-41 to 25·44 lakh acres in 1942-43 mostly on account of rust epidemics and unfavourable seasons. In the year 1946-47, however, rust epidemic occurred on a scale not known in living memory and the area under wheat touched the lowest figure of 16·91 lakh acres in the succeeding year. As a result, partly of liberal distribution of wheat seed and partly of favourable seasons the acreage under wheat has come up to the level of 25·30 lakh acres in year 1949-50. The reduction of area under wheat has, however, been balanced by an increase in the area under pulses particularly teora and gram, the former being a hardy crop fetching a good price. The area under cotton has steadily fallen from 39·62 lakh acres the average of the preceding decennium, to 28.33 lakh acres in year 1949-50 and has been switched over to juar and groundnut. The area under juar crop has increased from 43·98 to 47·89 lakh acres and that under groundnut from 2 lakh acres to about 7·05 lakh acres. The reduction in cotton acreage and corresponding increase under juar was mainly due to discontinuance of trade with Japan which was the main buyer of short staple cotton and also to the efforts made for increasing the area under foodgrains. The area under groundnut showed a rapid rise partly because it is a profitable rotation crop and partly because of the encouragement given to the growers by subsidising distribution of improved varieties of groundnut seed.

8. **Seasons and the production of crops.**—The seasons between 1941 and 1950 were much less favourable than those in the preceding decade. This can be seen from Tables III and IV and also from Diagram I. The estimated outturn for the State as a whole from the year 1931 to 1940 fluctuated within the close range of 80 to 87 per cent of the normal outturn except in the year 1936 when it was 73 per cent. The fluctuations in the present decade range for a major part of the period between 67 and 77 per cent, except in the years 1943 and 1944 when the estimated outturn was 80 and 85 per cent and the year 1947 when it was as low as 57. The difference between the minimum and the maximum was as much as 28 in the present decade as against 14 in the preceding decade. In both the decades, however, the estimated outturn did not even approximate to the normal. Seasons in individual districts show wider fluctuations than the averages for the whole State (Tables III and IV). The fluctuations are more violent in the present decade than in the preceding one. In the main paddy tract, the outturn in a greater number of years during the period from 1931 to 1940 was either normal or approximately normal and in a few years even more than the normal, while in the present decade a normal or more than normal crop was much less frequent. The difference between the maximum (112 per cent in Bhandara district in 1943) and the minimum (44 per cent in the Balaghat district in 1942) outturns in the paddy tract was as wide as 58 in the present decade, while it was 38 in the preceding decade, the maximum being 118 per cent in Balaghat district in the year 1932 and the minimum 70 per cent in Bhandara district in 1940. In the wheat tract (including the plateau districts) the outturn in the preceding decade ranged between the minimum of 62 per cent (district Chhindwara, 1936) and the maximum of 108 per cent (district Mandla, 1932) while the minimum and the maximum outturns in the present decade were respectively 40 per cent (district Betul, 1947) and 89 per cent (Mandla, 1946). In the cotton tract, the outturns were only fair for a major part of the present as well as the preceding decade. During the ten years ending 1940 the highest outturn was 102 per cent (Nimar district, 1931) and the lowest 37 per cent (Buldana district, 1932) while during the present decade the highest outturn was 95 per cent (Nimar district, 1941) and the lowest 44 per cent (Akola district, 1949).

As a result of unfavourable seasons the average production of important crops during the present decade was 3,739 thousand tons for an average area of 22,234 thousand acres or 377 lbs. per acre, as against 4,119 thousand tons for an average area of 22,919 thousand acres or 403 lbs. per acre in the preceding decade (Table V). While the average area of the present decade was only 3·0 per cent less than the average of the preceding ten years, the average production was less by 9·2 per cent. The deviations from the decennial mean (Table V) show that the area under important crops was generally steady during the preceding decade the range of variability being 2·4 per cent above and 2·2 per cent below the decennial mean. In the present decade, however, the range of variability of this area was 4·7 per cent above and 4·4 per cent below the decennial mean. Compared with the average of the preceding decade the area under important crops was generally lower, the maximum difference having occurred in 1947-48, when it was 7·2 per cent (See Diagram 2).

The production figures for the present decade are comparatively disappointing. While the highest and the lowest production figures during the ten years ending 1940 were respectively only 4·5 per cent above and 4·8 per cent below the decennial average, the highest and the lowest production figures during the present decade were, respectively, as high as 14·1 per cent above and 21·8 per cent below the decennial average. Except during the year 1944, the production throughout this decade was below the average of the preceding ten years. The difference between the maximum and the minimum was as high as 13·3 lakh tons in the present decade, while it was only 3·8 lakh tons in the preceding one. (See Diagram 2).

As regards the individual crops (Table V-A) it is found that the production of rice has been fairly satisfactory throughout the decade, except in certain years, when it suffered from adverse seasonal factors, especially draught, in 1940-41 and 1941-42. In fact, it is this crop which has substantially helped not only this state but other parts of the country also, during the period of food shortage caused by the failure of other foodgrain crops. Production of juar has also been more or less satisfactory and so also that of the pulses, which are usually exported in considerable quantities to other parts of the country. Production of wheat has fallen considerably and has been inadequate even to meet domestic requirements. In addition to the fall in acreage, another factor, which adversely affected the yield of wheat, was the damage from rust epidemic during 1940-41, 1943-44 and 1946-47, the last being the most widespread and virulent. Amongst oilseeds, linseed and til have not fared as satisfactorily during this decade, as they did in the preceding one. Production of groundnut has, however, increased and has been sufficient to meet the deficit in other oil-seeds. Production of cotton was throughout unsatisfactory except in two or three years.

9. **Agricultural development in the decade 1940—49.**—This decade might well be regarded as epoch making in Madhya Pradesh in the field of agriculture. The efforts made in the past for agricultural developments pale into insignificance before the efforts made in this decade. Agricultural production in this State mostly depends on:—

(1) Improved seed.

(2) Manures.

(3) Land Reclamation and Tillage.

(4) Irrigation.

The efforts made during the decade year 1940—49 in all these directions are indicated below:—

10. **Improved seeds.**—For increasing the area under improved seeds two distinct processes are necessary, *viz*:—

(1) Evolving of improved strains and

(2) Their multiplication and distribution.

The former falls within the functions of the Research Sections and the latter within those of the Field and Extension Branch.

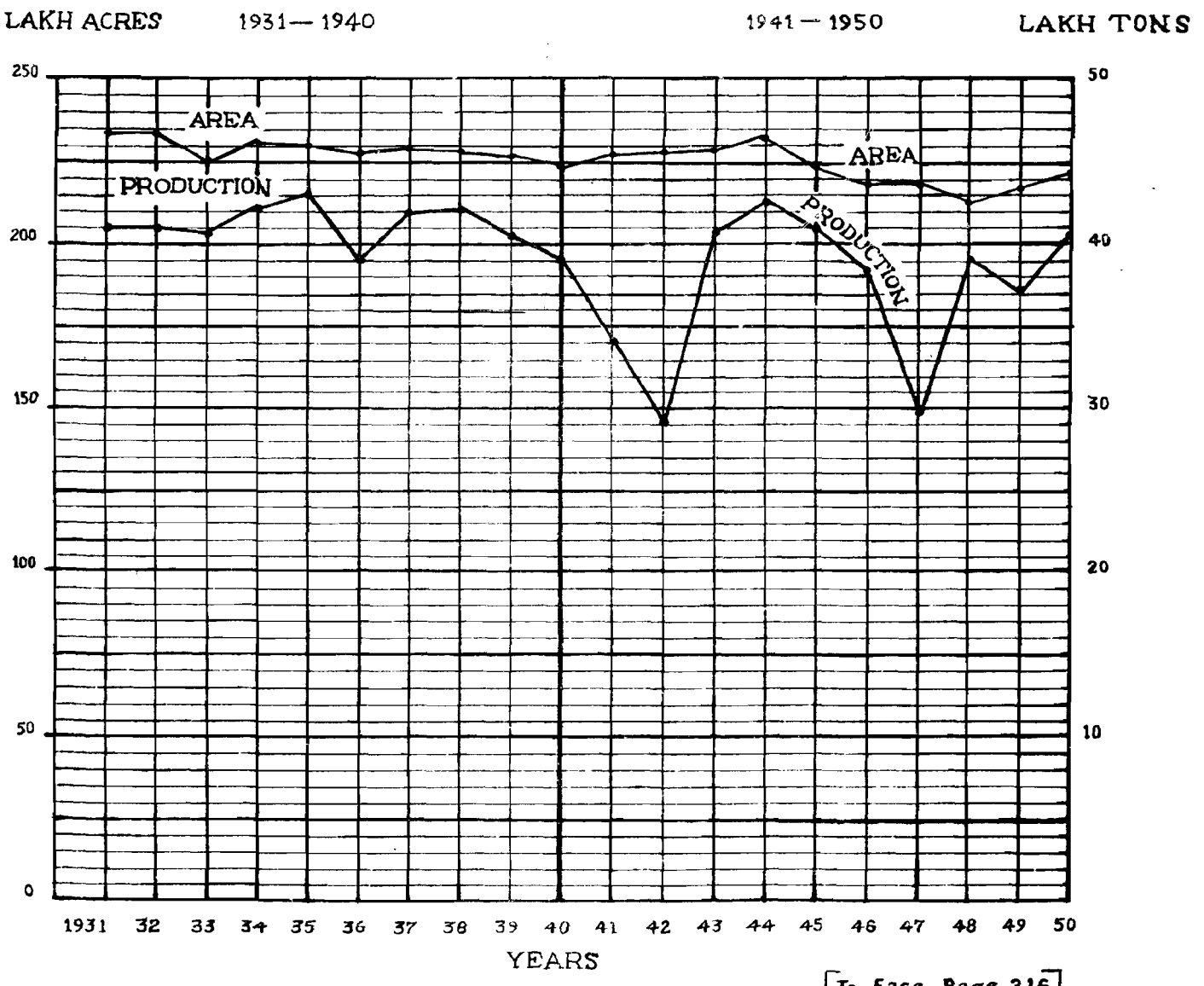
11. **Agricultural Research.**—In the field of Agricultural Research steady progress was maintained in the work on cotton and rice for which special schemes were in existence during the period 1931—40. To these were added schemes on Wheat, Oil-seeds and Pulses.

12. **Cotton Breeding Schemes.**—The improved strains of cotton recommended in the beginning of the decade were Verum 262, Verum 434, H 420 and Buri 107, a selection from American cotton. Jarilla, a medium staple cotton introduced in Khandesh by the Department of Agriculture, Bombay, found its way in the adjoining taluqs of Berar in the year 1939. It soon became popular with the cultivator on account of its better field performance, fairly high ginning percentage and better premium that it fetched over the local deshi types. It spread so vigorously in the beginning that it replaced Oomra and Verum to a very large extent. By 1946-47, however, it had begun to show signs of susceptibility to vagaries of nature resulting in low outturn with the result that the area under this variety began to fall gradually and regularly. This variety is now mainly confined to the Buldana district of Berar. H 420 has gradually gained favour with the cultivators and is replacing Jarilla and Verum 434 slowly but steadily. The Central Provinces Cotton Breeding Scheme, Nagpur, having terminated on 13th March 1948 was re-organised into 4 Cotton Breeding Schemes operating for (*i*) Nagpur-Wardha, (*ii*) Akola-Amravati, (*iii*) Ghat and (*iv*) Buldana tracts, respectively, with a view to improving the cottons grown in the respective regions. As a result of the cotton improvement work, the following results have been achieved:—

(1) *Nagpur-Wardha tract.*—The selection No. 91 has given promising results. Its lint is soft and bright white; its ginning percentage is 34 to 35. Among the American cottons, 0/396, which is a re-selection of Buri 107, has given very good results. It has soft white lint having a staple length of 15/16". Its ginning percentage is 33 and it is capable of spinning up to 44's highest standard warp count.

DIAGRAM No. 2

AREA AND PRODUCTION OF IMPORTANT CROPS IN MADHYA PRADESH



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(2) *Akola-Amravati Tract.—Strain* No. 091 a deshi re-selection from H 415, has given the highest yield. It is a very hardy cotton, has soft white lint having a staple length of 13/16" and is capable of spinning 27's highest standard warp counts. It has a high ginning percentage of over 36. Among American cottons, Buri 0394, another selection from Buri 107, is leading. It has a staple length of 15/16'' and ginning percentage of over 34. It is capable of spinning 40's highest standard warp counts.

(3) *Ghat Tract.*—The new improved *deshi* strain No. 111, which has been evolved, appears to be promising for the tract. It has a fine white lint having a staple length of 14/16" suitable for spinning 37's highest warp counts and a ginning percentage of about 34.

(4) *Buldana Tract.*—M 5-A, another very good *deshi* cotton, appears to be promising. It has bright white lint having a staple length ranging from 14/16" to 31/32'' and has been adjudged suitable for spinning up to 40's highest standard warp count. It has a ginning percentage of 34.

13. **Wheat Breeding Scheme.**—The scheme for breeding rust resistant strains of wheat suited to the black soil areas of the State was started in June 1941, with its headquarters at the Experimental Farm, Powarkhera, Hoshangabad district. The varied materials consisting of promising Indian and exotic wheats were collected and the breeding work was taken up in order to evolve strains highly resistant against black stem rust (*Puccinia gramins triti ci*), which is more frequent and widespread and causes greater damage than the rust of the other two species. As a result of research work during the last ten years a number of hybrids have been evolved which have shown promising result. Some of the useful strains have now reached the stage of multiplication and would soon be released. These strains are:—

Cross	Hybrid	Maturity period
1. Ex 61 × A 115 ..	65—4	Medium.
2. Ex 61 × A 115 ..	277—1..	Late.
3. Ex A115 × E 220 ..	10—11—5	Medium.
	11—6 and selections ..	Medium.
	12 (12—15, 16, 17 and 18).	Medium.
4. N. P. 52 × Ex 30 ..	278	Very late.
5. Ex 220 × N. P. 52 ..	11—1 and all selections	Medium.
6. Ao 90 × 220	5—72	Very early.
	5—7—6	Very early
	5—7—7	Very early.
7. Ao 88 × 220	19—(1—3)	Medium.
8. Ex 39 × Ao 90 ..	172—2..	Late.
	172—7—2*a*	Late.
	172—2—1—3.. ..	Late.
9. Ao 13 × E 220 ..	12—5—3	Medium.
	12—5—7	Medium.
	3—6—4	Medium.
	38—9	Medium.
Parents	A 115	Medium.
	Ao 90	Late.
	NP 52	Early.

14. **The Rice Research Scheme.**—This scheme started in 1932 and came to a close in 1944. The objects of the scheme were (1) to obtain by selection or hybridization higher yielding varieties suitable for the three main rice areas of the State, *i.e.*, Chhattisgarh, Wainganga Valley and North of the State; (2) to evolve strains, which can be easily distinguished from wild rice in the seeding stage and (3) to work suitable manurial schedules for paddy cultivation. Nine years' work resulted in (1) evolving ten high

yiedling strains of medium and coarse and six of fine rice suited to the varying conditions of the rice tract, (2) evolving three hybrids with purple stem and leaves and two with dark purple auricles to overcome infestation of wildrice (Kharga). (3) Preparation of manurial schedules. The improved strains evolved are—

Early.—R 2 Nungi No. 17.
R 3 Sultu Gurmatia.

Medium.—R 4 Gurmatia.
R 5 Ludko.
X 116 (Bhondu × Parewa).

Late.—X 19 (Budhia Bako × Parewa).
R 6 (Budhia Bako).
R 7 Ajan.
R 8 Benisar.
R 8 Luchai.

Scented Varieties —R 10 Chhadri.
R 11 Dubharaj.
R 12 Banspatri.
R 13 Kubri Moher.
R 14 Badshah Bhog.
R 15 Chinoor.

Puple leaved hybrids for eradication of wild rice. X 1 (Nagkesar × No. 17).
X 2 (Nagkesar × Bhondu).
X 3 (Nagkesar × Luchai).

It has been observed that the application of 100 lbs. of ammonium sulphate and 50 lbs. of Double Superphosphate (20 lbs. Nitrogen *plus* 20 lbs. P 205) per acre as a top dressing to paddy in August gives significantly higher yields. Similarly, the application of 7 mds. of powdered groundnut cake (40 lbs. Nitrogen) per acre before transplantation or biasi operations, gives good results.

15. **The Oil-seeds Research Scheme.**—This scheme started in 1937 and terminated in 1945 As a result, improved strains of linseed, sesamum, niger and safflower have been isolated as shown below:—

Linseed.—N. 3, N55.
Sesamum.—N. 41 (late) No. 128 medium, N8.
Niger.—N. 5.
Safflower.—N 7.

16. **The Pulses Research Scheme.**—The Scheme was in operation from 1st April 1943 to 30th September 1948. The following high yiedling strains of tur, mung, urid and moth have been evoled.

Tur—Hyderabad P. E. 31, 32.
Mung—E. B. 6 Kopargaon.
Urid—55.
Moth—88.
Gram—10 Dacca.
Lakh—30.

17. **The Millet Research Scheme.**—The Scheme was in operation from 1943 to 1948. The high yielding types of Kodo and Kutki, *viz.*, Kodo 30 and Kutki 45 have been evolved.

18. **Distribution of improved seeds.**—The quantity of improved seeds distributed through Government agency in the decade under review is shown below:—

	Years					
	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50
Cereals (in lakh of maunds) ..	1·23	2·08	2·20	1·05	1·22	1·45
Cotton (in maunds)	56,773	62,796	45,329	36,010	37,086	34,196

The percentage of area under improved varieties of some of the major crops to the total area under these crops is estimated below:—

Rice	..	..	18·93
Wheat	..	..	16·50
Cotton	..	..	58·64

19. **Manures.**—Prolonged experiments organised on a scientific basis have decisively shown that the application of organic and inorganic manures results in increased production. Therefore, to encourage manuring of fields to a larger extent the State Government made arrangements for distribution of organic and inorganic manures to needy cultivators. The results achieved in this direction are given below:—

[Manure—In tons]

Year	Organic		Inorganic
	Groundnut oil-cake	Urban Compost	
1943-44	688	..	..
1944-45	5,531	..	..
1945-46	13,706	10,668	331
1946-47	16,258	25,507	1,266
1947-48	6,694	31,432	1,935
1948-49	17,706	42,626	3,895
1949-50	21,485	31,466	4,958

Besides urban compost, a scheme of rural compost was introduced in the year 1949-50 in order to utilise the vast potentialities of developing locally obtainable manurial resources in rural areas by composting village waste, cattle dung, urine, etc. In the first year of the Scheme, 72,856 tons of compost were prepared. This Scheme has attracted the attention of the cultivators who are becoming increasingly manure-minded. The Janapada Sabhas and the Gram Panchayats are also taking keen interest in the working of this Scheme.

20. **Land reclamation and tillage.**—On account of a series of unfavourable seasons mostly in the wheat tract, a fair portion of land went either out of cultivation or was indifferently cultivated due to infestation of cans (*Saccharum spontaneum*). It was not considered possible to bring this land under cultivation or to improve the standard of cultivation with the bullock power available with the cultivators. In these circumstances, it was decided to get these lands deep-ploughed by high-powered tractors belonging to the Central Tractor Organization established by the Government of India. The State Government obtained some units from the Central Tractor Organization and operated them in Sagar and Hoshangabad districts of this State. The progress of work done under the scheme of re-clamation of land by Central Tractor Organization units is given below:—

Serial No.	Name of Centre	Land ploughed in open seasons in acres by Central Tractor Organization						Total
		1948		1949		1950		
		Number of Units	Land ploughed in acres	Number of Units	Land ploughed in acres	Number of Units	Land ploughed in acres	
	Sagar district							
1	Khurai	2	6,646	2	11,177	1	6,105	23,928
2	Garhakota ..	..	..	1	4,422	..	..	4,422
3	Patharia	..	..	1	7,594	1	3,833	11,427
4	Khimlasa ..	..	..	..	..	1	6,006	6,006
	Hoshangabad district							
5	Pipariya	..	..	1	8,282	1	6,708	14,990
6	Dularia	..	..	1	6,590	..	..	6,590
7	Seoni-Malwa ..	..	..	..	..	2	6,758	6,758
	Total ..	2	6,646	6	38,065	6	29,410	74,121

With the purchase of more units by the Government of India under the International Monotary Fund Loan Scheme some more units were obtained in 1951 and 98,745 acres were deep ploughed in that year.

21. **Tractor ploughing by the Provincial Machine Tractor Station.**—For improving the standard of cultivation by doing medium ploughing, the State Government purchased 30 tractors in the year 1948 and started ploughing operations in four districts, namely, Nagpur, Akola, Amravati and Jabalpur. The strength of the tractors has been raised to 90 during the year 1950-51, and ploughing has been taken up at 10 Centres. The progress made up to 1949-50 is given below:—

Open season	Area covered in acres	Additional food production in tons
1947-48	1,073	55
1948-49	8,997	459
1949-50	17,667	901
Total ..	27,737	1,415

22. **Private Tractors Scheme.**—The work required for improving the general standard of cultivation is large and it was considered necessary to offer some inducement to individual cultivators who might like to pruchase their own tractors. It was, therefore, decided in 1949 to give taccavi to those cultivators who wanted to purchase tractors on condition that they agreed to plough 100 acres of their neighbours' land. During the last three years during which this scheme has been in operation, taccavi, of the order of Rs. 15,34,007, has been advanced for the purchase of 186 tractors to private persons. The recent quinquennium census done in the year 1951 shows that the number of tractors in this State was 589. Deducting the number of tractors owned by the Central and the State Governments the number of tractors belonging to private persons work out to 408. This indicates that 222 tractors were purchased by private persons fully out of their own funds.

23. **Irrigation.**—The percentage of area under irrigation to the net cropped area in this State is much below the all-India average. There is thus great need for developing irrigation with the two-fold object of (1) increasing production and (2) maintaining it at the increased level. The development o agriculture into an organised industry will only be possible when the element of uncertainty, which exists at present, is substantially reduced. While, therefore, the need for irrigation is fully re-organised, the limiting factors are inadequacy of finance and personnel. The stabilisation of cultivation of a small holder in areas, where irrigation projects cannot be taken up for want of a suitable site is also a matter, which requires consideration. Taking these facts into consideration, it was decided to take the following steps to extent irrigation in this decade:—

(1) *Construction and repairs of wells.*—Taccavi at a concessional rate of interest is advanced to a cultivator to dig a new well or repair ar existing well for irrigating his land so as to enable him to stabilise his cultivation.

(2) *Construction and repairs of small tanks* (*taccavi*-cum-*Subsidy*) *Scheme.*—Under this Scheme, private owners of small village tanks are advanced taccavi at a concessional rate equal to the actual cost of construction subject to a maximum of Rs. 150 per acre of land irrigated. If the necessary conditions attached to the advance are observed, 50 per cent of the loan advanced is treated as a subsidy.

(3) *Village Projects Scheme.*—The idea underlying this scheme is to construct tanks or bund small nalas so that the water stored during the monsoon could be released for irrigation at a time when it is required. The area to be irrigated by a project under this scheme varies from 50 to 500 acres.

(4) *Major Irrigation Works.*—The works capable of irrigating more than 500 acres are taken up on a planned basis by the Public Works Department of this State. The schemes introduced during the period (1941—51) were intended to develop the area under irrigation in all ways possible. The following table shows the results achieved:—

Name of scheme	Units of work	Approximate area irrigated in acres
(1) Sinking of new wells	13,857	41,571
(2) Repairs of old wells	5,832	17,496
(3) Construction and repairs of village tanks ..	..	71,118
(4) Village projects	10	3,290
(5) Major Irrigation Works	2	7,656
Total ..		141,131

It was also felt that the manner, in which irrigation was actually done, left much to be desired. A *'moat'* is commonly used for lifting water from a well. This process is uneconomical and entails considerable strain on bullocks. Taccavi at a concessional rate was, therefore, advanced to cultivators for purchase of a *rahat*. Out of the amount so advanced, 25 per cent is treated as a subsidy in the fifth year on the observance of the conditions of the grant by the borrower. For the last three years, taccavi is being advanced to cultivators for purchase of a pumping set. The results achieved under these two schemes are:—

(1) Number of *rahats* actually distributed—535.

(2) Number of pumping sets run on mechanical power for which taccavi is advanced—323.

24. **Trend of area under irrigation and area double cropped.**—It may be interesting to compare here the decennial averages of the area under irrigation and the area double cropped:—

Decennial average	Area (in lakhs of acres)	
	Irrigated	Double cropped
1911—20	7·75	20·49
1921—30	10·94	22·06
1931—40	11·56	27·53
1941—50	16·14	27·97

These figures show that the area under irrigation is going up steadily during the last forty years. During the present inter-censal period, however, there has been a sharp increase in the area under irrigation.

25. **Other land Improvement schemes.**—As a part of the Grow More Food Plan the State Government introduced schemes for construction and repairs of paddy bunds and construction of field embankments for conversion of rabi area into do-fasli. These schemes do not technically fall under the category or irrigation schemes. The idea underlying them is to conserve moisture in the soil to ensure

production and to prevent denuding of soil by erosion. The following figures give an idea of the work done under these schemes in this decade:—

	Area in acres served
(1) Construction of new paddy bunds	3,560
(2) Repairs of old paddy bunds	97,408
(3) Construction of field embankments for conversion of rabi area into *do-fasli.*	76,983

26. **Appraisal of results of "G. M. F." efforts.**—The task of appraising results of "G. M. F." efforts is an extremely difficult one for several reasons. The average area under three important cereals—*viz.*, rice, juar and wheat in this State is of the order of 147·21 lakh acres. The area covered by "G. M. F." assistance in the various years from 1943-44 is given below:—

Year	Area in acres covered by	
	Recurring schemes	Permanent schemes
1943-44	12,575	21,470
1944-45	194,565	33,714
1945-46	345,811	18,026
1946-47	371,947	91,860
1947-48	195,756	148,193
1948-49	343,347	442,295
1949-50	428,153	352,703

These figures indicate that all the Grow More Food Schemes cover an insignificant fraction, being an average 5·30 per cent of the total area under cereals. The assumed increase in the production of the area covered by the "G.M.F." assistance is not likely to have any effect on market arrivals, especially when the seasonal factors during the decade were generally unfavourable. Further, a majority of "G.M.F. Schemes" are not of the "nature-proof" type. These Schemes are so designed as to result in increased production provided the monsoon and the seasonal factors are reasonably favourable. It might perhaps be asked why "Nature-proof" Schemes were not taken up. The answer is that these schemes involve such a large amount of capital expenditure that it is hardly possible to take them up.

Another difficulty is that the figures of estimated production are at present worked out by what is known as the *annewari* system. In this system, no allowance is made for the production from the areas covered by "G. M. F." assistance. It is, therefore, not possible for the results of "G. M. F. Schemes" to appear in the figures of estimated production which are given in the Forecast Reports.

While these difficulties are not easy of solution, the State Government have been anxious to get the results of "G. M. F." efforts tested on a scientific basis. To this end, an enquiry was conducted in this State under the direction and control of the Statistical Adviser to the I. C. A. R. in the years 1950 and 1951. In the first year, the enquiry was confined to finding out the

increased production from improved paddy seed and manures including chemical fertilizers. This enquiry was done in Bhandara and Balaghat districts in the year 1949-50 and the reults are given below:—

Rate of response in maund/acre observed from "G. M. F." aid—

Improved paddy seed	Manures	Improved paddy seed and manure	Town Compost
By experiments—0·92	1·91	2·61	2·85
Assessed officially on 0·82 recommended doses.	2·72 (Cake) 3·40 (Am. Sulph.) 4·73 (Am. Phos.)	..	6·81

In the year 1951, the enquiry was expanded both in area and the number of G. M. F. Schemes covered by it. In extent, the enquiry was conducted in the paddy tract and the areas in Hoshangabad and Sagar districts ploughed by Central Tractor Organisation tractors. The results obtained by the Statistical Adviser are:—

Rate of response in maund/acre observed from "G. M. F." aid (Improved paddy seed and manure)—

Improved paddy seed	Manure	Improved paddy seed and manure
By experiments—0·81	1·43	1·60
Assessed officially on 0·82 recommended doses.	2·72 (Cake) 3·40 (Am. Sulph.) 4·73 (Am. Phos.)	..

The position in regard to tractor-ploughed lands is summarised below:—

[In maund/acre]

Name of district	Prior fallow	Prior cultivated	Control	Increase of (2) over (3)
(1)	(2)	(3)	(4)	(5)
Sagar	9·1	8·4	7·4	1·0
Hoshangabad	9·6	9·0	8·1	0·9
Pooled for two districts	9·3	8·6	7·6	1·0
Year of reclamation—				
1947-48	9·5	8·7	7·6	1·1
1948-49	9·7	8·7	8·1	0·6
1949-50	8·7	8·5	7·1	1·4
Pooled for three years	9·3	8·6	7·6	1·0

From the summary of the results it can be said that the rate of response of improved paddy seed deduced from the enquiry is more or less the same as has been officially assumed by the Agriculture Department. In the case of manures, the rate of response is substantially lower than the officially assumed figure. For tractor ploughed lands , the experiments bear out the official figure of increased production. For comming to a definite conclusion it is necessary to continue the experiments for a longer period, but, the fact remains that the "Grow More Food" Scheme do increase production in areas covered by them.

27. **Financial assistance rendered.**—The financial assistance given to agriculturists during the present decade is given below :—

Year	Ordinary A. L. Act	Tacavi under L. I. L. Act	G. M. F. A. L. Act	Taccavi under L. I. L. Act	Total
(1)	(2)	(3)	(4)	(5)	(6)
	Rs.	Rs.	Rs.	Rs.	Rs.
1940-41	10,01,945	4,65,369	..	..	..
1941-42	21,64,129	7,19,536	..	..	..
1942-43	13,34,701	1,85,240	..	..	..
1943-44	10,34,002	2,85,000	60,742	7,68,753	21,48,497
1944-45	15,36,251	1,80,223	14,51,971	15,90,185	47,58,630
1945-46	5,37,000	86,330	24,86,969	13,73,676	44,83,975
1946-47	4,75,023	8,78,580	28,09,550	16,34,615	57,97,768
1947-48	53,93,739	1,57,489	19,31,556	44,56,840	1,19,39,624
1948-49	65,19,190	5,49,625	35,35,352	88,51,944	1,94,56,111
1949-50	79,06,098	16,01,830	80,59,146	80,92,514	2,56,59,588

These figures show that the advances both for "Grow More Food Campaign" as well as for ordinary agricultural purposes have been increasing steadily.

28. **Agricultural education.**—During the decade 1941—50 there was an unprecedented demand for men trained in agriculture both from Government, as well as from the public. The "Grow More Food Campaign" started during the war and the post-war development schemes necessitated considerably expansion of the staff of the Agriculture Department. Similarly, the malguzars and big land owners prompted by the prevailing high prices of foodgrains desired to appoint as managers the men trained in modern methods of agriculture. This demand was met by increasing the number of seats in Agriculture College, Nagpur, and by opening training institutes and classes.

Agriculture College, Nagpur.—The admission to the College was increased from 35 in 1939 to 70 in 1945 and 80 in 1949. The increase in the total strength of the College from 169 prior to 1940 was 201 in 1945 and 278 in 1949. A new Agriculture College imparting agricultural education up to Intermidiate standard has also been started by the Vidarbh Shikshan Prasarak Mardal, Khamgaon.

Training of Agricultural Overseers.—Under the pilot scheme introduced in 1945 three Agricultural Overseers Training Institutes were started at Betul, Chandkhuri and Ellichpur. Matriculate students were admitted and given in intensive course in straight agriculture for a period of one year. After passing out from the institute the students were appointed as Agricultural Overseers in charge of one or two Revenue Inspector's circles. 317 students were trained in these institutions.

Training of Demonstration Jamadars.—During 1944, a training class for Demonstration Jamadars was run departmentally at Nagpur. A new pilot scheme was started in 1945 by starting Demonstration Jamadars Training Classes at Labhandi, in Raipur District, Damoh in Sagar District and Buldana. The training consisted of six months practical and theory course and admission was limited to students from rural areas, who had studied up to seventh Hindi or Marathi standard. On passing the examination, the boys were appointed as Demonstration Jamadars and placed in charge of 15 to 20 villages where they were required to carry out propaganda of the "Grow More Food" and other departmental activities.

The total number of students who have been trained is given below :—

Year	Agricultural Overseers	Demonstration Jamadars
(1)	(2)	(3)
1945-46	67	189
1946-47	108	186
1947-48	105	166
1948-49	37	60
Total ..	317	601

Both the institutions were closed in 1948 after sufficient number of students had been trained.

Training in Agriculture in the three stages of education.—Agriculture has been included as one of the optional subjects in some of the schools as will be seen from the following table :—

Statistics concerning Agricultural Education in Primary, Middle and High Schools in Madhya Pradesh.

S. No.	District	Institutions teaching Agriculture							
		Primary Schools		Secondary Schools				Total	
				Middle Schools		High Schools			
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Nagpur	Information not received							
2	Wardha	..	..	..	..	150	..	150	..
3	Chanda	..	..	175	..	..	..	175	..
4	Bhandara	519	100	241	12	..	..	760	112
5	Amravati	..	..	149	..	470	..	619	..
6	Akola	..	..	149	15	304	20	453	35
7	Buldana	..	..	169	..	..	..	169	..
8	Yeotmal	252	..	220	46	74	..	546	46
9	Jabalpur	..	..	..	..	..	..	..	..
10	Sagar	..	..	106	..	45	..	151	..
11	Mandla	..	..	211	..	..	..	211	..
12	Balaghat	192	22	106	5	..	..	298	27
13	Hoshangabad	..	..	228	4	..	..	228	4
14	Nimar	228	..	99	..	16	..	343	..
15	Betul	..	..	376	26	106	..	482	26
16	Chhindwara	..	..	401	..	..	..	401	..
17	Raipur	..	..	480	..	148	..	628	..
18	Durg	417	..	334	..	73	..	824	..
19	Bastar	..	..	157	6	..	..	157	6
20	Raigarh	..	..	..	..	..	..	..	..
21	Surguja	..	..	..	..	..	..	..	..
22	Bilaspur	..	..	106	..	118	..	224	..
	Total	1,608	122	3,707	114	1,504	20	6,819	256

In 1949, a class was opened in Nagpur for giving practical instruction in agriculture to persons holding land so that these persons should on return to their villages take steps to improve their own cultivation. These classes were held for a period of 30 days and were attended by 60 persons. An enquiry conducted to assess the utility of training given in these classes has revealed that a majority of persons are following the instructions given to them and that they have found instruction useful. The proposal to hold these classes in each district is under consideration.

29. **Nutritional and other requirements of Madhya Pradesh in respect of Agricultural Commodities.**—The quality of food comsumed by the people is an important as quantity from the nutritional and health point of view. A balanced diet is necessary for maintenance of proper health. While the people of this State have been able to get enough quantity of foodgrains their diet in general has been deficient in protective food such as vegetables and fruits, fats, oils, milk, gur, eggs and fish. As a long range policy the State Government have to provide more and more of every commodity required for a balanced diet of the growing population. It has been calculated that to fulfil these requirements, this State should increase production of cereals and pulses by about 12 per cent; vegetables 750 per cent; fruits 60 per cent Gur and Sugar 600 per cent; oilseeds 300 per cent and milk 260 per cent along with that of fish and meat While these deficiencies cannot be met in a short time, the State Government are making earnest effort

to increase production of all these commodities—Details of "Grow More Food Scheme" undertaken in this State have already been described. The area under fruits and vegetables has increased by 39 per cent for old Central Provinces and Berar during the decennium ending 1949-50 as shown below :—

[Area in thousands of acres]

Year	Fruits and vegetables old C. P. and Berar	M. P.
(1)	(2)	(3)
Average for the decennium ending—		
1939-40	133·8	..
1940-41	152·0	..
1941-42	159·5	..
1942-43	158·5	..
1943-44	160·2	..
1944-45	156·2	..
1945-46	161·4	..
1946-47	163·9	..
1947-48	175·9	205·0
1948-49	186·0	218·5
1949-50	185·9	217·7

Similarly the area under Sugarcane has registered an increase as per table shown below :—

[Area in thousands of acres]

Year	Sugarcane old C. P. and Berar	M. P.
(1)	(2)	(3)
Average for the decennium ending—		
1939-40	28·5	..
1940-41	33·3	..
1941-42	32·2	..
1942-43	26·5	..
1943-44	29·0	..
1944-45	35·1	..
1945-46	40·5	..
1946-47	41·6	..
1947-48	52·3	58·6
1948-49	51·9	58·9
1949-50	41·1	47·4

For increasing milk supply to towns seven dairy units have been established in this State and the total quantity of milk distributed through these dairies is shown below :—

[Quantity supplied in lbs.]

1946-47	..
1947-48	42,095
1948-49	300,400
1949-50	470,405

A scheme for pisci-cultural development has also been introduced in this State for supply of increased quantity of fish. Under this Scheme fish seeds and spawns were imported from Calcutta and put into a nursery pond. When these fish attained the stage of fingerlings they were transported into bigger tanks, where they were allowed to develop till they attained marketable size. The total quantity of fish sold under this Scheme is given below :—

[Total quantity sold in lbs.]

1946-47 ..	..	..
1947-48 ..	..	8,000
1948-49 ..	..	19,920
1949-50 ..	..	89,120

As the supply position of spawns has become difficult in the Calcutta market owing to the partition of the country the State Government explored the possibility of local supply of fish seed and spawns. For this purpose certain sites have been selected in the Mahanadi river in the Raigarh district where steps were taken to collect spawns and fish seeds. This scheme has been tried for the last two years. In the first year, the results were not so successful, but all the same they proved conclusively that it would be possible to obtain supplies of spawns and fish seeds in the Mahanadi river. In this year, however, it has been possible to collect 21·35 lakhs of spawns and fish seeds.

30. **Horticultural Development.**—Another important development that has taken place during this decade is the establishment of a Horticultural Station at Pachmarhi and conversion of the Silari farm in Hoshangabad district into a Vegetable Seed Farm. Pachmarhi has been selected as a suitable site for being developed into a Horticultural Station. There are in Pachmarhi a large number of wild mango trees which by budding and grafting may be made to yield better qualities of mangoes. The other varieties of fruits which grow in Pachmarhi gardens are being improved by various scientific methods. A special officer of the rank of Extra-Assistant Director, has been placed in charge of this Scheme. A great handicap in the development of area under vegetable is that the local producers are required to import a large quantity of vegetable seeds from other States. This involves considerable expenditure and at times the seed imported is not suitable to the climatic condition of this State. To overcome this difficulty the Silari farm has been converted into a vegetable seed farm.

31. **Other miscellaneous activities—Improvement of Indigenous Implements.**—The Indian agriculture is mostly done by bullock-drawn implements. There is a great scope for improving these implements so as to make them more efficient and labour saving. The State Government have established an Indigeneous Implements Research Section in charge of an officer of the rank of Extra-Assistant Director who has received training in agricultural engineering in Australia under the advanced Training Scheme introduced by the Government of India. Some implements have been devised during the course of one year, but their manufacture on a large scale has not yet been undertaken. Before they are manufactured their efficiency in the field must be tested. When their efficiency has been proved, steps to introduce them on a mass scale will be taken.

32. **Agricultural Policy Committee.**—In 1949 the State Government decided that a Committee consisting of officials and non-officials should be appointed with very wide terms of reference to examine the working of the entire field of agriculture and to make recommendations for securing improvement of agriculture in this State. This Committee laboured for about two years and has recently submitted a comprehensive report. This report is at present under examination.

33. **Legislation.**—This decennium has been agricultural legislation of far reaching importance. In the pre-Independence days agriculture was largely run on the principle of *laissez faire*. There are very few laws interfering with the liberty of an individual in the agricultural field. Owing to the difficult food situation, however, it was considered necessary to enact legislation in order to increase the production of foodgrains. An ordinance entitled the cultivation of Fallow Lands Ordinance was passed in February 1948, which was later converted into an Act. Under this act it is compulsory for a holder to bring specified area of fallow land included in his holding, under cultivation each year. On a rough estimate about 706,519 acres of fallow land has been brought under cultivation so far as a result of this legislation. To help the cultivator in discharging his obligation under this Legislation a subsidy of Rs. 2 per acre of fallow land broken up is offered in the first instance. As a further inducement gram seed was distributed on a subsidised basis for newly broken up areas. The next important legislation undertaken was the amendment of the Central Provinces and Berar Municipalities Act. This makes it obligatory on municipalities to dispose of night-soil and town refuse by the process of composting. The effect of this legislation has already been described. The third piece of legislation to which a reference may be

made here is the Central Provinces and Berar Reclamation of Land (Eradication of Kans) Act, 1948. Under this legislation the Reclamation Officer has power to enter and to plough any land which is notified to be Kans infested land and to recover the charges from the land holder in reasonable instalments. The progress of this scheme has already been described under ' The Reclamation of Land by the Tractors of the C. T. O. '. As it came to the notice of Government that agriculture was seriously suffering for want of labour it was decided to enact the Central Provinces and Berar Regulation of Manufacturing of Bidi's (Agricultural Purposes) Act, 1948. Under this Act, Deputy Commissioner's were authorised to declare certain periods as agricultural season during which no person residing in certain villages could undertake manufacture of bidis. This Act was passed prior to the introduction of the Constitution, but it has since been declared *ultra vires* of the Constitution.

34. **Changes in the Land Tenure.**—The importance of land tenure for increasing agricultural production can hardly be overemphasized. In a State, where the number of small holdings is very large it is necessary to bring about the requisite psychological urge for improvement; and stability of tenure is the single big factor contributing towards sustained effort for larger production far reaching changes in land tenure were made in the State as a result of the following Acts :—

(1) The Central Provinces Tenancy (Amendment) Act, 1939.
(2) The Madhya Pradesh Abolition of Proprietary Rights (Estates, Mahals, Alienated Lands) Act, 1950.
(3) The Madhya Pradesh Agricultural Raiyats and Tenants (Acquisition of Privileges) Act, 1950.
(4) The Berar Tenancy Law (Amendment) Act, 1950.

There are two important systems of land tenure, namely, (1) Raiyatwari tenure prevailing in the four districts of Amravati, Akola, Buldana and Yeotmal in Berar, and (2) Malguzari in the rest of the State. The important difference between the two systems is that in the raiyatwari system the occupants deal directly with the Government. In the malguzari system there is an intermediary commonly known as the malguzar or zamindar between the actual tiller of the soil and Government. The important changes effected by the Acts are :—

(1) *The Central Provinces Tenancy Amendment Act*, 1939.—Though this Act was passed by the Legislature in 1939 it has been included because it received the assent of the Governor General on the 5th June 1940. Prior to the passing of this Act, the consent of the landlord was necessary before a tenant could transfer his holdings. In giving consent, landlords demanded a large share of the value of the land. Under this Act the maximum consent money has been statutorily fixed as shown below :—
   (1) Occupancy tenant .. .. .. Five times the annual rent.
   (2) Absolute occupancy tenant .. One time the annual rent.

   Further, if any land is leased out by a tenant for an aggregate period exceeding seven years in any period of ten years, the last lessee continues in possession and cannot be ejected by the lessor at his sweet will.

(2) *The Madhya Pradesh Abolition of Proprietary Rights (Estates, Mahals and Alienated Lands) Act*, 1950.—Landlords in malguzari villages acted as intermediaries between tenants and the Government. It was felt that for agricultural development it was necessary to remove the intermediaries and end the malguzari or zamindari system. Accordingly the rights of landlord qua proprietor have been acquired on payment of compensation and the tenants in the whole of the State have been brought in direct relationship with Government.

(3) *Madhya Pradesh Agricultural Raiyats and Tenants (Acquisition of Privileges) Act*, 1950.—Under this Act, it is discretionary with a tenant to acquire proprietary rights on payment of a fixed amount relatable to the rent assessed on his holding. This is expected to go a long way in increasing the credit of a cultivator in view of the increase in the value of his land due to its freely alienable character.

(4) *The Berar Tenancy Land (Amendment) Act*, 1950.—Under this Act protected status has been conferred on " ten years " tenants and lessees in alienated villages and alienated lands in Berar.

35. **Conclusion.**—Agricultural production in Madhya Pradesh is still a " gamble in rains ". There is not much irrigation and favourable monsoon and a proper season are the prime factors governing good crops. The seasonable factors were not quite favourable during the last ten years. Nevertheless there has been a sustained effort for increasing agricultural production. Land Reform Legislation has been enacted in several states. These reforms are expected to create strong social and economic forces that will increase and stabilise agricultural production. The National Planning Commission has given considerable thought to the subject of rationalisation of agriculture. It is hoped that when its schemes come

to be implemented, condition of our agriculture will improve. Our economy will cease to be a static backward economy. It will expand and keep pace with the growing population. Agriculture will cease to be merely a way of life. Production will increase and will become profitable. There will be economic efficiency. The task is great and beset with many difficulties. But there are indications that our effort will bear fruit and that agricultural prosperity will come and produce stable economic conditions in the country.

TABLE I

Statement of Crop Zones in Madhya Pradesh

Tract	Crop Zone	Soil origin	Soil	Soil condition	Rainfall	Location	Divergence in cropping dependent on
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I	1. Cotton, Juar, Wheat, Rabi oil-seeds.	Trap ..	Heavy—clay loam.	Fully mature ..	20″ to 45″	Purna Valley, Wardha Valley, east to Nagpur, Tapti Valley.	General rainfall and position.
	2. Cotton, Juar, Kharif pulses passing to Bajra.	Do. ..	Medium—loams Regar 2nd class.	Varying stages of maturity.	20″ to 45″	On higher areas associated with above.	Dependent on rainfall and state of maturity.
II	3. Wheat and other rabi crops with cotton and juar subordinate.	Do. ..	Heavy—clay to medium loams.	Varying stages of maturity.	36″ to 50″	The plateau and Western areas north of Narmada passing imperceptibly into No. 4.	Position and maturity.
	4. Wheat	Old alluvial and trap.	Heavy—clay loams.	Mature ..	44″ to 60″	The Narmada and adjoining area.	Practically nil other than that included by intrusions of zones 2 and 5.
III	5. Paddy, cane and wheat and rabi oil-seeds.	Metamorphic	Brown—heavy loams.	Mature ..	50″ to 55″	Wainganga Valley.	Position and irrigation facility.
	6. Paddy, cane, lesser, millets and pulses, kharif oil-seeds.	Metamorphic and in part laterite.	Red and brown sandy and medium loams.	Varying stages of maturity.	50″ to 55″	Higher parts of Wainganga Valley, high lying eastern plateau and North-East of Province of high lying tracts of Chhattisgarh.	Position and soil maturity and irrigation.
	7. Paddy, wheat and rabi.	Laterite ..	Ranging from clay loam to light loam.	Mature and immature.	55″ ..	Chhattisgarh ..	Position as effecting maturity and irrigation facilities.

TABLE II

Statement of area under important commodities and group of commodities in Madhya Pradesh

(In thousand acares)

Year	Total gross cropped	Total net cropped	Rice	Wheat	Juar	Kodon kutki
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Average for the 10 years ending—						
1939-40	27,260·3	24,603·1	5,699·0	3,371·1	4,398·3	1,534·0
1940-41	26,883·1	24,545·7	5,873·0	3,229·0	4,533·0	1,476·0
1941-42	26,530·1	24,816·5	5,757·5	2,850·6	4,739·4	1,676·7
1942-43	26,873·9	24,270·7	5,654·1	2,543·6	5,307·1	1,887·9
1943-44	28,108·8	24,988·9	5,874·4	2,768·1	5,647·1	1,845·5
1944-45	27,763·6	24,301·9	6,022·9	2,796·5	5,184·6	1,595·0
1945-46	27,272·0	24,190·1	6,071·4	2,678·7	5,045·7	1,527·3
1946-47	27,080·1	24,190·1	6,119·2	2,883·1	4,721·2	1,469·4
1947-48	26,726·0	23,855·0	6,207·0	1,691·0	5,002·0	1,479·0
1948-49	27,417·0	24,376·0	6,304·0	1,844·0	5,045·0	1,486·0
1949-50	27,502·0	24,208·0	6,339·0	2,530·0	4,789·0	1,472·0

TABLE II—*cont.*

Year	Pulses			Oil-seeds			Cotton	Current fallow
	Gram	Teora	Other pulses	Groundnut	Linseed	Other oil-seeds		
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Average for the 10 years ending—								
1939-40 ..	1,200·2	957·3	2,492·5	193·9	1,104·5	955·6	3,962·0	3,871·4
1940-41 ..	1,152·0	946·5	2,255·9	232·8	1,218·0	884·0	3,572·0	3,730·0
1941-42 ..	1,116·5	774·6	2,196·5	194·4	966·1	885·7	3,804·5	3,544·0
1942-43 ..	1,068·1	1,022·3	2,437·7	234·1	1,033·6	811·3	3,772·5	4,138·0
1943-44 ..	1,250·6	1,106·2	2,631·0	302·4	1,135·7	800·2	3,203·0	3,647·0
1944-45 ..	1,353·9	1,278·0	2,707·9	606·1	1,130·3	756·2	2,803·3	4,031·0
1945-46 ..	1,306·6	1,249·4	2,670·4	584·6	947·4	718·0	2,955·6	4,267·0
1946-47 ..	1,364·5	1,187·1	2,617·1	559·4	912·7	786·5	2,966·7	4,300·0
1947-48 ..	1,492·0	1,214·0	2,703·0	594·1	998·0	802·3	2,893·0	4,429·0
1948-49 ..	1,558·0	1,223·4	2,909·0	615·9	1,014·0	768·0	3,036·0	3,909·0
1949-50 ..	1,637·0	1,285·0	2,914·0	705·0	1,052·0	722·0	2,833·0	4,093·0

TABLE III

Outturns of crops in terms of percentages of the normal outturn (Period 1931—40)

District	Years									
	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Sagar	77	95	84	79	86	92	88	91	99	71
Jabalpur	77	89	76	73	92	78	81	82	76	73
Manala	80	108	64	86	81	78	86	86	95	74
Hoshangabad	81	85	83	82	75	83	79	74	72	70
Nimar	102	66	92	91	66	92	81	82	81	79
Betul	94	88	72	78	68	70	76	76	83	72
Chhindwara	77	79	68	80	68	62	77	73	72	65
Wardha	96	50	69	69	67	55	70	75	53	78
Nagpur	95	58	64	68	74	57	63	73	49	67
Chanda	105	96	88	90	90	77	88	96	76	76
Bhandara	76	108	94	106	95	91	99	95	86	70
Balaghat	87	118	109	101	105	92	105	87	102	74
Durg	96	110	99	104	100	77	97	97	96	80
Raipur	89	108	102	98	109	75	97	87	98	85
Bilaspur	97	112	98	96	106	87	112	97	100	91
Akola	81	53	72	74	70	56	68	73	54	78
Amravati	78	50	70	69	64	63	84	80	65	80
Buldana	76	37	70	77	69	65	72	65	67	77
Yeotmal	91	56	58	57	61	61	62	85	75	88
Average for C. P.	89	92	89	87	88	77	81	85	86	81
Average for Berar	82	49	67	69	67	61	71	75	66	81
Average for C. P. and Berar	87	80	80	82	82	73	83	83	81	81

Source—Season and Crop Reports—Statement V.

TABLE IV

Outturns of crops in terms of percentages of the normal outturn (Period 1941—50)

District	Years									
	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Sagar	80	72	83	67	78	68	50	66	84	75
Jabalpur	59	38	82	76	81	74	56	80	87	76
Mandla	60	42	74	93	85	89	72	85	85	78
Hoshangabad	78	59	75·5	65	65	65	46	54	80	71
Nimar	95	77	80	82	71	78	46	70	49	65
Betul	69	60	69	79	68	57	40	55	64	73
Chhindwara	66	58	73	73	71	61	44	55	70	75
Wardha	80	77	74	79	63	62	50	56	44	67
Nagpur	73	68	68	79	56	57	46	55	54	68
Chanda	90	75	91	104	88	78	68	87	76	77
Bhandara	89	74	112	100	97	88	66	86	83	76
Balaghat	68	44	105	96	86	91	68	91	78	76
Durg	66	65	88	103	91	87	67	78	78	71
Raipur	54	57	99	104	91	85	62	88	80	76
Bilaspur	46	51	91	103	93	86	86	89	90	76
Raigarh	..	..	..	..	..	..	..	..	..	..
Surguja	..	..	..	..	..	..	..	..	..	..
Bastar	..	..	..	..	..	..	..	..	..	..
Akola	83	77	66	82	65	68	47	74	44	70
Amravati	87	84	70	87	70	68	51	85	45	70
Buldana	93	72	68	83	69	70	62	71	51	72
Yeotmal	82	81	66	81	74	70	58	73	45	72
Average for C. P.	69	61	85	86	80	75	58	70	75	..
Average for Berar	86	79·5	68	83	69	69	54	76	46	..
Average for C. P. and Berar	74	66	80	85	77	74	57	71	68	73

Source—Season and Crop Reports—Statement V.

TABLE V

Area and production of important crops in Madhya Pradesh and deviations from the decennial means

(In thousands)

Year	Decade ending 1940				Decade ending 1950						
	Acreage		Production		Acreage				Production		
	Area in acres	Percentage deviation from the decennial mean	Quantity in tons	Percentage deviation from the decennial mean	Year	Area in acres	Percentage deviation from the decennial mean	Percentage deviation from the average of the preceding decade	Quantity in tons	Percentage deviation from the decennial mean	Percentage deviation from the average of the preceding decade
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1931	23,454	+2·3	4,109	−0·2	1941	22,629	+1·8	—1·3	3,448	—7·8	—16·3
1932	23,460	+2·4	4,093	−0·6	1942	22,751	+2·3	—0·7	2,925	—21·8	—28·9
1933	22,676	−1·1	4,080	−1·0	1943	22,339	+0·5	—2·6	4,079	+9·1	−1·0
1934	23,138	+1·0	4,223	+2·5	1944	23,277	+4·7	+1·6	4,265	+14·1	+3·5
1935	22,965	+0·2	4,306	+4·5	1945	22,318	+0·4	—2·6	4,101	+9·7	—0·4
1936	22,769	−0·7	3,922	−4·8	1946	21,984	−1·1	—4·1	3,863	+3·3	—6·5
1937	22,886	−0·6	4,219	+2·4	1947	21,929	−1·4	—4·3	2,975	−20·4	—27·8
1938	22,822	−0·4	4,240	+2·9	1948	21,264	−4·4	—7·2	3,945	+5·5	—4·2
1939	22,615	−1·3	4,062	−2·4	1949	21,852	−1·7	—4·7	3,738	..	—9·2
1940	22,406	−2·2	3,938	−4·4	1950	22,094	−0·6	—3·6	4,053	+8·3	—1·6
Average for 10 years	22,919	..	4,119	..	..	22,234	..	−2·8	3,739	..	—9·2

TABLE V-A

Statement showing the production of certain crops in Madhya Pradesh

(In thousand tons)

Year	Rice	Juar	Tur	Kodon kutki	Til	Cotton (in bales)	Sugar-cane	Wheat	Gram	Masur	Linseed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Average for decade— 1930-40	1,593·3	915·0	988·0	159·1	36·1	695·4	46·3	658·0	219·4	51·0	92·9
1940-41	1,100·0	979·0	95·0	104·0	39·0	919·1	51·0	572·0	197·0	53·0	97·0
1941-42	891·6	880·8	103·1	143·1	39·7	1,007·9	46·9	389·6	157·4	40·9	53·6
1942-43	1,829·2	996·6	114·9	167·4	35·4	536·5	37·8	570·9	180·8	36·9	74·5
1943-44	1,829·1	1,260·6	124·4	188·9	33·0	636·7	43·1	370·2	180·6	43·4	79·6
1944-45	1,724·6	1,067·6	89·8	147·2	25·3	475·5	52·0	503·3	257·1	64·1	78·4
1945-46	1,641·2	1,019·0	91·9	139·5	23·7	545·5	56·8	436·0	227·9	56·0	73·9
1946-47	1,400·6	824·9	69·7	126·5	30·1	471·4	54·3	111·6	192·5	32·2	48·7
1947-48	1,704·0	1,197·0	86·0	134·0	33·0	573·9	68·0	261·0	243·0	49·0	69·0
1948-49	1,720·0	751·0	84·0	142·0	26·0	346·4	63·0	408·0	330·0	69·0	84·0
1949-50	1,893·0	891·8	84·0	138·0	25·0	289·1	60·0	435·0	274·0	57·2	83·0

Year	Ratoon		Planted		Total
	Irrigated	Unirrigated	Irrigated	Unirrigated	
(1)	(2)	(3)	(4)	(5)	(6)
1939-40 ..	6,757	147	20,597	2,516	30,017
1940-41 ..	6,436	133	23,654	3,036	33,259
1941-42 ..	6,884	206	22,253	2,838	32,181
1942-43 ..	5,354	329	18,222	2,593	26,498
1943-44 ..	5,888	203	20,886	1,993	28,970
1944-45 ..	9,687	281	23,020	2,157	35,145
1945-46 ..	10,864	687	25,829	3,141	40,521
1946-47 ..	9,917	1,237	26,822	3,653	41,629
1947-48 ..	15,263	1,944	36,209	5,157	58,573
1948-49 ..	14,053	2,423	34,194	8,074	58,744
1949-50 ..	13,224	2,914	25,991	5,252	47,381

PART II

Note on the Consolidation of Holdings by Shri S. M. Seth, I.A.S., Director of Land Records Madhya Pradesh

1. Consolidation of holdings, popularly known as "Chakbandi" in the Chhattisgarh tract denotes, as the term implies, consolidation of scattered agricultural holdings. Extreme fragmentation of holdings in Chhattisgarh was the legacy of the now obsolete practice of Lakha Bata which was a device to equalize the holdings of land by periodical distribution of fields in the village so as to ensure that each cultivator in turn got his share of different kinds of land. Though the need for consolidation of holdings was great, neither the private attempts to bring about consolidation based on voluntary exchange of fields, nor the efforts of revenue and settlement officers to evolve a simple system of consolidation could achieve much and it was not till the Consolidation of Holdings Act was passed in 1928 could any progress be made to remedy uneconomic management or inefficient cultivation of land which was constantly subjected to progressive fragmentation. An idea of the seriousness of the problem can be had from the fact that an average holding of ten acres was spread over 30 to 40 scattered patches.

2. After the passing of the Consolidation Act in 1928, a modest beginning was made and one party of field workers under a consolidation officer started work in the Raipur, Bilaspur and Durg districts. Once the early prejudice for consolidation vanished and the advantages secured became more and more clear, its popularity increased so steadily that even the levy of a small fee per each consolidated acre did not in any way affect it. In order to cope with the increasing demand for consolidation separate consolidation staff was provided for each of these three districts in the year 1937 after which there was encouraging progress almost till the world war II gave a set back to the process resulting in the staff being disbanded in the year 1945. The work was, however, resumed with one party in 1946 and in 1948 the Consolidation of Holdings Act was extended to the Sagar district in order to consolidate the area ploughed under the tractor scheme.

3. During the last twenty-five years, 2,720 villages, involving an area of 2,418,851 acres belonging to 252,513 permanent holders were consolidated and the number of khasra numbers was reduced from 4,893,451 to 898,762. Consolidation fee was first levied at four annas per acre but it was increased from time to time and is now twelve annas per acre. During the last twenty-five years, the total expenditure incurred on consolidation amounts to Rs. 10,46,185 while the total receipts in the shape of consolidation fees are Rs. 6,16,393. Unlike consolidation in the rice tract, consolidation of holdings in the wheat tract of the Sagar district is still in the experimental stage and no fee is being charged for consolidation in that district.

The average size of a khasra number in the villages consolidated in the Chhattisgarh tract rose from 0·48 acre before consolidation to 2·7 acres after consolidation, while in the Sagar district the average area of a khasra number rose from 2·55 acres to 4·08 acres.

4. As regards the future of consolidation, the prospects are bright and consolidation which was so far confined to the rice tracts is gaining new popularity in the wheat area. Even in the rice tract what has so far been accomplished is only a fraction of what can be done, but the future possibilities of consolidation are closely connected with the problem of finance as even with the increase in consolidation fee the wide gap between income and expenditure is not likely to be bridged.

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50

	No. of villages for which schemes are prepared	Area consolidated	No. of permanent holders	Khasra numbers before chakbandi	Khasra numbers excluded from chakbandi *i.e.*, baris and kothers	Net khasra numbers after chakbandi	Percentage reduction of col. (7) on col. (5)	Expenditure	Rate per acre	Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Acres						Rs.	Rs. a. p.	
Voluntary basis	9	6,242	387	15,825	540	2,174	86	..	..	..
December 1926 to September 1928.	10	10,051	769	25,804	1,641	4,373	82	23,369	1 7 0	..
October 1928 to September 1929.	22	19,677	1,352	56,558	2,783	6,680	88	15,671	0 12 8	..
October 1929 to September 1930.	79	53,752	5,179	101,834	7,469	20,524	78	19,501	0 5 10	..
October 1930 to September 1931.	58	59,723	4,740	108,057	5,724	15,489	85	19,866	0 5 6	..
Total ..	178	149,445	12,427	308,078	18,157	49,240	83	78,407	0 8 5	.

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50—cont.

	No. of villages for which schemes are prepared	Area consolidated	No. of permanent holders	Khasra numbers before chakbandi	Khasra numbers excluded from chakbandi *i. e.*, baris and kotharas	Net khasra numbers after chakbandi	Percentage reduction of col. (7) on col. (5)	Expenditure	Rate per acre	Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Acres						Rs.	Rs. a. p.	
October 1931 to September 1932.	103	113,364	9,763	281,209	13,631	24,808	91	22,696	0 3 8	22,700
October 1932 to September 1933.	121	115,464	10,860	297,565	12,438	29,627	90	24,598	0 3 5	28,866
October 1933 to September 1934.	127	118,154	10,246	184,912	11,705	40,359	77	26,738	0 3 7	29,572
October 1934 to September 1935.	179	175,959	14,528	356,080	20,810	60,414	82	41,798	0 3 10	44,045
October 1935 to September 1936.	220	222,285	19,774	497,739	27,580	76,563	84	45,867	0 3 4	55,640
October 1936 to September 1937.	263	238,853	21,785	507,915	32,826	79,926	83	48,989	0 3 3	59,766
October 1937 to September 1938.	252	220,152	25,797	481,715	39,173	79,874	82	67,230	0 4 11	55,063
October 1938 to September 1939.	242	218,564	25,184	421,232	42,101	90,530	76	67,747	0 4 11	54,636
October 1939 to September 1940.	252	202,033	24,909	370,323	40,588	79,767	76	64,901	0 5 1	50,520
October 1940 to September 1941.	137	111,785	11,681	219,869	15,726	39,479	81	56,928	0 9 1	42,164
October 1941 to September 1942.	135	120,895	16,882	230,362	27,705	51,461	75	49,737	0 6 7	41,410
October 1942 to September 1943.	140	118,871	16,642	235,313	25,651	51,346	76	63,659	0 8 7	43,777
October 1943 to September 1944.	129	98,160	12,861	175,522	16,236	41,238	77	65,254	0 10 8	36,763
October 1944 to September 1945.	32	30,330	3,521	63,444	5,248	22,094	67	30,117	1 0 0	11,909
October 1945 to September 1946.	..	..	..	..	..	..	..	..	..	..
Total ..	2,332	2,104,869	224,433	4,323,200	331,418	767,486	80	676,259	0 5 1	576,831
Grand Total ..	2,510	2,254,314	236,860	4,631,278	349,575	816,726	82	754,666	0 5 1	576,831
October 1946 to September 1947.	18	11,894	1,341	33,581	1,748	6,526	80	24,781	2 1 0	4,446
Grand Total ..	2,528	2,266,208	238,201	4,664,859	351,323	823,252	..	779,447	..	581,277

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50—Contd.

	No. of villages for which schemes are perpared	Area consolidated	No. of permanent holders	Khasra numbers before chakbandi	Khasra numbers excluded from chakbandi *i.e.*, baris and kothers	Net khasra numbers after chakbandi	Percentage reduction of col. (7) on col. (5)	Expenditure	Rate per acre	Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Acres						Rs.	Rs. a. p.	Rs. a.
October 1947 to September 1948.	30	24,479	2,999	63,065	10,050	17,056	87	36,576	1 8 4	9,180 0
October 1948 to September 1949. (Raipur)	30	23,042	3,054	55,077	7,810	18,373	78	34,058	1 7 8	9,489 4 *i.e.* 5,863 9 @ 0 6 per acre 3,625 11 @ 0 8 per acre
Sagar	45	32,848	2,592	15,046	..	9,102	40	37,193	1 2 2	No cost levied.
Grand total from 1926 to 1949.	2,633	2,346,577	246,846	4,798,047	369,183	867,783	82	9,87,274	0 4 1	15,99,946 4
October 1949 to September 1950. (Raipur)	41	34,661	3,274	82,093	5,976	22,832	78	39,978	1 2 4	16,447 1
Do. (Sagar)	46	37,513	2,393	13,317	2,919	8,147	39	18,933	0 8 1	No cost levied.
Total for 1949-50	87	72,274	5,667	95,410	8,895	30,979	68	58,911	..	16,447 1
Grand Total 1926 to 1950	2,720	2,418,851	252,513	4,893,451	378,078	898,762	82	10,46,185	0 7 0	6,16,393 5

PART III

Note on the Net Consumable Grain (Rice, Wheat and Juar) in Madhya Pradesh (excluding merged territories) by Shri P. B. Dixit, Officer on Special Duty, Survey Reports (Department of Agriculture)

The Department of Land Records, Madhya Pradesh, is the only authority publishing the figures of area and production of all the crops and hence there is no scope for any controversy over the reliability of the information as has been reported in the Rajasthan note.

Rice, wheat and juar are the three most important foodgrains of this State. Their production is estimated to be more than ninety per cent of the total production of cereals and millets. Therefore only these three crops have been dealt with for calculating the net consumable grains.

The net consumable grain has been worked out after making the following deductions from the total productions :—

(1) Seed,

(2) Losses in storage due to driage, dampness and weevilling, etc., losses in transit and losses due to mishandling,

(3) Losses in processing (grinding),

(4) Stock feeding.

1. **Seed.**—The per acre seed rates differ from tract to tract and according to the systems of sowing as noted below :—

Rice.—80 lbs. to 100 lbs. in broadcast system.
60 lbs. to 100 lbs. in transplantation.

Wheat.—40 lbs. in Berar to 120 lbs. in Haveli tract of the northern districts.

Juar.—4 lbs. to 6 lbs. in Berar, 8 lbs. to 12 lbs. in the plateau and northern districts.

The average seed requirements for the three crops work out to be about one-tenth, one-eighth and one-sixtieth of the total production of rice, wheat and juar respectively. The estimates given in the statements are based on these proportions with due regard to the rise or fail in area and production.

2. **Losses in storage,etc.**—The surveys conducted by the marketing section of the Agriculture Department show that the loss in storage due to driage in hotter parts of the year, dampness during rains and due to insects and rats, etc., on an average amounts to 2·5 per cent of the total production. In juar, however, the loss in storage is greater than in the other two grains, firstly because in some parts of the state it is stored in underground pits, whereby some of the grain becomes completely unfit for human consumption, and secondly due to its being more susceptible to weevil than the other grains in coal of storage in bags. The total loss in juar, therefore, has been estimated at 3·5 per cent. About 0·5 per cent of the total production is estimated to be completely lost due to mishandling on the farm and in the process of marketing and distribution.

For loss in transit only the marketable surplus is taken into account. The average loss in transit is estimated to be one per cent but as only a part of the marketable surplus is involved in long distance movement, a loss of 0·5 per cent only has been spread over the total marketable surplus.

3. **Losses in processing.**—About one per cent of the quantity processed is taken to be completely lost. In case of wheat, however, the bran is separated before the flour is used in the kitchen. Bran forms about 14 to 15 per cent of the whole wheat. But all consumers of wheat do not remove the bran to this extent, while some people do not remove it at all, and therefore the loss on this account has been estimated at 5·0 per cent only.

4. **Stock feeding.**—In general practice rice and wheat are not fed to the live stock. In case of juar, however, it is customary to feed working bullocks with cooked juar on pola day (a bullock festival). Young oxen calves below one year in age are also fed juar flour along with a small quantity of sweet oil and salt for about four months. It is estimated that about 3·5 per cent of the total production of juar is used for stock feeding.

Statement showing the net availability of the three food grains for human consumption are appended herewith. The position of all the grains put together is summarised below :—

[Thousand tons]

Particulars	Period					
	Decennium ending 1929-30		Decennium ending 1939-40		Decennium ending 1949-50	
	Quantity	Percentage of production	Quantity	Percentage of production	Quantity	Percentage of production
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Production	3,137·0	..	3,280·0	..	3,004·0	..
(2) *Deduct*—						
(i) Losses	198·6	6·3	203·5	6·2	185·9	6·2
(ii) Seed requirements ..	248·0	7·9	263·0	8·0	244·0	8·1
(3) Balance left	2,690·4	85·8	2,813·5	85·8	2,574·1	85·7
(4) Net exports	68·0	2·2	186·0	5·7	74·0	2·5
(5) Net available for human consumption.	2,622·4	83·6	2,627·5	80·1	2,500·1	83·2

Four statements showing the details of production and losses, etc., are appended herewith.

AVERAGE ANNUAL AVAILABILITY OF RICE, WHEAT AND JUAR IN MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)

(In thousand tons)

Particulars	Decennium ending 1929-30				Decennium ending 1939-40				Decennium ending 1949-50			
	Rice	Wheat	Juar	Total	Rice	Wheat	Juar	Total	Rice	Wheat	Juar	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Production ..	1,443·0	706·0	988·0	3,137·0	1,625·0	664·0	991·0	3,280·0	1,573·0	400·0	1,031·0	3,004·0
(2) *Deduct*—												
(*i*) Total losses	58·4	55·8	84·4	198·6	65·6	53·0	84·9	203·5	63·1	34·5	88·3	185·9
(*ii*) Seed requirements.	144·0	88·0	16·0	248·0	163·0	83·0	17·0	263·0	175·0	50·0	19·0	244·0
	202·4	143·8	100·4	446·6	228·6	136·0	101·9	466·5	238·1	84·5	107·3	429·9
(3) Balance left ..	1,240·6	562·2	887·6	2,690·4	1,396·4	528·0	889·1	2,813·5	1,334·9	315·5	923·7	2,574.1
(4) *Deduct*—net exports (—).	—22·0	—44·0	—2·0	—68·0	—161·0	—32·0	..	—193·0	—103·0	..	—2·0	—105.0
Or *add* net imports (+).	..	..	..	..	..	..	+7·0	+7·0	..	+31·0	..	+31 0
(5) Net available for human consumption.	1,218·6	518·2	885·6	2,622·4	1,235·4	496·0	896·1	2,627·5	1,231·9	346·5	921·7	2,500·1

AVERAGE ANNUAL AVAILABILITY OF RICE FOR HUMAN CONSUMPTION IN MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)

(In thousand tons)

Item	Decennium ending		
	1929-30	1939-40	1949-50
(1)	(2)	(3)	(4)
(1) Production	1,443·0	1,625·0	1,573·0
(2) *Deduct*—the losses estimated on total production—			
(*i*) in storage due to driage, dampness and insects, etc., at 2·5 per cent.	36·1	40·6	39·3
(*ii*) losses due to defective handling on the farm and mishandling in marketing and distribution, etc., at 0·5 per cent.	7·2	8·1	7·9
Total (*i*) and (*ii*) ..	43·3	48·7	47·2
(3) Balance	1,399·7	1,576·3	1,525·8
(4) *Deduct*—seed requirements	144·0	163·0	175·0
(5) Balance left for conversion as rice	1,255·7	1,413·3	1,350·8
(6) *Deduct*—losses in—			
(*i*) Processing at 1 per cent	12·6	14·1	13·5
(*ii*) Transit at 0·5 per cent of the marketable surplus	2·5	2·8	2·4
Total (*i*) and (*ii*) ..	15·1	16·9	15·9
(7) Balance	1,240·6	1,396·4	1,334·9
(8) *Deduct*—Net exports	22·0	161·0	103·0
(9) Balance—estimated to have been utilised for human consumption.	1,218·6	1,235·4	1,231·9

N. B.—Marketable surplus in the preceding two decades was 34 per cent of the production while in the present decade it is 30 per cent.

AVERAGE ANNUAL AVAILABILITY OF WHEAT FOR HUMAN CONSUMPTION IN MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)

(In thousand tons)

Item	Decennium ending		
	1929-30	1939-40	1949-50
(1)	(2)	(3)	(4)
(1) Production	706·0	664·0	400·0
(2) *Deduct*—the losses estimated on total production—			
(*i*) in storage due to driage, dampness and insects, etc., at 2·5 per cent.	17·7	16·6	10·0
(*ii*) due to defective handling on the farm and mishandling in marketing and distribution at 0·5 per cent.	3·5	3·3	2·0
Total (*i*) and (*ii*)	21·2	19·9	12·0
(3) Balance	684·8	644·1	388·0
(4) *Deduct*—seed requirements	88·0	83·0	50·0
(5) Balance	596·8	561·1	338·0
(6) **Deduct*—losses in transit at 0·5 per cent of the marketable surplus.	1·5	1·4	0·4
(7) Balance	595·3	559·7	337·6
(8) *Deduct*—net exports (−) or add net imports (+)	−44·0	−32·0	+31·0
(9) Balance left for conversion into flour	551·3	527·7	368·6
(10) *Deduct*—losses in processing—			
(*i*) in the form of bran which is seived out before actual use in the kitchen at 5·0 per cent.	27·6	26·4	18·4
(*ii*) completely lost in processing at 1 per cent	5·5	5·3	3·7
Total (*i*) and (*ii*)	33·1	31·7	22·1
(11) Balance—estimated to have been utilised for human consumption.	518·2	496·0	346·5

**N. B.*—Marketable surplus in the preceding two decades was 41·6 per cent while in the present decade it is only 21·5 per cent.

AVERAGE ANNUAL AVAILABILITY OF JUAR FOR HUMAN CONSUMPTION IN MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)

(In thousand tons)

Item	Decennium ending		
	1929-30	1939-40	1949-50
(1)	(2)	(3)	(4)
(1) Production	988·0	991·0	1,031·0
(2) *Deduct*—the losses estimated on total production—			
(*i*) *in storage due to driage, dampness and insects,* etc., at 3·5 per cent.	*34·6*	*34·7*	*36·1*
(*ii*) losses due to defective handling on the farm and mishandling in marketing and distribution at 0·5 per cent.	4·9	5·0	5·2
(*iii*) stock feeding at 3·5 per cent	34·6	34·7	36·1
Total (*i*), (*ii*) and (*iii*)	74·1	74·4	77·4
(3) Balance	913·9	916·6	953·6
(4) *Deduct*—seed requirements	16·0	17·0	19·0
(5) Balance	897·9	899·6	934·6
(6) **Deduct*—the losses in transit at 0·5 per cent of the marketable surplus.	1·4	1·5	1·6
(7) Balance	896·5	898·1	933·0
(8) *Deduct*—net exports (−) or add net imports (+)	−2·0	+7·0	−2·0
(9) Balance left for conversion into flour, etc.	894·5	905·1	931·0
(10) *Deduct*—the losses in processing at 1·0 per cent	8·9	9·0	9·3
(11) Balance—estimated to have been utilised for human consumption.	885·6	896·1	921·7

**N. B.*—The marketable surplus in all the three decades has been estimated at 30 per cent of the production.

APPENDIX I

Distress caused in Madhya Pradesh by wars, famines, scarcities and pestilence in the past

1. The history of the distress and loss of life as a result of wars, scarcities and famines of the past up to 1902 is well illustrated in the following paragraphs from the "Imperial Gazetteer of India, Provincial Series, Central Provinces" (1908) (pages 70—74):—

"The earliest scarcities of which accounts are available resulted from political disturbances rather than climatic causes. War and its effects account for distress which prevailed in the Upper Nerbudda Valley during the years 1771, 1783 and 1809. It is recorded that in 1771 wheat sold in Narsinghapur at 10 lbs. to the rupee. In 1803 a failure of the rains caused a famine in Nimar and Hoshangabad, which had already suffered greatly from the inroads of Sindhia's armies. The famine is still known in Nimar as the "Mahakal", when grain sold at 1 lb. per rupee or about two or three hundred times its price in seasons of prosperity. In 1818-19 the Nagpur country and the districts, north of the Nerbudda, suffered from a famine caused by the failure of the autumn rains and excessive rain during the following cold season. Acute famine prevailed for months in these localities, and in Jubbulpore wheat sold at 8 lbs. to the rupee. *In Nagpur many of the poorer cultivators are reported to have sold their children into slavery.* From 1823 to 1827 the districts of Seoni and Mandla suffered from a succession of short crops due to floods, hail and blight, and many villages were deserted. In 1825-26, according to oral tradition, famine attended with loss of life occured in Nagpur, and it is said that many people died after eating the cooked food which was doled out to them at the Raja's palace. In 1828-29 there was a famine in Raipur and Bilaspur, the price of grain rising from about 300 to 24 lbs. a rupee. In 1832-33 excessive rain followed by drought was the cause of severe distress in the Nerbudda Valley, the Nagpur country, and Berar. *Heavy mortality occurred in Betul, and 5,000 people are said to have died in the city of Nagpur. In Wardha children were sold for 10 lbs. of grain.* The following year, owing to a failure of the autumn rain, the spring crop area of Jubbulpore district was left practically unsown and the prices reached 16 lbs. per rupee. Grain was imported by Government agency into Seoni and Mandla. In 1834-35 a partial failure occurred in Chhattisgarh, and in spite of the export of grain being prohibited, prices rose to 15 or 20 times their normal level. Drought in 1845 caused severe distress in Nimar and Chhattisgarh; and in 1854-55 a visitation of rust destroyed the wheat crop of the northen districts, and is still well remembered by the people as a parallel to the similar disaster of 1894-95. *Parents sold their children in Damoh, and many deaths from starvation were recorded in Saugor.* In 1868, the year of the Bundelkhand famine, the rains ended abruptly a month before the due time; but a heavy fall in September saved the situation over the greater part of the country, and acute distress was confined to the Vindhyan districts, the Wainganga rice tracts, and Chhattisgarh. Distress was, however, severe in these areas. *Hundreds of deaths were reported to have occurred from starvation, and the ordinary mortality is estimated to have been terbled.* About 17 lakhs was expended on relief."

"The famine of 1868-69 was followed by a period of years of prosperity, broken only by the failure in 1886 of the rice crop of Chhattisgarh. From 1893 commenced the recent cycle of bad years. In that year, and in 1894 and 1895, the spring crops of the northen districts were spoiled by excessive winter rain. In 1894 the wheat was almost entirely destroyed by rust in Saugor and Damoh, and distress ensued. Road works were opened, but the numbers on them never reached 20,000, and only about a lakh was expended on relief. Both in 1894 and 1895 the rice crop was also severely damaged on the threshing floors by the late rain. In 1895 the monsoon stopped abruptly in the middle of September; the autumn crops were poor, and the spring harvest realized about half a normal yield on a diminished area. Four years of poor harvests thus preceded the failure of 1896, when the rains, which up to then had been plentiful and even excessive, stopped suddenly at the end of August. The effect of the drought was the destruction of the autumn crops, with the exception of irrigated rice, cotton and *juar*. The spring crops were fair, but owing to the dryness of the soil only half the normal area was sown. The all-round outturn was 56 per cent of an average crop, but the distress was greatly aggravated by the failures of the preceding years. Severe famine prevailed throughout 1897, except Nimar, Chanda and Sambalpur, which partially escaped. Direct expenditure on famine relief was about 1½ crores, and indirect expenditure, famine loans, remissions of land revenue and charitable relief made up another crore. *The Provincial death-rate for the year was 69 per mille, as against 32·4 during the decade 1881—91*; the mortality was especially severe during the monsoon months. Owing partly to the wide area over which this famine extended, and partly to the deficiency of transport, prices ruled high, the extreme point reached being 12½ lbs. per rupee in Balaghat. The largest number relieved was 703,000, or 8·5 per cent of the population affected, on the 29th May. The famine of 1897 was followed by two years of fairly good harvests, but in 1899 occurred the most complete failure of the rainfall ever known. Only five districts received more than half their average rainfall, and five received only a third. The wheat crop was above half an average in six of the northern districts; but over the rest of the Province both crops failed completely, the all-round outturn for the Province being only a quarter of the normal. *Famine prevailed in all districts from October 1899 to November 1900, and the deficiency of the rainfall led to severe epidemics of cholera, dysentry, diarrhoea and other diseases resulting from bad water.* The administration of this famine was extremely liberal and efficient, the direct expenditure being nearly 4½ crores, while indirect expenditure and remissions of the revenue added another crore and 30 lakhs. The numbers on relief exceeded 2¼ millions, or 23 per cent of the population of the affected tract, in July 1900 and the total number of units relieved for one day was 55 millions. In spite of the greater severity of the famine, prices were generally lower by from 1 to 3 lbs. per rupee than in 1897, the imports of Bengal rice assisting materially to keep them down. The highest price for the cheapest foodgrain was 14½ lbs. per rupee in Chhindwara. *The mortality for the year was 57 per mille, and was greatly aggravated by diseases due to the scarcity and bad quality of water.* After two more fairly good seasons a prolonged break in the rains between the last week of July and the last week of August 1902 caused a failure of the rice crop in Raipur and the Wainganga Valley. Famine was confined to Raipur, which reaped only a third of an average crop."

2. Describing the effects of the big famines of 1897 and 1900 on the population growth, the following observations are made in the "Imperial Gazetteer" (page 22):—

"This period was the most disastrous through which the Central Provinces have had to pass since the Maratha Wars of the beginning of the Century. In 1897 and 1900 occurred two famines of the first magnitude, occasioned by complete failures of both harvests, and effecting nearly the whole area of the Province. In four other years there were partial failures of crops, and in seven out of ten years, severe epidemics of cholera. Of the decrease, which exceeded 800,000 persons, between an eighth and a quarter is probably due to emigration to Assam and other Provinces, and the remainder to the effect of these calamities, which the utmost efforts of the Administration could only partially obviate."

3. The above account of the famines and scarcities relates to the period up to 1902. After 1902, although no famine or scarcity has caused so much distress as the great famines of the past, there have been repeated serious failures of crops in different years resulting in the declaration of famine or scarcity conditions in different parts of the State. The influenza epidemic of 1918-19 was, however, a calamity of unprecedented scale.

4. After the great famine of 1899-1900, the State was in a process of recovery when the famine and scarcity conditions of 1907-08 appeared. The Famine and Scarcity Report of the Central Provinces and Berar for 1907-08 contains the following significant brief review of the previous calamity :—

" The Central Provinces and Berar, including the Feudatory States, have a population, as recorded at the Census of 1901, of over 13½ millions, more than 70 per cent of whom are directly dependent on agriculture. The provinces suffered severely in the great famines of 1896-97 and 1899-1900. In the former the number of persons on relief, in the Central Provinces alone, rose at one time to 692,000 or 6·41 per cent of the population, while in Berar, which escaped comparatively lightly, over 40,000 persons were relieved on famine works, and gratuitous relief was given on a small scale. That famine was, in the Central Provinces, the culminating point of a series of bad seasons especially in the northern districts ; in the short interval which followed it, and preceded the greater calamity of 1899, the harvests were fair, but were not sufficient to restore the exhausted resources of the people, with the result that when the famine of 1899-1900 came and the distress was deepest no less than 2,322,000 persons in the Central Provinces received relief at the hands of the State, while in Berar over 601,000 were relieved. In either province these figures represented more than a fifth of the population. The effect of the famines was seen at the Census of 1901, when it was found that the population of the Central Provinces, where the decade had been one of almost unbroken hardship, had decreased by 8·3 per cent. In Berar, which had escaped lightly up till 1899, the figures did not tell the same mournful tale, but there was nevertheless a small decrease in the population. In 1900-01 the net cropped area of the combined provinces was nearly a million acres smaller than in 1893-94."

5. The tracts, which were worst affected during 1907-08, were described in the Famine and Scarcity Report as follows :—

" The failure of the monsoon was most serious in the northern half of the provinces, and the tracts most severely affected were those where the soil is of poor quality, the people backward and cultivation of a low order. In these tracts the kharif crop is the most important and yielded an average outturn of less than 30 per cent of the normal. The rabi crops are as a rule not of much importance, and owing to the hardness of the soil and the want of moisture in it the rabi sowings were reported to be very short, averaging less than 40 per cent of the average. These tracts were, more particularly, the uplands of the Damoh district, the Banda tahsil and a small area in the south-east of the Saugor district, the Murwara tahsil and non-*haveli* portion of the Sihora tahsil in Jubbulpore, the Dindori tahsil of the Mandla district, and the north-eastern part of the Betul district. Their area may be put roughly at 6,600 square miles, and their population at 470,000 persons. It was in these tracts that there was greatest probability of regular famine relief being required, and it was here that it was first found advisable to grant village-relief and open village-works."

6. The other tracts of the State were reported to be less seriously or lightly affected. The conditions of the time are reviewed in the Central Provinces Revenue and Scarcity Department Resolution No. 497-X-63-2 of 18th March 1909 as follows :—

" The climatic conditions of the year 1907 bore a close resemblance to those of the famine year of 1896, and were so peculiarly unfavourable to agriculture as to give rise to widespread hardship amongst the agricultural classes. Not only was the rainfall deficient in quantity, but the time and manner of its distribution were abnormal. The monsoon opened late, more particularly in the Jubbulpore Division, and in June and July nearly every district in the Provinces received less than the average quantity of rain. This deficiency was most marked in the north of the Provinces, where a rainfall of less than half the normal was registered during these two months ; but the scattered showers which occurred were sufficient for the purposes of sowing, and though the germination was poor in the lighter soils, the condition of affairs during the early part of the monsoon was not such as to give rise to serious alarm. In the south of the Provinces the distribution of rain was more normal, and the prospects of crops up to the end of July were not unfavourable. During the latter part of July and the whole of August there was almost continuous rainfall, the amounts registered being in excess of the normal in 19 out of 22 districts (including Berar). Early in September the monsoon came to an abrupt termination. In the Nagpur and Chhattisgarh Divisions sufficient rain fell in the second week of this month to prevent an absolute failure of the kharif crops, but the distribution was capricious and the outturn of the crops consequently varied largely even in different parts of the same district. In the Nagpur and Chanda districts the kharif crops were not much below the normal, the outturn being approximately 75 per cent of what might be expected in an average year ; but in the remaining districts of these two divisions the outturn of kharif was little more than half the average. In the Jabalpur and Nerbudda Divisions there was an entire cessation of the rains in September, and this resulted in a more complete failure of the kharif crops than in the south of the Provinces. Already considerable damage had resulted from the continuous rain of August, and the hot September sun withered the plants before they reached maturity. Even in the better soils a partial failure of the kharif crops resulted while in the lighter soils the failure was almost complete, and in most of the northern districts the total kharif outturn was little more than one-third of the normal. The early termination of the monsoon was not without its effect on the rabi crops also. No rain fell in October and in the greater part of November ; and the rabi sowings of 1907 fell short of those of the previous year by 2,227,000 acres. Even where it was found possible to sow, the germination of the seed was defective and the outlook was decidedly gloomy, until at the close of November the much needed rain arrived ; the fall though not heavy was well distributed and was sufficient to avert complete disaster ; the condition of the standing crops at once improved, and on the restricted area sown the outturn of the spring crops considerably exceeded expectations, though the total produce was much below that of a normal year."

7. The conditions in the Nerbudda Division during 1907-08 are described as follows by the Commissioner in his Land Revenue Report of the year :—

" The year was an adverse one for the agricultural classes, and the failure of the harvest was bound to have a bad effect on their material prosperity. The smaller agriculturists and the labouring classes had a very hard time. To meet the situation Government forests were thrown open for the free removal of head-loads of fuel and grass and the free extraction of edible minor produce was also allowed. Road works under the management of the Public Works Department were started and liberal taccavi advances were made, which enabled several malguzars to start private works on which many poor agriculturists and labourers got work near their homes. These arrangements afforded sufficient support for the needy, and there was no unusual emigration or wandering in search of work. Gratuitous relief was also given where necessary.

There was no serious epidemic among cattle, but the shortage of fodder is reported to have caused deterioration in their condition, and a large number of them succumbed to the rigours of the rains."

8. Describing the distress caused in the Nagpur Division during the scarcity year 1907-08, the Commissioner observed in his Revenue Administration Report as follows :—

" The intensity of the crop failure in parts and the high pitch reached in the prices of foodgrains everywhere subjected the people to a severe strain. All the district reports indicate the very satisfactory resisting power exhibited by cultivators and labourers in meeting the effects of a season which a few years ago would, at least in parts, have involved extensive expenditure on famine relief. In the Balaghat report the Deputy Commissioner says with confidence that practically every cultivator was found to have some money or grain in reserve though they availed themselves freely of help from Government loans. In Bhandara it is remarked that the people met the situation in a manner very different from previous calamities. The high prices secured were no doubt a direct gain to those who had crops to sell and they were not a few. But no doubt on the whole there has been some increase of the indebtedness of agriculturists which of late especially in the cotton tracts has been on the decline. Such a result was inevitable, especially as marriages were pushed on owing to the approach of ' Singhast', but with a few good seasons the effect will disappear. A widespread misfortune was the very heavy mortality of cattle during July and August 1908, due partly to poor nourishment during the hot weather, but chiefly the continued rainfall which in many places was accompanied by a plague of caterpillars that as specially injurious to the grazing. Fairly liberal help in the way of taccavi will be needed on this account in the current year. The condition of the labouring classes remained satisfactory throughout. It is described as one of ' blatant prosperity ' in the Wardha report. There does not seem to have been even any general fall in wages, except in respect of manganese carting. Government Public Works Department, Irrigation and Forest Departments works were expanded, but even in Bhandara and Balaghat the demand for labour was often in excess of the supply."

9. The conditions of the cultivating classes during 1907-08 in the Chhattisgarh Division are described by the Commissioner as follows :—

"' In consequence of the very inferior kharif harvest the condition of the cultivating classes was naturally worse than it was n the previous year. But the extent of their deterioration was astonishingly small. The gratifying feature of the situation was hat people generally showed far more staying power than could possibly have been anticipated from the history of the last 10 or 12 years. It is true that cultivators, whose crops yielded anything at all, were in some measure compensated for a diminished outturn by the high prices prevailing, and that the previous year's kharif harvest had been superabundant. But after making full allowance for these two comparatively favourable circumstances there was nothing in the experience of the recent past to suggest that they would display the resource actually displayed by them. It now seems, however, that the lessons of the late famines have really been taken to heart. Even so the people could hardly be expected to pass, wholly unaided, through the ordeal with which they were confronted. Accordingly such action as seemed necessary was taken by Government to mitigate the effects of the widespread failure of crops. Revenue was suspended in villages where inquiry showed the need for suspension ; and the suspension was announced in good time. In a few places, revenue, which had been suspended in previous years, was remitted. Large sums were advanced for the improvement of land, a large amount being given out than had ever before been given out in the Division for this purpose. Large sums were also advanced, when the time for kharif sowings approached, for the purchase of seed and cattle. The Public Works Department programme of works was expanded in order to provide employment for labourers who might be in search of it. District Councils from their limited resources spent all that they could on public works. The Court of Wards was not behindhand in rendering aid to ease the situation. In the four northern Zamindaris of the Durg district, which are under the Court of Wards, the forests were thrown open for the free extraction of fruits and roots and head-loads of firewood. This example was followed in that district by Zamindars managing their own estates. Indeed, in many parts of the Division material assistance was given by private individuals who, with or without the help of *takavi* constructed tanks and field embankments and other works. In these various ways the necessity for measures of actual famine relief was avoided throughout the Division except in a very restricted area in the Bilaspur district. In the northern Zamindaris of Durg, where there was a marked failure of rice and kodon, actual distress was averted by a good mahua crop. But in the northern and western parts of Bilaspur, where there was an equally bad failure of rice and kodon, the mahua crop also failed ; and distress ensued. In the rainy season it was found necessary to distribute gratuitous relief here. But the total period for which relief was given nowhere exceeded three months; the total amount spent in relief was less than Rs. 6,500 ; and the total number of persons in receipt of relief at any one time never reached 1,750."

10. The losses sustained by the agricultural classes in the Jabalpur Division during the scarcity year 1907-08 are described by the Commissioner in the Land Revenue Report as follows :—

'The two previous years had been years of marked prosperity and while in the year under report the agricultural classes have sustained severe losses, their power of resistance to adversity has been a marked and satisfactory feature of the year throughout the Division.

The special measures taken to prevent distress due to the failure of the crops and the high prices of foodgrains have formed the subject of separate reports, and I need not dilate on them here. As the Deputy Commissioner of Saugor remarks in speaking of the condition of the people, the results show that 'We have simply been marking time for a year. We have not gone back, but are ready if given the chance to continue the advance made in the past six years', and all the district reports show that this is true for the Division as a whole.

The labouring classes have also suffered less than was to be expected ; the extension of the programme of ordinary works and the improvements carried out by the richer tenant and malguzars, either with their own money or by the aid of loans from Government, has enabled them to tide over the period of high prices and has prevented them from having to emigrate in search of work.

With the exception of a serious outbreak of malaria fever during the monsoon, there was no epidemic during the year, and in spite of the high price of food, there was no serious increase in the death-rate."

11. The next year of serious crop failure is reported in 1913-14, when, in their Resolution No. 762-X-63-II of 28th April 1915, the Revenue and Scarcity Department of the Central Provinces Administration made the following observations :—

" The year was one of serious crop failures, especially in the northern districts and in Chhattisgarh, owing to early and abrupt cessation of the rains of 1913. The kharif harvest was more or less of a failure everywhere ; the rabi harvest was much better, but the area on which it was sown was greatly restricted on account of want of moisture at sowing time. In the three districts of Jubbulpore, Damoh and Mandla it was found necessary to grant a small measure of direct famine relief, but elsewhere the situation was adequately met by the expansion of ordinary works, the grant of forest concessions, the suspension of land revenue and the distribution of takavi on a liberal scale. The people came through the ordeal without any manifestation of severe distress, and the most serious effect of the calamity was the depletion of wheat stocks. On the other hand, the Provinces were fortunately free from any widespread epidemic disease. The present season has been fortunately a good one and all traces of last year's trouble have practically disappeared."

12. The scarcity during 1913-14 was particularly severe in the northern districts. The following observations made by the Financial Commissioner in his Land Revenue Administration Report for 1913-14 about the conditions of the year are of interest :—

"The conditions of the year were such as to put the resources of the agricultural classes in many parts of the Province to a severe test, and the comparative ease with which they came through the ordeal has brought out very clearly the stability of the position attained by both cultivators and labourers as the result of a series of generally prosperous years. Malguzars and tenants with substantial holdings had sufficient reserves and took full advantage of the comparative cheapness of labour to build houses and improve their land ; the smaller tenants undoubtedly felt the pinch more severely, but with the assistance afforded by Government were able to eke out the scanty harvest in various ways ; and labourers, though they did not everywhere retain the commanding position which they had held in previous years, found ample employment at rates which at the worst assured them a living-wage in spite of the rise in the prices of all the staple-foodgrains. The extent and effect of the crop failure were by no means uniform and the amount of help required from Government varied considerably. In the Nagpur Division conditions were almost normal until the end of the year, when the fall in the price of cotton consequent on the outbreak of the European War had a disturbing effect in the cotton growing districts. In the other Divisions suspensions and remissions of revenue had to be granted on a liberal scale and there was a greatly increased demand for Government loans both for land improvement and for the purchase of seed-grain and cattle. The only district, however, in which there appeared any signs of actual distress calling for special relief measures were Jubbulpore, Damoh and Mandla, and here the situation was promptly and adequately met by an expansion of the work programmes of the Forest, Public Works and Irrigation Departments, the grant of forest concessions and the distribution of gratuitous relief doles on a strictly limited scale. Even in these districts, where the crop failure was most severe, the people showed great power of resistance and no permanent deterioration has resulted from the scarcity ; from Damoh it is reported that the kharif harvest of 1914-15 has been so good that the people have already forgotten last year's trouble. The year was a generally healthy one ; cholera and smallpox appeared in places in epidemic form, but plague was again almost entirely absent. In some districts cattle suffered some distress owing to shortage of fodder, but no abnormal mortality was reported."

13. The year 1918-19, again brought about scarcity and famine conditions accompanied by the abnormal influenza epidemic and the following description in the Revenue and Scarcity Department Resolution No. I-D-XII of 5th July 1920 is of interest :—

" In several respects the year 1918-19 has been one of the most remarkable in the revenue history of the province. The monsoon was uncertain at the start, and a prolonged break in July impeded the progress of the young kharif crops, the tension being somewhat relieved by some subsequent rain. But the monsoon practically failed altogether from the middle of September, being thus one of the most unfavourable on record. The crop prospects in October were thus very gloomy. The outturns of kharif crops were nowhere anticipated to be half the normal except in the few irrigated tracts, and in the Chhattisgarh and Jubbulpore Divisions the prospects were much worse. The drought affected most adversely the rabi sowings ; the area sown with rabi crops decreased by 30 per cent, the fall in the Chhattisgarh Division being no less than 53 per cent. To add to the difficulties of the season, *the influenza epidemic in October-November resulted in the most appalling mortality within the memory of man, the deaths being estimated at 5 per cent of the total population.* Moreover, prices continued to rise throughout the year to levels unknown in the worst famine years. Conditions thus pointed to the probability of a severe famine, and arrangements were rightly made for this contingency. The measures taken for the relief of distress will be fully described in the famine report, and it is sufficient in this resolution to state that in the most affected tracts suspensions of land revenue and rent were granted, agricultural loans were distributed on a liberal scale, ordinary works were expanded and relief works were started wherever there was a demand for labour, gratuitous relief was given on a liberal scale, and cheap grain shops were started in towns. *Famine or scarcity was declared in the whole or portions of 12 out of the 18 districts,* but the amount of relief required nowhere approached that forecasted as likely to be required. Unusual rain in November-December improved the prospects of the late kharif crops, and indeed turned the outturn of cotton in the Nagpur Division from an estimated half crop to a full yield. Rabi prospects were also improved, and with good winter rain, the outturn on the restricted area sown was excellent. The crop outturn of the year is estimated at 57 per cent of the normal o utturn on the normal area. The cultivators benefited largely by the very high prices at which they sold their produce, and were in no difficulty except in the few isolated tracts where the failure was most complete. The normal shortage of labour was aggravated by the appalling mortality caused by influenza, which resulted in a considerable rise in wages, and the demand for relief work was nothing like so large as had been anticipated. The result has shown that the greatly increased power of the population to resist famine conditions, caused by the great changes in economic conditions during the past decades, was considerably under-estimated. The numbers on relief were only a small fraction of those relieved in the great famine, and fell short of those of 1907-08, when crop failure was certainly not so great nor so widespread, and when there were not the aggravating circumstances of 1918-19. Thus the Province overcame this difficult year much better than was anticipated, and the reports testify to a remarkable power of recuperation when the favourable monsoon of 1919 brought a return of prosperity. It will take a few good years, however, to make a complete recovery in the worst affected tracts of the Jubbulpore Division and some jungle tracts in other Divisions. The Chief Commissioner acknowledges the promptness with which the officers of Government took all the measures necessary to prevent and alleviate distress. With one exception, the machinery for relief was always, as it should be, in advance of the necessity for the relief. The one exception was in the backward Mandla district, where communications are the worst in the Province and where, owing to the heavy cold-weather rain of January and February 1919, it was very difficult for the officers of Government to travel freely and gauge the distress as it arose. Apart from gratuitous relief and special arrangements for the import of grain to meet monsoon needs, the main measures taken in this district were works on the improvement of communications, which should render a future scarcity in the district more easy to handle."

14. In his Report on the Land Revenue Administration during 1918-19, the Financial Commissioner reviewed the distress caused by the scarcity conditions and the influenza epidemic as follows :—

" Owing to the large exports of previous years, the failure of the kharif crops caused a further rise in the price of all foodgrains and this, combined with the epidemic of influenza and the general high cost of living, caused much distress among the smaller cultivators and the labouring classes, with the result that relief measures were found necessary in 12 districts. These will be described in detail in the report on the famine relief measures of the year, and it will suffice to say here that liberal suspensions of revenue and rents, large grants of takavi and the starting of relief works, together with the opening of Government forests for the extraction of head-loads of grass and fuel and of edible products, enabled the people to weather the storm, while the power of recuperation which they subsequently exhibited surprised even those who knew them best. Labour was scarce, largely owing to the heavy influenza mortality, and so commanded high wages. In fact, many of the relief works which were opened failed to attract the number of workers which was expected. Such cultivators as were fortunate enough to reap a good rabi crop made large profits from the high prices which they were able to secure and in the cotton tracts the prosperity of recent years was fully maintained by the unexpectedly large crop which was picked and the very high rates which prevailed. Local stocks, however, were seriously depleted, but the situation was eased by the controlled import of rice from Bengal, Rangoon and Chhattisgarh, and the opening of

cheap grain shops afforded further relief. A considerable reduction was also effected in the price of kerosene oil and salt by the control which was undertaken by local bodies. The Commissioner of the Jubbulpore Division considers, however, that *it will be many years before the districts of that division recover their normal agricultural prosperity.* Apart from influenza, cholera prevailed in many districts, particularly in Jubbulpore, but the year was comparatively free from plague. Cattle disease appeared in a sporadic form over most of the Province, but was nowhere severe, though in Betul mortality was high owing to the scarcity of fodder. In a year like this, there is always a danger of the Malguzars of aboriginal castes parting with their villages owing to temporary difficulties, and it is satisfactory to find that in Mandla the Central Provinces Land Alienation Act, II of 1916, has been the means of preventing ill-considered transfers by aboriginal owners in temporary difficulties."

15. Describing the fall in the area of agricultural land, the Financial Commissioner makes the following further observations :—

" Owing to the character of the season there was little demand for land, and the area held by tenants, which has been steadily rising during recent years, fell again to the level attained in 1916-17, the fall being general to all parts of the Province. Only a small portion of the land abandoned passed into the cultivation of Malguzars, for while the tenant area fell by over thirty-eight thousand acres, the homefarm only increased by seven thousand."

16. The conditions in Berar during 1918-19, resulting from the influenza epidemic and inadequate and bad distribution of rainfall, have been described as follows in the Revenue and Scarcity Department resolution No. 322-C-XII of 20th April 1920 :—

" The annual report on the revenue administration of Berar was received three months late from the Commissioner, and the publication of this resolution is consequently delayed. The year was full of difficulties. The rainfall was short and badly distributed and stopped prematurely, and in October 1918 there were very gloomy forebodings regarding the prospects of the crops. At the same time the violent influenza epidemic reached its height and was responsible for the appalling mortality of over a quarter million deaths in a population which at the last census amounted to just over three million persons. In the best of years the division imports some of its food-stuffs, and the poor kharif outturn in 1918-19, coupled with the depletion of stocks due to inferior harvests in the two preceding years, increased largely the need for import just at the time when crop failure in other parts of India greatly increased the pressure on the already overtaxed railways Berar, however, overcame its difficulties better than was anticipated. The yield of the important juar crop was everywhere very poor, but the early winter showers improved the outturn of cotton, which was everywhere better than half the normal and in East Berar reached three-fourths of the normal. Wheat was practically a failure in the Buldana district, but again the eastern districts of Amraoti and Yeotmal obtained three-quarters of the normal outturn. The cultivators were saved by the abnormally high prices for which they sold their cotton, a record-rate being reached at the beginning of the season. These large profits enabled them to purchase food-stuffs and other necessaries in spite of the high prices. The chief anxiety of Government was for the landless labourer and the small cultivator who supplements his agricultural income by labour, but here again the exceedingly heavy mortality during the influenza epidemic caused a great shortage of labour and a substantial rise of wages. Prices reached heights hitherto unknown, crime was abnormally heavy, and control was exercised over railway traffic by a system of import and export permits under which an effort was made to regulate prices."

17. The effect of the influenza epidemic in Berar in 1918 is summarised as follows by the Commissioner in his Revenue Administration Report :—

" Influenza appeared in a mild form in August and September and assumed a virulent type in October and continued its ravages till December. It reduced the population of the Division by more than 233,000, paralyzing agricultural operations due then and soon after. It carried away whole families, and deprived many of the survivors of their bread-winners. This depleted the labour class and contributed in no small measure to the rise in wages. All possible efforts were made to provide for medical treatment and special diet to the patients, and in this work local bodies and private individuals joined voluntarily and co-operated enthusiastically. After the influenza ceased, relief in the form of clothes, etc., was afforded to the destitute."

18. In the Famine and Scarcity Report of 1918-19 of the Central Provinces and Berar, the following description is given about public health and mortality during the period of the scarcity and famine :—

" The outstanding feature of the period is the influenza epidemic, which assumed a virulent form in September 1918 and rapidly spread all over the Province. The mortality due to the disease was appalling, and from the month of October 1918 to January 1919, when the disease gradually disappeared, the death-rate for the Province was as follows :—

	October 1918	November 1918	December 1918	January 1919
(1)	(2)	(3)	(4)	(5)
Death-rate per mille per mensum	18·12	39·92	11·18	3·78
Decennial average of death-rate per mille per mensum	4·01	3.44	3.20	2.70

The disease was not confined to any particular part of the Province nor the mortality to any particular class, but as was to be expected, the population in villages far from any medical help suffered severely. The epidemic came at a time when prices were high and scarcity had begun, and among the village population it caused much physical deterioration which was responsible for much of the distress that followed. Prompt measures were adopted for the distribution of medicines, food and clothing to the poorer classes, and a Government grant of Rs. 2,67,024 was sanctioned and distributed among the various districts. The disease disappeared in February 1919, and thereafter the general mortality of the Province was not abnormally high, except in certain districts. Cholera is a usual concomitant of famines, and precautionary measures were taken in Jubbulpore district by the disinfection of wells and supply of medicines to revenue officers and police station-houses. Much propoganda work was also done by the distribution of pamphlets describing the measures to be adopted in case of an outbreak. The disease was first introduced into the districts of Jubbulpore and Mandla by immigrants from Rewa State, who came for the spring harvesting in March 1919. The

completion of harvesting spread it all over Jubbulpore district, and in May 2,560 persons died in the district from it. But from this month it began to decline and disappeared by the end of August, as a result of the energetic measures taken to stamp it out. The death-rate in the Jubbulpore district during the months of April, May and June was as follows :—

	April	May	June
Death-rate per mille per mensum	6.39	4.85	3.67
Decennial average for the district	2.61	3.12	3.11

The only other part of the Province where cholera appeared in an epidemic form was Chhattisgarh, where it was introduced in May by immigrants from the surrounding Feudatory States. The following table shows the mortality in the districts of this Division :—

District	April 1919		May 1919		June 1919		July 1919		August 1919		September 1919	
	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Raipur	3·23	..	6·08	..	6·59	..	3·45	..	4·35	..	4·71	..
Bilaspur	3·29	2·65	5·55	3·14	6·19	2·74	3·26	2·55	3·35	3·61	2·71	4·10
Drug	2·38	..	3·66	..	7·59	..	5·18	..	5·35	..	4·84	..

In Bilaspur the disease claimed 10,000 victims before it disappeared in June. In a few other districts cholera appeared in scattered places, and the highest mortality from this disease alone for the Province as a whole was 1·21 per mille in June, from when it began to decline. Smallpox occurred in a few districts on a small scale and malerial fever appeared as usual in August. Apart from the influenza epidemic in the beginning and the cholera outbreak during the hot weather, the year was not abnormally unhealthy, and the physical condition of the labourers on scarcity works was good. It is noteworthy that except in the camp on the Pariat tank work in Jubbulpore district, cholera did not appear on any of the scarcity works, and it says much for the care taken by the Public Works Department in the sanitation of the work camps. There were no deaths from starvation except some four or five doubtful cases in the Raipur district, and these after investigation appeared to be cases of beggars who had wandered away from their villages where they would have been maintained and sunk exhausted on the way. Except for the deaths from cholera the heavy mortality of the year cannot be attributed to the conditions arising out of the scarcity, the influenza epidemic alone being responsible for almost the whole of the excess mortality."

19. The year 1920-21 was, again a year of famine and scarcity conditions in the State and the following description from the Central Provinces and Berar Famine and Scarcity Report for 1920-21 is of interest :—

"*Failure of* 1920-21.—The crop failure of 1920-21 was like its predecessors in 1907-08 and 1918-19, due to the abrupt cessation of the rain in the middle of September 1920. The monsoon of 1920 broke somewhat late in the last week of June. The rainfall was light but well distributed and sufficient, and by the end of July all crop prospects were good, except in four districts. An opportune break then occurred and was followed by good showers in August except in the Chanda, Akola and Amraoti districts where practically no rain fell. In Mandla the rainfall had been excessive, standing crops were damaged, and a large area had to be resown. Light rain continued to fall in the first week of September and was succeeded by moderately heavy showers all over the Province in the second week. More rain, however, was urgently required in several districts, especially in the rice-country and in Berar. Elsewhere, standing crops were at this period in fair condition and prospects were not unfavourable. From this time onwards, however, the rain came to an abrupt stop, and except for a few light showers in certain districts, no further rain was received anywhere from October 1920 to the latter half of January 1921. The result, as on all previous occasions, was a severe failure of the kharif harvest. The monsoon rainfall was 28·42 inches against the average of 43·17 inches.

The prolonged drought, coupled with the excessive heat, hardened the soil and caused a great contraction of the area sown with spring crops. The total rabi area sown was 30 per cent less than in 1917-18. The want of moisture in the soil which was responsible for the decrease in sowing, coupled with the absense of all rain till late in January, prevented satisfactory germination on light soils and a general failure of the rabi harvest resulted. The combined outturn of both harvests over the whole Province amounted to only 42 per cent of the normal crop against 55 per cent in the two scarcity years 1907-08 and 1918-19. The Jubbulpore and Berar Divisions suffered most. In Seoni and Mandla the combined outturn of all crops did not exceed 25 per cent of normal. Saugor alone of the districts of the Jubbulpore Division the combined outturn exceeded 55 per cent of the normal. In three Districts of Berar the outturn was between 26 and 27 per cent of the normal and in the fourth district only reached 40 per cent. Other Divisions were more favoured, but only in comparison with the worst afflicted tracts. In Nerbudda Division, the outturn was 47 per cent of the normal in Chhindwara and 37 per cent in Betul; in the Nagpur Division, it was 38 per cent in Bhandara and 42 per cent in Balaghat; while in the Chhattisgarh Division, the outturn in Drug was only 37 per cent of the normal and in Raipur the most favoured district in the Division, did not exceed 52 per cent. In only three districts of the Province did the outturn reach more than 60 per cent of the normal. The crop failure was more serious than any which has occurred since 1899-1900.

Areas and classes affected.—The first districts to be affected were Mandla and Seoni in the Jubbulpore Division and Bilaspur and Drug in Chhattisgarh. Scarcity was declared in the whole of the first two districts and in parts of the latter two from the beginning of December. It was declared very shortly afterwards in the same month in the greater part of the Jubbulpore district, part of the Damoh district and in the Amraoti, Akola and Buldana districts of Berar. By the third week of February it had become necessary to declare a state of famine in the whole of Mandla, Seoni and the greater part of Jubbulpore, where the situation was again complicated by a rush of immigrants from Rewa State. The Nagpur Division was less affected, but the Sironcha tahsil of the Chanda district was declared to be in a state of scarcity in January 1921, and a similar declaration was eventually made in parts of Balaghat, in the Deolapar tract of the Nagpur district and part of the Arvi tahsil of Wardha district. In Nerbudda Division it was only in the two plateau districts that scarcity conditions prevailed. In March and April scarcity conditions spread over the Raipur district, thus involving the whole Chhattisgarh Division. Most of the Feudatory States were also affected. In April the Melghat taluq of Amraoti, hitherto excluded, was brought under scarcity operations.

Over the Province as a whole nearly 12,000 sqare miles, with a population of nearly 1½ millions, were declared to be under famine and 35,000 sqare miles, with a population of over 4½ millions, under scarcity. In 1899-1900 the whole Province came under famine.

As always, the classes most affected were the labourers and smaller tenants. The petty artisans in towns, especially the hand-loom weaver class, were also hard hit. The more substantial tenants and petty landlords found the liberal suspensions of land revenue and the loans advanced by Government under the Agriculturists' Loans Act sufficient to tide them over the crisis.

Comparison of degree of crop failure in 1899-1900 *and* 1920-21.—The rainfall and crop outturn statistics in Tables I and III show that, except in certain limited areas, the climatic conditions were more unfavourable in 1899-1900 than 1920-21 and the crop failure was more severe. In the former year, the failure of monsoon after August was much more complete and the shortage began earlier. In Betul, the most unfortunate district in that year, only 2 inches of monsoon rain fell after the end of July. Turning to the crop outturn it will be seen that the crops of 1920-21 were considerably better than those of the former year, except in the Seoni and Mandla districts, where the failure of 1899-1900 was not so complete as elsewhere and was indeed surpassed by that of 1896-97. Unfortunately crop outturns in Berar for 1899-1900 are not available, but the local officers conclude from examination of reports and records of that time that, bad as the crop was in 1920-21, it was slightly worse in 1899-1900. On the other hand, whereas it was commonly believed that the stocks of juari in the grain pits at the beginning of the famine of 1899 were sufficient for three year's consumption, the granaries were nearly empty in 1920. In making comparisons between the methods and results of the two years, allowance must be made for the difference in degree of distress."

20. The mortality of the Famine and Scarcity period of 1920-21 was reported to be 23 per cent above the decennial mean of the years 1908 to 1917 and the reasons are explained in the following observations made in the Famine and Scarcity Report of the year :—

" Though there was no devastating general calamity such as the influenza epidemic which occurred in the year 1918, the mortality of the famine period under report was 23 per cent above the decennial mean of the years 1908 to 1917, being 43·66 compared with 35·58 per thousand. The direct cause of the increase must be sought mainly in the cholera epidemic which visited the Province in the hot weather of 1921 and in the widespread attacks of malaria which occurred towards the end of the monsoon of 1921. But indirectly the weakening effects of the influenza epidemic of 1920 and the strain of hard times must have largely reduced the resisting powers of the people. In the beginning of the year some few cases of plague, cholera and small-pox, aided by influenza and an epidemic of relapsing fever in the northern districts, slightly raised the total mortality of the Province, and although these diseases had to a large extent disappeared by January 1921, non-epidemic mortality continued above the normal. The main increase in the mortality of the Province during the year under report occurred, as already indicated, during the hot weather and rains of 1921. Cholera first appeared in the month of February when 398 deaths occurred. But from that month onwards a rapid increase in the number of deaths took place, the total being 3,564 for April, 6,657 for May and 20,788 for June, of which the greater part occurred in Mandla and Chhindwara and in the districts of Chhattisgarh in which , owing to the absense of wells and failure of the previous monsoon, people were largely compelled to have recourse for drinking purposes to the stagnant water remaining in pools and nalas. The advent of the rains considerably reduced the mortality from cholera in July when 10,517 deaths were registered and the Province was practically free of the epidemic by October 1921. The Provincial death rate , however , owing to severe attacks of malaria during the rains, which the reduced vitality of the people was unable to shake off, and a severe attack of plague in Jubbulpore, remained largely above the normal. The death rate per mille in the worst affected districts is shown in the table below, which compares the mortality of the year from all causes and from all causes other than epidemics with the quinquennial average from all causes for the years 1912 to 1917 :—

Districts	Death rate per mille		
	From all causes	From causes other than epidemics	Quinquennial average for 1912-17
(1)	(2)	(3)	(4)
Jubbulpore	72·36	64·56	36·57
Mandla	67·38	45·08	26·94
Seoni	63·44	46·09	31·41
Damoh	60·06	54·46	41.63
Chhindwara	51·67	45·27	32·60
Durg	52·75	46·10	38·68
Raipur	44·71	39·40	32·39
For the Province as a whole	43·66	39·05	35·58"

21. The scarcity during 1920-21 has been described as the worst in respect of failure of crops since the famine of 1899-1900. The following account appears in the Government of the Central Provinces Revenue Department Resolution No. 1948-1455-XII of the 27th July 1922 :—

" The year 1920-21 was, in many respects, a repetition in an intensified form of the conditions of the year 1918-19 with a short rainfall, widespread crop failure and yet much less distress than might have been expected. The monsoon broke somewhat late in the third week of June, and, though light in character, the rainfall was at first well distributed. It continued to be generally satisfactory in July, but was hardly sufficient in the rice districts of the Nagpur Division, where transplantation was impeded. Elsewhere, up to the end of July, prospects were generally fair. Long breaks in August, however, told upon the crops. Biasi in Chhattisgarh could not be performed, and the already delayed transplantation in the rest of the rice country could not be completed. The cotton and juar crops were stunted and other crops on light soil withered. Good showers received in early September revived the drooping crops, but from the middle of this month , no rain was received till the middle of January in any district, and serious failure of the kharif crop was early made evident. The early cessation of the September rain and the hardening of the soil under the hot rays of the October sun diminished rabi sowings, and *the general result was the worst failure of crops, bothof kharif and rabi, that has been experienced since the famine of* 1899-1900. For the Province as a whole, the percentage of the normal yield on a normal area of all crops taken together was 47 per cent only compared with 57 per cent in 1918-19. In no district of the Povince did the outturn exceed 75 per cent of the normal. In only three districts did it exceed 60 percent, and in six districts it fell below 40 per cent. The worst affected districts were Mandla and Seoni where the outturn was below 30 per cent of the normal , in Chhindwara where it was 31 per cent and in Drug where it was 37 per cent. The outturns ol wheat and cotton for the province as a whole were estimated at only 7 annas and 9 annas, respectively, while rice and juar gave an 8 annas outturn or less.

22. The Commissioner, Jabalpur Division, described the season of the scarcity year of 1920-21 as the worst that had been experienced for over 20 years. He made the following observations in his Land Revenue Administration Rerport :—

"The main feature of the agricultural conditions of the year 1920-21 may be summarized in a few words, as short rainfall, early cessation of the monsoon, consequent failure of the kharif crops, especially rice and kodo-kutki, contraction in the area of rabi sowings, short rabi outturn, and general distress deepening to pretty severe famine everywhere in the Division except in the Saugor district and the Haveli tract of Damoh and Jubbulpore. On the whole, the season was about the worst that has been experienced for over twenty years. The monsoon of 1920 started rather late in June and gave fair but somewhat scanty rain in July and August. It stopped abruptly early in September, after which no more rain fell till towards the end of January 1921. The consequence was that the kharif crops, especially rice and kodo, withered away and were either a complete failure or gave a very scanty return. Saugor fared rather better than the rest of the Division, juar doing fairly well and the rice and minor crops being rather better than elsewhere. The early stoppage of the monsoon and the great heat left the soil with insufficient moisture for rabi sowings; the rabi area contracted by about 25 per cent, and on this reduced area the germination and growth of the plants was affected by absence of moisture. Luckily, some showers fell towards the middle of January and partially saved the situation, especially in Saugor, which did better with rabi as it had done with kharif."

23. The conditions in Nagpur Division during 1920-21 are described as follows by the Commissioner in the Land Revenue Administration Report :—

"The combination of a very low outturn of all the principal crops with general high prices was bound to have its effect, and some deterioration, though not sufficient to cause alarm, is noticeable in the condition of agriculturists. The slump in the price of cotton aggravated the situation, and credit in general was restricted. The upper classes of agriculturists got through the year fairly well by economising in private expenditure, but previous savings had to be largely drawn upon. The lower classes were hard hit, but liberal suspensions of rents and revenue, generous distribution of takavi loans, the opening of Government forests for the free extraction of head-loads of grass and fuel and of edible products all helped to alleviate distress. Relief works, started where necessary in the affected tracts of the districts in the division, provided employment for the labouring classes. Gratuitous relief was found necessary in the most affected portions of the Ramtek tahsil in the Nagpur district, in the Arvi tahsil of the Wardha district, the Sironcha tahsil of the Chanda district and in the Balaghat district. The absence of marriages consequent on the year being Singhast rapidly reduced the demand for koshti cloth, prices fell seriously and weaver relief had to be opened at Nagpur, Chanda and Bhandara. This relief was closed at Chanda on 1st August 1921 and at Bhandara on 31st August 1921. The operations in Chanda resulted in a profit of Rs. 826. The cloth purchased at Bhandara has not yet been disposed of. The shop at Nagpur is still open and relieves over 2,000 families, but it is hoped to close it shortly.

"The year was free from epidemics, with the exception of cholera, and the progress for agricultural operations was not impeded."

24. Describing the condition of the cultivating classes in the Chhattisgarh Division during 1920-21 the Commissioner remarked as follows :—

'The Condition of the cultivating classes was worse than that in the scarcity year of 1918-19 as only one good year had intervened between the two scarcities. The loss of large areas of double-cropping and of rabi crops and the heavy repayments made during the previous year taxed the resources of the tenantry. There was a considerable rise in the price of cloth. Relief measures were promptly taken and large suspensions and revenue and rent granted. Takavi also was distributed on a large scale. The Public Works programme of works was expanded and ample employment provided for labourers. In the early part of the year large numbers from Bilaspur and Drug districts migrated to Bengal. There was no plague, but cholera caused great distress during the last four or five months of the year."

25. Describing the condition in Berar during 1920-21 the Government of the Central Provinces and Berar made the following observations in their Resolution No. 2039-1520-XII, dated the 8th August 1922 :—

"The year 1920-21 was remarkable in several respects. It witnessed one of the worst crop failures ever known in Berar and the successful mitigation of the effects of that calamity by measures which afford clear proof of a great improvement in economic conditions—an improvement which made it possible to prevent by the expenditure of Rs. 5⅜ lakhs the loss of life and property which a hundred years ago would have been inevitable and which 23 years ago was in similar circumstances only avoided by the expenditure of Rs. 115 lakhs."

26. Describing the conditions of the agriculturists during the difficult period of 1920-21 the Commissioner made the following observations in the Land Revenue Administration Report of Berar :—

"Last year's report dwelt on the high level of prosperity of Berar. This received a rude shock by the failure of harvest in 1920-21. Such cotton as there was fetched comparatively poor prices. The usual money-lenders, partly from timidity at the scarcity and the Political situation, partly from having large sums locked up in cotton, were willing to advance money only on most exacting terms, and frequently refused all credit to their usual customers. Scarcity was declared early in December in the districts of Amraoti, Buldana and in the plain taluqs of Akola, Akot, Balapur and Murtizapur of the Akola district. In July 1920 the price of juar prevailing in Amraoti had been 7½ seers and at the commencement of our relief 5½ seers in September 1920. Such calculations as we could make made the prospect of sufficiency of food at most anxious one. But fortunately there was comparative plenty elsewhere and imports kept prices fairly steady until the Punjab wheat gave out in the rains of 1921 when juar went up to 4½ seers in Amraoti. In the famine of 1899-1900 the highest district headquarters price of juar was 7 seers per rupee in June 1900. Throughout the year imports were most carefully watched in co-operation with the railway authorities and in the three scarcity districts they were roughly three times the imports in 1899-1900 for the whole division. There were also imports in Yeotmal and some exports from Wun and Kelapur taluqs of that district. A separate report on the scarcity operations has been submitted and there is no need to repeat in detail here the various measures of relief adopted. Amongst them :—

(1) Very generous suspensions of land revenue,
(2) Very liberal distribution of taccavi,
(3) Postponement of collection of grazing dues from July 1920 to December 1921.

on such an extensive scale were new to Berar.

Fodder was very short, but the loss of fodder was not so great as the loss of grain-nothing approximate and cattle mortality was not very remarkable. Thousands of carts from September to December 1920 brought grass from the Melghat. No grass remained in accessible tracts. Notices were issued to villagers informing them of more inaccessible places in the Melghat where water and grazing were available. Many herds of cattle went but did not do well as in the famine year of 1899. Duty on grass was reduced to Re. 0-4-0 per cart-load. Head-loads were given free, also Anjan leaves (much availed of in Buldana). Famine concession freight on fodder from Nagpur and Chanda districts and from Nimar were granted and arrangements made through the

Conservator of Forests for grass baling in Nimar. "A" class forests were thrown open to grazing except coupes which had been cut within a year past. In one Revenue circle at least in Buldana some general use was made of cactus leaves as fodder.

In consequence of the short rainfall for three years in succession the sub-soil water level fell to a depth unheard of before and even hitherto unfailing sources of water-supply failed. The scarcity of water during the summer months was from all accounts worse than in 1899-1900. But the difficulty was met largely by the people themselves. Land Improvement loans were freely given for digging and deepening wells and the District Boards made considerable grants through their members in aid of private expenditure (with preference to low caste and poor people) for the same purpose. Private charity was organised for poor relief and the Berari responded with his usual generosity."

27. The year 1927-28 again witnessed bad scarcity in the northern districts. The Commissioner, Jabalpur Division, gives the following account of the prevailing conditions :—

"The year under report was decidedly unfavourable. With the failure of the September rain, and consequent damage to the kharif crops, the resources of the agricultural classes were affected to a certain extent, but the general condition was not unsatisfactory. There was worse to come. The fate of the rabi crop has already been described. It was a complete failure in Damoh, over the greater part of Saugor, and in the North of Jubbulpore. In the rest of Saugor and Jubbulpore the outturn was bad. In Mandla and Seoni only a comparatively small area was affected. Scarcity was declared in the Jubbulpore, Saugor and Damoh districts, and measures were taken to combat the distress in every direction. Rs. 13,78,754 out of a total rabi kist of Rs. 16,00,852, was suspended in the three districts worst hit, and the recovery of taccavi instalments was postponed. Rs. 18,39,776 was allotted as taccavi for the purchase of seed and bullocks and for the improvement of land. Government forests were thrown open to the free extraction of edible fruits and roots and headloads of grass and fuel; and the recovery of grazing dues was suspended. Relief works were opened, throughout the affected tracts, the numbers employed at one time reaching a total of 23,671. Gratuitous relief was given to those unable to work, the maximum number relieved being 5,992. Doles were given to 2,838 kotwars. Private relief was organised through district and tahsil committees who distributed cash doles and cloth to many paupers."

28. The Northern districts again suffered heavily on account of frost during the year 1928-29. In their Resolution No. 2958-71-XII, dated the 15th September 1930, the Government of the Central Provinces pointed out that coming on the type of the scarcity of the previous year the frost of 1929 was little short of a calamity. They further made the following observations :—

"The rabi crops also started well, and bumper harvest was anticipated in the north of the province, when, on the night of January 31st and February 1st, the severest frost on record virtually destroyed the crops in several districts and damaged them in the remainder. This frost was part of the anti-cyclonic cold wave that held all Asia and Europe in its grip, and its effect on the crops was felt even in the Nagpur and Chhattisgarh divisions. The districts of Jubbulpore, Saugor, Damoh and Narsinghpur were now threatened with scarcity if not famine."

29. The crop year 1929-30 was again bad for the Northern districts. In their Revenue Department Resolution No. 3186-80-XII, dated the 14th October 1931, the Government of the Central Provinces made the following observations :—

"The abrupt cessation of the monsoon after the first week of September, followed by the rainless months of October and November, was most unfavourable to the rabi crops in the Jubbulpore and Nerbudda divisions, causing restricted sowings and bad germination. The outturn was poorest in the Saugor and Damoh districts, but it was below normal everywhere. Conditions were, however, more favourable to the rabi crops in the Nagpur and Chhattisgarh divisions, where the outturn was on the whole satisfactory."

30. Proceeding further the Resolution describes the condition of the agricultural classes as follows :—

"Except in the Chhattisgarh division, which reaped a bumper rice crop, the conditions of the year were not favourable to the agricultural classes. The failure of the crops in the districts of Saugor and Damoh and in parts of the Jubbulpore district involved the continuance of the relief measures of the previous year, though on a smaller scale. Out of the land revenue due, Rs. 20,47,000 were suspended and Rs. 9,16,000 remitted in these three districts. Taccavi loans to the extent of Rs. 8,35,000 were distributed and taccavi instalments amounting to Rs. 16,58,000 were suspended. Out of grazing dues Rs. 81,000 were suspended and Rs. 6,000 remitted. Rs. 3,42,000 were spent on relief works and Rs. 1,52,000 on gratuitous relief, including doles to kotwars. The number receiving gratuitous relief was 12,544 in October 1929, but it fell to 8,656 by September 1930. Government forests were also thrown open for the free extraction of head-loads of grass and fuel and of edible minor produce, and produce of the estimated value of Rs. 32,000 was removed. Relief in the way of suspensions and taccavi had also to be given in the Narsinghpur district. The period for execution of civil court degrees in the Jubbulpore division and the Narsinghpur district and the period for the exemption of agricultural produce necessary for cultivation of land, were further extended till the 31st March 1931. With these measures of relief the agriculturists in this area were able to carry on till the next harvest. Elsewhere agriculturists would have been well enough off, if it had not been for the fall in prices. Food was however sufficient and cheap, and the condition of labourers was generally satisfactory, as they found ample labour and wages fell less quickly than the cost of living. But for outbreaks of cholera and small-pox in some districts the health of the people was generally good. It is gratifying to note that the experiment in rural uplift undertaken in the Piparia revenue inspector's circle in the Hoshangabad district and in some villages in the Drug district made a successful start in inculcating ideas of better living and better farming amongst the agriculturists."

31. Between 1930 and 1939 although there was no serious scarcity the following years were unsatisfactory harvests in the Central Provinces :—

1931-32; 1932-33; 1933-34; 1934-35; 1935-36 and 1938-39.

32. The years 1937-38 and 1938-39 as well as 1925-26 and 1926-27 were similarly poor for Berar.

33. In the year 1935-36 which has been described as an indifferent year from the point of view of the agriculturists, the outturn of rice was adversely affected for the first time since 1931-32. Describing the conditions of the year the Government of the Central Provinces and Berar Revenue Department Resolution No. 3865-710-XII contains the following observations :—

"The revenue year 1935-36, like its predecessor, was another disappointing year. The distribution of the monsoon of 1935 was unsuited to agriculture. Persistent and excessive rainfall of the early monsoon prevented the normal growth of kharif crops such as cotton and juar, while its abrupt cessation after the last week of September was unfavourable to rice, and inadequate winter showers combined with frost, hail and cloudy weather during the cold weather adversely affected the rabi crops. For the 1st time since 1931-32 the outturn of rice was less than normal and was returned at 11·7 (13·5) annas. The average outturn of juar fell from 10·5 to 9·2 annas and that of wheat from 11·5 to 10·13 annas. Cotton was returned at 8·6 (5·5) annas. The total outturn of

crops was 77 (88) per cent of the average yield. The wholesale prices of juar and wheat rose by 6 and 12 per cent, respectively, but this slight improvement in price did not compensate for the low outturn. The price of rice remained stationary but that of cotton fell by 23 per cent. In these circumstances any general recovery from the effects of the economic depression was not to be expected."

33-A. Between 1941-42 to 1945-46 no formal declaration of scarcity was made in any part of the State, but relief operations were undertaken in certain parts in 1941-42 and 1942-43. Describing the condition of the agricultural population the Season and Crop Reports of the Central Provinces and Berar for the years ending the 31st May 1941 and 1942 contain the following observations :—

"**1941.**—In the year under report, the condition of the agricultural population, except in the cotton tract, was not satisfactory owing to partial failure of the paddy crop and the low yields of rabi. The cotton grower had a better outturn but this advantage was more than lost owing to low prices. Relief works to provide employment for agricultural labourers were found necessary in parts of the Chhattisgarh districts and in the Jubbulpore and Mandla districts. To mitigate the hardships of the agriculturists in the affected tracts, out of the total land revenue demand, Rs. 2,66,317 including arrears, were remitted and Rs. 23,21,626 were suspended. Land Mortgage Banks and Debt Conciliation Boards also continued to render assistance to the agriculturists. The Central Provinces Tenancy (Amendment) Act, 1939, was brought into force with effect from 1st May 1941."

1942.—"Despite the failure of paddy crop and the low yield of rabi crops, the economic condition of the agriculturists remained unchanged all over the province on account of the high prices fetched by foodgrains. In the cotton tracts also, although the outturn of the cotton crop was better this year, this advantage was to some extent vitiated by the low prices of short-staple cotton. To ameliorate the condition of the poor agriculturists and agricultural labourers, test works were opened in parts of the Saugor, Jubbulpore, Mandla, Balaghat, Drug, Raipur and Bilaspur districts, where the principal crops had partially failed. Land revenue was suspended and remitted on a liberal scale amounting to Rs. 3,848,228 and Rs. 633,323, respectively. Taccavi was also distributed freely."

34. During the year 1946-47 rust caused considerable damage to rabi crop, specially wheat, masur and linseed in the Jabalpur Division. The condition of the agricultural classes in the Division is described as follows in the Land Revenue Administration Report:—

"The economic condition of the agricultural classes improved since the outbreak of the last World War due to high prices of agricultural commodities; but this was counterbalanced by the equally high prices of other necessities of life which the agriculturists had to purchase. Their condition futher deteriorated during the year under report due to the extensive damage caused to food crops, especially wheat and juar. Considerable anxiety was felt on account of scarcity of foodgrains throughout the Division though it was alleviated to some extent in predominantly kharif-producing areas where the outturn of paddy was comparatively better.

To overcome the situation created by the failure of crops, the following reliefs were granted by the Provincial Government in the affected areas :—

(i) Remission of land revenue.
(ii) Suspension and postponement of the recovery of taccavi loans.
(iii) Remission of kotwari dues and reimbursement of kotwars to the extent of remission in those tracts where wheat was the predominantly rabi crop.
(iv) Distribution of wheat seed on taccavi.
(v) Grant of taccavi loans for purchase of bullocks, etc.
(vi) Exemption from attachment of agricultural produce under section 61 of the Civil Procedure Code.
(vii) Free removal of head-loads of fuel and grass from Government forests.
(viii) Introduction of food rationing in rural areas.
(ix) Opening of test camps at Besra and Andela in Khurai tahsil.

The above timely help and availability of employment in the bidi and other factories in the Jubbulpore and Saugor districts enabled the agriculturists somehow to tide over the difficulties created by the failure of crops."

35. The conditions in the Nagpur Division during the year 1946-47 have been reviewed as follows in the Land Revenue Adminstration Report :—

"Due to the unprecedented failure of rabi crops and wheat in particular, the general economic condition of the agricultural classes was far from satisfactory. Even with the heavy rise in the prices of foodgrains, the lower strata of agriculturists were not benefitted owing to the correspondingly heavy rise in expenditure, which they had to incur on the purchase of cattle and agricultural implements. It was only the bigger cultivators who actually derived substantial advantage from the high prices. The timely help given by Government by granting remissions of land revenue throughout the Division afforded a great relief to the cultivators who appreciated the sympathetic attitude of the popular Government. Further relief was granted by Government by remission of kotwari dues in the villages in which land revenue remission was granted. In short, the year under report was an unfortunate one due to the complete failure of rabi crops."

36. The following note of the Revenue Department contains a brief review of the crop failure in certain parts of the State from 1948-49 to 1950-51 :—

"Due to the failure of juar and cotton crops of 1948-49 due to excessive rains in the cotton-juar tract of the State, reports began to reach Government regarding unrest amongst the agricultural labourers as early as in the month of May 1950. Relief works were accordingly ordered to be opened in the Amraoti, Akola, Buldana, Yeotmal and Wardha districts of the State. With the failure of kharif crops in general and paddy crop of 1949-50 in particular due to prolonged drought, the unrest amongst the agricultural labourers spread out to other parts of the State and during the period from November 1950 to January 1951 relief works were ordered to be opened in Nagpur, Chanda, Chhindwara, Bhandara, Bilaspur, Durg, Jubbulpore, Saugor, Mandla in addition to the districts of cotton-juar tract mentioned above in which the works were already continuing. During the financial year 1950-51, an expenditure of Rs. 10,18,875 was actually incurred in connection with these relief works as per districtwise statement enclosed. For the current financial year a provision of Rs. 10,00,000 has been made in the budget and it is anticipated that a sum of Rs. 7,50,000 will probably be spent out of this grant. With the easing down of the situation, the works are at present continuing in Jubbulpore and Bhandara districts only and these are also likely to be closed down by the end of this month.

Government have also sanctioned an allotment of Rs. 2,000 for distribution of 'gratuitous relief' to the infirm and the disabled persons in tracts severely affected by scarcity in the Mandla district during the current financial year.

An allotment of Rs. 50,000 has been placed at the disposal of Deputy Commissioner, Durg, for the distribution of cash doles to the kotwars of the Durg district who have not been able to recover the minimum of their dues, *viz.*, Rs. 8 per month on account of the failure of kharif crops, the rate of payment of doles per month being equal to the total minimum dues for the period at the rate of Rs. 8 per month *minus* the amount actually recovered divided by the number of months included in the period."

APPENDIX J

Grain production Capacity Per Capita

(Method of Calculation adopted)

In Subsidiary Table 4·15 given in part I-B of the Census Report, 1951 the yield factors representing the weight in lbs. of the net yield (less seed) on one cent of land for the different crops are given. Assuming that the weight in pounds of the net yield (less seed) per acre for all the important foodgrain in each Natural Division is roughly represented by the yield factor of the principal foodgrain of the Division, the grain production capacity of cultivation per capita is calculated by the formula—

W1 (USC+UDC) + W3 (ISC+IDC).

W1 and W3 are the yield factors for the unirrigated and irrigated crops including the production from the corresponding double-cropped areas. The method of calculating these yield factors is explained in the fly-leaf to Subsidiary Table 4·15 given in part I-B of the Census Report. Subsidiary Table 4·8 also given in part I-B gives the values of USC, UDC, ISC and IDC and the fly-leaf to the table explains how these areas of unirrigated single-cropped, unirrigated double-cropped, irrigated single-cropped and irrigated double-cropped are arrived at. On the basis of the above formula, the grain production capacity of cultivation per capita is worked out below for the decennium ending 1921, 1931, 1941 and 1951 for each Natural Division. From the Subsidiary Table 4·15, it will be observed that the yield factors W1 and W3 show significant variations during the different decades. Therefore, the value of these factors for the decade ending 1940 is adopted for purpose of calculating the grain production capacity of cultivation per capita for all the decenniums. Wheat is taken as the principal foodgrain in the North-West Madhya Pradesh Division, rice in the East and juar in the South-West Madhya Pradesh, Division.

Grain production capacity of cultivation per capita in the North-West Madhya Pradesh Division—

The yield factors adopted are—

W1—3·55 and

W3—6·84.

The grain production capacity of cultivation per capita in 1921 is, therefore :—

$=3·55\times(173·7+9·0)+6·84\ (1·7+0·3)=662.$

The grain production capacity of cultivation per capita in 1931 is—

$=3·55\ (160·0+9·1)+6·84\ (1·9+0·2)=615.$

The grain production capacity of cultivation per capita in 1941 is—

$=3·55\ (144·9+9·5)+6·84\ (2·4+0·3)=567.$

The grain production capacity of cultivation per capita in 1951 is—

$=3·55\ (129·4+10·5)+6·84\ (2·4+0·2)=514.$

Grain production capacity of cultivation per capita in the East Madhya Pradesh Division—

The yield factors adopted are—

W1=5·47 and W3=8·5.

The grain production capacity of cultivation per capita in 1921 is, therefore, :—

$=5·47\ (93·5+32·6)+8·5\ (11·7+0·0)=789.$

The grain production capacity of cultivation per capita in 1931 is—

$=5·47\ (80·7+31·6)+8·5(15·7+0·1)=749.$

The grain production capacity of cultivation per capita in 1941 is—

$=5·47\ (64·7+35·7)+8·5(15·3+0·0)=679.$

The grain production capacity of cultivation per capita in 1951 is—

$=5·47\ (59·9+33·2)+8·5\ (19·6+0·0)=676$

Grain production capacity of cultivation per capita in the South-West Madhya Pradesh Division—

In this Natural Division the irrigated area is negligible and the yield factor W1=5·12.

The grain production capacity of cultivation per capita during 1921 is, therefore :—

$=5{\cdot}12\ (208{\cdot}0+1{\cdot}1)=1073.$

The grain production capacity of cultivation per capita during 1931 is—

$=5{\cdot}12\ (1888{\cdot}1+0{\cdot}8)=967.$

The grain production capacity of cultivtion per capita during 1941 is—

$=5{\cdot}12\ (167{\cdot}2+1{\cdot}2)=862.$

The grain production capacity of cultivation per capita during 1951 is—

$=5{\cdot}12\ (152{\cdot}3+1{\cdot}6)=788$

Grain production capacity of cultivation per capita in Madhya Pradesh—

For purposes of calculating the grain production capacity of cultivation per capita for the State as a whole, the mean value of the yield factor W1 for wheat, rice and juar for the decade ending 1940 is taken to represent the net average annual yield (less seed) of the foodgrains grown in the State on one cent of unirrigated land and, similarly, the mean value of the yield factor W3 is taken to represent the net average annual yield (less seed) of the food grains grown in the State on one cent of irrigated land. The mean value of W1 for the State is 4·6 and that for W3 is 7·73. Therefore, the grain production capacity of cultivation per capita in 1921 is—

$=4{\cdot}6\ (154{\cdot}2+15{\cdot}5)+7{\cdot}73\ (5{\cdot}5+0{\cdot}1)=824.$

The grain production capacity of the cultivation per capita in 1931 is—

$=4{\cdot}6\ (138{\cdot}8+15{\cdot}0)+7{\cdot}73\ (6{\cdot}9+0{\cdot}1)=762.$

The grain production capacity of cultivation per capita in 1941 is—

$=4{\cdot}6\ (120{\cdot}9+17{\cdot}0)+7{\cdot}73\ (7{\cdot}1+0{\cdot}1)=690.$

The grain production capacity of cultivation per capita during 1951 is—

$=4{\cdot}6\ (109{\cdot}4+16{\cdot}6)+7{\cdot}73\ (9{\cdot}0+0{\cdot}1)=649.$

APPENDIX 'K'

A Note on Dairy Units in big towns by Shri M. Y. Mangrulkar, M.Sc., M. R.C.V.S., D. T.V.M., Director of Veterinary Services, Madhya Pradesh.

Despite the fact that we have in our State 24 cows and buffaloes per 100 population, the estimated milk consumption per capita per diem, is hardly 2 ozs., as against the figure of 1 lb. prescribed by the modern health standards. This means that to meet the full requirement of milk per capita per diem, the supply of fluid milk has to be increased to 8 (eight times) the present supply of milk. This is possible to achieve if only (i) the present milk yielding capacity of the milch cattle is improved by better breeding and feeding and (ii) the unorganised nature of milk trade is properly organised and suitable facilities for transport and storage are made.

To remedy these defects and improve quality and quantity of milk supplied in all towns in the State, Government sanctioned a scheme for establishment of 20 dairy units in big towns. The scheme envisages establishment of Government and co-operative dairy units in suburban areas and linking these with rural milk producing units. It further envisages establishment of cattle food depots for the supply of necessary fodder and concentrates for the milch cattle at reasonable rates and also good transport and storage facilities for milk and its products.

Seven dairy units have so far been established at Borgaon (Akola), Chandkhuri (Raipur), Ratona (Sagar), Bilaspur, Chanda, Yeotmal and Pohara (Amravati). The total quantity of milk produced at these centres since time of their inception was 1,518,660 lbs. which was supplied to the nearby towns. Proposals to link co-operative dairy concerns with the Government Dairy Units are under consideration of the Government. Pending the decision of Government 3 small scale Co-operative Dairy Societies have been organised at the 3 dairy units at Chandkhuri (Raipur), Borgaon (Akola) and Ratona (Sagar) and have contributed 358,885 lbs. milk.

Apart from supplying milk to the towns, these dairies work as "Mixed farms" and produce both grain and better breed live-stock for further multiplication in the rural areas. Over and above this, these units serve as important centres of demonstration and propaganda for the improved methods of animal husbandry, dairying and mixed farming.

The achievement of the dairy units since the time of their inception are given under :—

	1946-47	1947-48	1948-49	1949-50	1950-51
Number of dairy farms under establishment.	2	3	4	7	7
Number of dairy farms producing	..	1	3	6	6
Milk target aimed at		100,000 lbs.	300,000 lbs.	600,000 lbs.	600,000 lbs.
Actual milk production		42,000 lbs.	300,400 lbs.	477,405 lbs.	698,000 lbs.
Number of milch animals stocked ..		71 lbs.	278 lbs.	312 lbs.	447 lbs.
Total grain produced		..	..	..	148,100 lbs.
Total fodder produced		..	..	..	3,397,580 lbs.

Dairy Development work in the State

With a view to organise the dairy industry in this State, as indicated in the preamble of the dairy units in big towns, Dairy Development Scheme was formulated and initiated by the State Government since 1945.

2. Besides establishments of dairy units as stated above efforts were done to organise two co-operative dairy colonies, *viz.*, Gopal Co-operative Dairy Society, at Ooty and Nanda Sahakari Co-operative Dairy Society, at Bori near Nagpur. These societies could not make headway in absence of Government financial aid. Members of both the societies are still keen on establishing colonies at suitable centres within reasonable limits from Nagpur, provided facilities for grazing, watering and handling milk come forth from Government.

To reduce the cost of production of milk, Government forests grass birs are usually secured at concessional rent and allotted to producers' societies for silage and hay making. The producers are also helped in improving the keeping quality of their milk by carrying out various tests at the dairy laboratory.

3. Establishment of rural dairies on co-operative basis present serious difficulties mainly due to the fact that the local milch stock is not economic milk yielder. It was, therefore, planned to establish key village centres by placing 6 to 8 bulls of milch or dual purpose breed in contiguous areas with a population of about 500 to 600 milch animals. The object being to set up pockets of milk producing centres as well as nuclei of wellbred stock. From the working of such centres, it is hoped that in 3 to 4 years we will have sufficient number of graded heifers capable of yielding daily overall average of 4 to 5 lbs. of milk. This scheme is being worked under the Live-stock Section headed by the Honorary Live-stock Officer.

4. In order to improve the Ghee Industry both qualitatively and quantitatively and its marketing, a scheme for enhancing Ghee production in rural areas was planned. After the termination of this scheme due to the acute financial stringency of the State, the work is being pushed up conjointly under the guidance of the Co-operative Department and Dairy Development Section.

5. The scheme envisaging complete reorientation of existing Goshalas of the State was also planned. As a result of this, Regional Federation of Goshalas has been organised. Further progress could not be made due to the termination of the scheme on the grounds of financial stringency.

6. To summarise the programme of work envisaged in the scheme is as under :—

(1) Preparation of suitable dairy schemes with the primary object of increasing the output and improving the quality of milk and milk products.

(2) Stimulation of Co-operative dairy enterprise on scientific lines.

(3) Encouraging Goshalas and similar other concerns to contribute effectively to the clean and wholesome supply of milk and milk products to their respective cities.

(4) Setting up of organisations in suburban and rural areas for milk and milk products and linking these with city Co-operative organisation.

(5) Study of technical problems connected with the production, handling carriage, transport and keeping quality of milk and

(6) Study of similar problems stated above in connection with better and economic production of Ghee and other indigenous products and economic utilisation of by-products.

Original plan for dairy development in this State was ambitious but due to lack of sufficient funds, the activities have to be restricted to the limited sphere and therefore much headway could not be made towards dairy development. Within the limited finance every effort is being made to organise the dairy industry progressively in this state.

APPENDIX L

Note on Poultry Development by Shri M. Y. Mangrulkar, M.Sc., M.R.C.V.S., D.T.V.M., Director of Veterinary Services, Madhya Pradesh.

Madhya Pradesh is fairly rich in poultry, estimated to be about 2762·8 thousands. The indigenous breed of our State known as "Red Jungle Fowl" (Gallus gallus) or Bankava which is still found in its pure-state in the foot-hills of Satpura hills, is acclaimed to be the progenitor of all the domestic breeds of poultry existing in the world today. Yet the size and egg laying capacity is abnormally low, the latter being about 53 per layer per year as against 130 to 160 in United Kingdom and U. S. A.

Poultry Industry in the State is mainly carried out in the old primitive way by individuals as a back-yard poultry farming to supplement their meagre income and also the low nutritive food available to them. There is a tremendous future ahead for the poultry development work in the State and if proper attention, direction and supervision is given to this important cottage industry it will not only help solving the food scarcity problem but will also help development of export trade.

In order to develop poultry industry of the State, both qualitatively and quantitatively, a small experimental Poultry Farm, as detached unit of the Government Dairy Farm, Telankheri, Nagpur, was initiated in February 1935 with a flock of 100 White Leg Horn birds mostly chickens. In subsequent years, *i.e.*, 1935-36, 1936-37 and 1938-39, birds of other improved breeds, *viz.*, Rhode Island Red, Black Minorca, Australorps, Wel-Summer, Bugg-orpington, Light Sussez, Chittagong and White Wyandotts were introduced in order to find out which of the above introduced breeds would thrive and do well under the varying climatic conditions of the State.

After a rigid trial of their performances and adaptability, only two breeds, *viz.*, White Leg Horn and Rhode Island Red, which were found to be the most suitable and economical, were retained and other eliminated. Work at this experimental station continued unhampered till the year 1943, when on the 1st April 1944, the entire poultry farm along with its fixtures and establishments was handed over to the Defence Department for meeting the requirements of the Army for supply of eggs and birds.

The achievements of this station during its experimental period of 8 years for the development of poultry in the State are tabulated as under :—

Year	Total flock including chickens	Number of eggs produced	Number of eggs and birds produced	
			Number of eggs issued	Number of birds issued
1936-37	400	8,056	7,610	82
1937-38	475	13,888	13,109	83
1938-39	708	14,867	13,323	222
1939-40	613	13,501	12,357	152
1940-41	793	10,352	9,092	212
1941-42	480	8,962	7,614	107
1942-43	765	13,261	11,727	459
1943-44	1,135	19,600	17,126	245
Total issued ..			91,958	1,562

Central Poultry Farm, Telankheri, Nagpur.—After relinquishment of the poultry farm by the Defence Department, the farm with all its equipments and flock was taken over by the Civil Veterinary Department of Madhya Pradesh on the 12th August 1946. From a small poultry farm it had developed into a big poultry farm under the Military Department with electric incubator of 4,224 egg capacity, 32 electric brooding rooms for rearing about 3,200 chickens and sufficient poultry houses and runs for 1,200 laying birds and 5,000 chickens. The total accommodating capacity of the farm for adults and chickens is ten thousand.

The object of taking over the farm is to provide greater facilities for large scale production of birds and eggs and their distribution for poultry development work in the State and also to cater the needs of the public, which was not otherwise possible to achieve with a small poultry farm, as originally started. Apart from the purely developmental work, the farm also undertakes experimental work and imparts training to the public and departmental staff engaged in the extensive work in the State.

The contributions made by the Central Poultry Farm, Telankheri, Nagpur, for the last 5 years are given in tabulated form given below :—

Year	Sale of birds	Eggs issued for hatching	Eggs sold for table	Total strength of
1946-47	1,513	3,717	24,750	7,099
1947-48	7,396	3,073	35,770	7,107
1948-49	6,765	4,654	31,612	3,990
1949-50	5,240	3,809	24,505	3,312
1950-51	2,899	2,250	16,693	3,563
Total ..	23,813	17,503	1,33,330	25,071

N.B.—Out of the total issue of 23,813 birds, 2,516 cocks were issued under the scheme " Exchange with Deshi Cock ".

Apart from the establishment of the Central Poultry Farm, 24 small poultry units have been set up at the Veterinary Dispensaries and Cattle-Breeding Farms. The Central farm serves as a nuclei for the supply of pure-breed birds to the small units while the units supply birds and eggs into the villages. The contribution of the poultry units towards poultry development work in the rural areas were as under :-

Year	Number of poultry units	Number of birds kept	Number of eggs produced	Number of eggs issued for hatching	Number of birds sold for breeding
1942-43	1	7	3	..	..
1943-44	10	245	1,777	504	7
1944-45	14	242	4,577	796	112
1945-46	17	436	6,475	882	161
1946-47	19	480	9,215	1,173	170
1947-48	22	796	9,612	1,383	214
1948-49	23	638	10,207	1,107	237
1949-50	23	1,388	9,184	1,341	145
1950-51	24	1,229	8,578	991	102

Concessions and facilities given by the State for Poultry Developmental work.—In view of the backwardness of the tract and the people not being poultry minded, the Government, in order to give incentive for the poultry industry have offered the following concession for the development of poultry industry in the State :—

(i) Sale of eggs and improved birds at concession rates to the *bona fide* agriculturists of the State.

(ii) Issue of improved cocks in exchange with the deshi ones.

(iii) Free supply of a trio (2 hens and 1 cock) to the Poultry keepers under the condition that for every trio received, he will issue two such trios free of cost to another poultry fancier.

Thus the scheme envisages regular chain of distribution of improved birds and eggs for the poultry developmental work throughout the State.

APPENDIX M

PART I

Industrial Development of Madhya Pradesh, 1940—50

(This article is very kindly contributed by the Secretary to the Government of Madhya Pradesh in the Commerce and Industry Department.)

Madhya Pradesh is endowed with raw materials essential for the development of several key industries. It has rich deposits of iron, coal, manganese, limestone, bauxite, etc., its geographical position gives it transport and strategic advantages for the establishment of large industries. The State Government have been endeavouring to encourage the development of new industries even by financing the more deserving projects to a large extent. In spite of these favourable conditions, the development of new industries in the State, has by no means, been quick and spectacular as the State is deficient in capital resources and lacks in *entrepreneurial* experience. The post-war period was found difficult for starting and developing new industries in the country due to the precipitous fall in share and security markets, high levels of post-war taxation, inflation in costs of plant, labour and raw materials, transport bottle-necks and general uncertainty which is obscuring long term views. Rise in prices vitiated all estimated project costs at a time when funds for industrial enterprises were becoming increasingly difficult to obtain and even well conceived projects suffered by being in the hands of persons without the technical or financial resources.

Despite such circumstances, the State is making steady progress. According to the latest available data there are now 1,702 industrial establishments in this State, both perennial and seasonal, registered under the Indian Factories Act, of which 1,227 are working employing on an average of about 104,294 persons per day.

Cotton Ginning and Pressing Factories.—The number of cotton ginning and pressing factories which was 381 in the year 1940, employing 25,222 persons, declined to 249 in the year 1950, employing 16,948 persons. After the cotton boom and the consequent over-investment of capital and establishment of a large number of factories during the first triennium following the year 1921, the industry has continued to work under a system of pools under which many factories remained idle. The peak year for the cotton crop during the decade was 1941-42 when 1,137,143 bojas of cotton were ginned and 1,110,491 bales pressed. But even in this peak year the area under cotton, according to the fourth forecast of the crop, was less than the preceding 10 years' average by 9 per cent. There has since been practically steady decline in the area under cotton as a result of which the estimated area in Madhya Pradesh, excluding merged territories, dwindled to less than the decennial average by 12·3 per cent.

Cotton Mills.—The number of cotton spinning and weaving mills at the beginning of the year 1940 and 1950 was 11, each with 6,573 looms and 362,394 spindles and 7,207 looms and 371,560 spindles, respectively. Owing to the outbreak of the Second World War, the industry got impetus in the form of large demands by Government for cloth from the year 1940 onwards. The period prior to May 1943 was more or less uneventful. Considerable difficulties were experienced by them in maintaining production and in the absence of control, the speculative rise in price of cotton cloth and yarn continued unchecked. The notable feature after this time was the comprehensive control by the Government of India by the promulgation of the Cotton Cloth and Yarn Control Order, 1943, and similar other legislation in co-operation with the interests of the industry, of prices, production and everything needed by the cotton textile industry. The peak year for yarn production during the decade was 1941-42 when 64,045,000 lbs. of yarn were produced by the textile mills in this State but the production of woven goods during the year was only 30,850 lbs. or 95,236,000 yards which were much less than the average of the preceding triennium. The peak year in respect of woven goods was, however, 1943-44 when the production reached 32,340,000 lbs. or 109,662,000 yards. There has since been a gradual decline in the production of the textile mills due to the continuous overworking of the machinery during the war period and the non-replacement of worn out machinery and high prices of new textile machinery. After the partition of the country the position regarding the supply of raw cotton became difficult. Recurring strikes and labour troubles also retarded production.

The State has a very large acreage of land under cotton but imports a sizeable portion of its requirements of cotton textiles and yarn from the neighbouring States. There is thus a scope for further expansion of the industry. The Government of India sanctioned the establishment of six new textile mills in the State in the post-war period, involving an increase of 120,000 spindles and over 2,000 looms in different parts of the State. But owing to the great difficulties involved in the establishment of the new ones in the post-war years, none of these, have so far been successfully started. The construction of a mill was started at Jabalpur during the year 1948-49 but as the company failed to collect necessary capital it had to postpone the project to better times.

Oil Mills.—The number of oil mills in the State registered under the Factories Act which was 47, employing 1,805 persons in 1940 increased to 68, employing 3,283 persons in the year 1950. Besides these, there are about 17,000 indigenous oil ghanis in the State. Due to large increase in oil mills competition from the vanaspati oil industry, the industry is finding difficulty in obtaining sufficient supply of groundnut seeds for crushing.

Two vegetable ghee factories, *viz.*, Berar Oil Industries, Akola and Sudha Industries Ltd., Shegaon, with capacity of 40 and 20 tons of hydrogenated oil per day, respectively, have started production recently. The main raw material for the industry is groundnut oil, which is available in this State. Cotton seed oil which is very suitable can also be produced.

Rice Mills.—The number of registered rice mills which was 133 employing 3,480 persons in 1940 increased to 243 employing 4,922 persons in the year 1950.

Cement Factories.—There are three Cement Manufacturing Factories in this State prior to the merger of the various cement manufacturing concerns in the year 1936, *viz.*, the factories at Kymore, Katni and Mehagaon, all situated within a few miles of each other and having the same area of supply. After the formation of the Associated Cement Co. Ltd., into which the abovementioned factories were merged, the Mehagaon factory was closed, the Katni factory devotes itself entirely to the manufacture of fire-bricks required by the various factories of the Associated Cement Company and the only operating unit manufacturing cement in Madhya Pradesh, since 1939 is the Kymore Cement Works at Jukehi, belonging to the Associated Cement Company. This followed a project of rationalisation by which uneconomic units were shut down to concentrate production in an economic unit. The manufacturing capacity of this unit was thus extended over and over again with the result that it is now the largest cement factory in this sub-continent; if not in Asia, capable of turning out 3·5 lakh tons of Cement annually, against the combined production capacity of only 3·3 lakh tons of the 3 factories prior to the merger. This factory has four rotary kilns in operation and employs a total labour force of about 3,500. During the decade the production has increased from 208,804 tons in 1939-40 to 325,772 tons in 1949-50. Owing to the steadily increasing demand for cement in the country, the Government of India allowed a manufacturing capacity of 100,000 tons per annum for a new cement factory to this State in the post-war years.

Saw-Mills.—Due to the outbreak of war and the consequent stoppage of imports of Burmese Teak into India there was a phenominal increase in the number of registered saw-mills in the State, which increased from 7 in the year 1940 employing 193 persons to 106 in 1950, employing 2,344 persons.

The number of Ordnance Factories similarly increased from 1 in the year 1940 employing 3,973 persons to 7 in the year 1950 employing 10,818 persons.

Engineering Establishments.—The number of registered engineering (general) establishments, increased from 10 employing 501 persons in the year 1940 to 36 employing 1,316 persons in the year 1950. Besides these, a large number of smaller workshops were also started in recent years by refugees and others in the State. Of the bigger factories are the Government Central Workshop, Nagpur, started by the Department of Industries, Madhya Pradesh, about the year 1947-48 the Simplex Engineering and Foundry Works, Jabalpur, and Messrs C. P. Industries Limited, Khandwa. The Government Central Workshop specialises in repairs to the mechanical equipment belonging to the various Government departments while the two other workshops manufacture rahats and other agricultural implements.

Soap Factories.—A large number of small soap factories were started in the State during the period under review but in the latter part the industry was faced with the problems of raw materials without a corresponding increase in the prices of the finished product, *viz.*, soap. The majority of the factories make semi-boiled soaps and have to work on marginal profits, while the larger factories are not so favourably placed in business as the factories in Bombay, and could not make any appreciable progress. A new concern known as Messrs Sadar Gani Oil Products Co., Ltd., Yeotmal (Factory at Kamptee) having an authorised capital of Rs. 25 lakhs and an issued capital of Rs. 10 lakhs, registered in the year 1947, planned the production of 7 tons of toilet and washing soaps per day by modern methods. The State Government have invested Rs. 50,000 in its shares.

Glass Factories.—The number of registered glass factories increased from three in 1940 to six in 1950 with a rated production capacity of 30½ tons per day of 9 hours based on working furnaces. Some of these glass factories have expanded considerably and they are now equipped with gas fired furnaces of the latest design which promotes economy in fuel and operating efficiency. One important feature in the development of the glass industry in this State during the decade is that glass melting crucibles

which were hitherto being imported mainly from Japan are being prepared by two of the glass factories, one each at Nagpur and Jabalpur, in their own crucible sections. One of the glass factories has developed a sheet metal department equipped with about 70 stamping presses where bed lamp burners are produced. This company is new one of the biggest of its kind specialising in the products and is well equipped, efficiently run and the works are housed in modern structures.

The number of registered printing and book binding establishments increased from 20 employing 1,042 persons in the year 1940 to 49 employing 2,402 persons in the year 1950. Of these, there are now 6 Litho Works, employing 767 persons against 3 such works in 1940.

Pottery Works.—There are about half a dozen pottery works in the State producing stoneware pipes and fittings, jars (including acid resisting stoneware) and refractories, three of which are located in Jabalpur district due to the availability of suitable clay for the purpose in that district. There has been a considerable expansion of some of these works and their products have a very good market, both within and outside the State. Some of the potteries are also venturing on the manufacture of crockery.

Match Factories.—The number of registered match factories has increased from 2 in the year 1940 employing 69 persons to 3 in the year 1950 employing 140 persons. The factories are now finding increasing difficulty in securing adequate supply of semal wood.

Chemical Works.—There are now two Chemical Works in the State registered under the Factories Act employing 23 persons both of which are in the Nagpur District. One of these produces heavy chemicals like Acid Hydrochloric, Acid Nitric and Acid Sulphuric.

Bone Crushing Factories.—The bone crushing industry in this State is of recent origin. There are at present three bone crushing factories, one each at Kamptee, Khumari (Near Raipur) and Amravati, with a crushing capacity of 3,000 tons of bones per annum each. Among these the factory at Kamptee was started in the year 1944, while the other two have been started only in the year 1950.

Iron and Steel Industry.—The Government of India, on the advice of their Technical Experts and Consultants, have already selected Bhilai in the Durg district of this State for establishing the first of their two new half million ton iron and steel plants. The step was taken in view of the availability of raw material required for the establishment of the industry in close proximity. The site is on the main Durg-Raipur Road accessible by rail and road and enjoys greater advantage than any other part of the country, even on the ground of strategy and defence. The project is expected to be taken up by the Government of India as soon as arrangements for financing it are made.

Newsprint and Paper.—Government have sponsored the establishment of two paper factories in the State :—

(1) One is the National Newsprint and Paper Mills Ltd., which is the first factory of its kind in the country and is expected to produce about 100 tons of newsprint per day. Salai wood and bamboo, which are essential for the industry are available in sufficient quantities in the forest. The State Government have given the Company substantial financial aid and various other facilities. Considerable progress has been made and the factory is being established at Chandani in the Nimar district.

(2) The second is the Ballarpur Paper and Straw Board Mills Ltd., a factory having a capacity of about 20-25 tons per day, to be located near Chanda, where bamboo is available in large quantities. The State Government have given substantial financial aid and other facilities.

Orange and Cold Storage.—In view of the importance of the orange crop in this State, the Provincial Industries Committee, in paragraph 113 of its report published in 1946, recommended amongst other things the development of the industry connected with the preservation of the fruit and the manufacture of its various by-products. Besides the oranges, the State produces large quantities of potatoes in the Chhindwara district and also other vegetables such as Cauli flowers, peas, guavas, etc., etc., thus providing excellent scope for the cold storage industry as well. A beginning was, therefore, made with the formation of the Central Hindusthan Orange and Cold Storage Co., Ltd., Nagpur, registered with an authorised capital of Rs. 20 lakhs and a paid up capital of about Rs. 12 lakhs at present, which started regular production in 1949. It has a cold storage capacity of 1,400 tons and is carrying on bottling of orange juice, canning of peas, oranges and other vegetables, cold storage of potatoes, etc., and manufacture of ice. The State Government have helped the industry by advancing to it a loan of Rs. 10 lakhs under the C. P. and Berar State Aid to Industries Act, 1933. The company received large orders from the Defence Department

of the Government of India during the year 1950. There are two other companies, *viz.*, Messrs. India Cold Storage Co., Ltd., and Messrs. Krishak Cold Storage Co. Ltd., Nagpur (Works at Chhindwara) which are specializing in cold storage only. The former has already been erected and is functioning while the latter is in course of erection.

Paints and Varnishes.—The rich forests of the State produce large quantities of the basic materials for paints and varnishes, *viz.*, shellac, resins, oils, etc. Government have, therefore, assisted both financially and otherwise the Gondwana Paints and Minerals Ltd., in establishing a Paints and Varnishes Factory at Kamptee.

Besides this there are two other factories at Katni, *viz.*, Messrs Olpherts Ltd., and Messrs Jaushar Paints and Varnishes Ltd., of which the first one specialises in the manufactures of dry paints only.

Another company which was started in the post-war period is the National Industrial Alcohols Ltd. manufacturing spirits from Mahua flowers at Kamptee. During the year 1949-50 it manufactured about 3 lakh proof gallons of country spirits.

A Jute Mill at Raigarh was also started during the post-war period which has 1,500 looms and 3,326 spindles with a production capacity of 4,500 tons of jute products per annum employing about 850 workers. The total production of the mill for the years 1947, 1948 and 1949 was 3,339; 3,527 and 3,778 tons, respectively.

Other Industries.—Besides these, there are a number of Bidi, Lac and Shellac and numerous Cottage and Small Industry Establishments, namely Handloom Weaving, Hand Spinning, Blanket Weaving, Dyeing and Printing, Oil Presssing by Ghani, Carpentry, Blacksmithy, Silver and Gold-Smithy, Brick-Laying, Pottery, Soap-making, Lime-Making, Basketry, Brass-Copper and Bell Metal Industry, Boot and Shoe-making, Tailoring, etc. of which handloom weaving is the most important.

Handloom Weaving.—The handloom weaving which is by far the oldest and the most extensive of the cottage industries in the State, benefitted considerably during the first half of the period under review due to large demands for textiles during the War Period. As the demand increased, there developed an acute shortage of yarn, the prices and distribution of which were ultimately brought under control by the Government of India. In post-war years, the Industry has been feeling the after-effects of the War time prosperity and has been faced with periods of slackness in demand alternating with periods of shortages of yarn whenever textile mill production declined or scarcity of mill-made cloth was experienced. With a view to giving encouragement to the industry, the Government of India have recently reserved certain varieties of cotton cloth exclusively for the handloom industry to the exclusion of the textile mills and powerloom factories registered under the Factories Act, since July 1950.

Till the year 1945, the effects to organise Weavers' Co-operative Societies did not meet with much success. The control on prices and distribution of yarn by the Government of India, however, gave an impetus to the formation of Weavers' Co-operative Societies and a number of them were registered in the course of the next year. Today there are 232 Primary Co-operative Societies affiliated to the Provincial Weavers' Co-operative Society, Limited, which is the mother institution, started during the year 1934-35 with the help of a grant from the Government of India for the development of the handloom industry. Nearly 50 per cent of the weavers in the State are now within the co-operative fold.

Bidi-Making.—Bidi manufacture is one of the largest small-scale industries in the State, which has made considerable progress from year to year during the period under review. According to the Report of the Bidi Enquiry Committee, 1941, the number of bidi manufacturing establishments in the State in the year 1940 was 1,100,employing 50,000 persons, with an average daily output of 5·1/4 crores of bidies. In the year 1950, the number of labourers engaged in the industry was estimated at 200,000 with an average daily output of 18—20 crores of bidis, consuming 4 lakh maunds of tobacco per year. Great difficulty was experienced in securing the supply of adequate labour for agricultural purposes in bidi manufacturing areas in the State during the latter part of the period under review. To minimise this scarcity of labour required for agricultural operations, the C. P. & Berar Regulation of Manufacture of Bidis (Agricultural Purposes) Act, 1948, was promulgated by the State Government. This Act, however, has recently been held as *ultra vires* by the Supreme Court of India. The question of mechanisation of bidi-making has been engaging the attention of the Department of Industries, Madhya Pradesh, for sometime past with a view to relieve the scarcity of agricultural labour in bidi-making areas.

Departmental Activities.—Government Department of Industries.—The most outstanding feature in the earlier part of the decade was the separation of the post of Director of Industries which was hitherto combined with that of the Registrar, Co-operative Societies and the appointment of a wholetime Director

with the requisite technical qualifications with effect from the 1st May 1940. Unfortunately, the appointment of the wholetime Director, synchronized with the beginning of the World War II and a good deal of miscellaneous work had to be taken up by him. A scheme for the mobilization of the small-scale industries of the State for the production of war supplies with a working capital of Rs. 2 lakhs was also started under the administrative control of the Director of Industries. Under this scheme supplies to the extent of Rs. 2,65,000 were made to the Government of India in the late Department of Supply.

A rapid survey of the industrial potentialities of Madhya Pradesh were carried out by the Provincial Industries Committee appointed by Government in Commerce and Industry Department Resolution No. 8414-2880-A-VII, dated the 9th November 1944. The committee published its report in 1945 which had a good reception. A Project Officer was appointed under the Department of Industries to (i) carry out investigation regarding the quality and quantity of raw materials available for the various industries suggested for establishment in Madhya Pradesh by the Provincial Industries Committee in its report, (ii) to indicate in broad outline the localities likely to be suitable for further detailed investigations for the establishment of these industries and (iii) to make preliminary scrutiny of applications and proposals received for establishment of industries. Investigations for the establishment of steel, cement, paper, rayon and oil industries and the improvement of glass and ceramic industries in the State were carried out by this officer.

Help and advice were given to promote the establishment of small-scale and cottage industries. The textile Branch of the Department of Industries gave, as usual,demonstrations in improved methods of dyeing, printing and weaving. Experiments to evolve new designs in weaving of artistic varieties were continued in the Government Weaving Shed. The departmental scheme for the development of cottage and small-scale woollen industry progressed quite satisfactorily. Blankets are manufactured under this scheme through local wool-weavers for supply to different departments of Government including the Indian Stores Department and to the public. A Central Wool Emporium has also been set up under this scheme, with a view to purchasing and stocking raw wool for sale to Dhangars at cheaper rates and undertaking grading of wool and marketing of finished products. A Government Weaving Factory and a Workshop for the manufacture of textile accessories, on modest scales, were established during the year 1948-49 from the unspent balance of the Government of India grant for the development of handloom industry. The weaving factory run on semi-commercial lines manufactures different types of furnishing fabrics experimented upon in the Government Weaving Shed, while the weaving appliances required for supply to the weavers in this State are manufactured in the workshop. Experiments in the manufacture of labour saving devices were also conducted in this workshop. A notable feature of the departmental activities was the Establishment of a Government Central Workshop and Stores at Nagpur, under the development scheme during the year 1947-48. This workshop is expected (*a*) to undertake repairs of the mechanical equipment including automobiles owned by the various Government Departments and if possible, those of the public also, (*b*) to manufacture special equipment and machinery required by small-scale and cottage industries and (*c*) to afford facilities for the training of skilled and semi-skilled artisans.

PART II

Development of Electricity in Madhya Pradesh by Lt.-Col. E. G. Mackie, M.A.,I.E.E., M.I.M.E., A.I.E.E., Chief Engineer and General Manager, Electricity Department.

The State of Madhya Pradesh is endowed with rich natural resources. It has large deposits of iron, bauxite, manganese and coal. The State has large forest areas growing timber and many other forest products such as gum, harra, katha, etc. In agriculture, the State grows rice, wheat, jawar and dals and is rich in cotton. The Nagpur oranges are famous all over the country. In short, the State has plenty of raw materials. In spite of the fact that raw materials are in plenty, it is surprising that the inhabitants of this State are poor. Perhaps the easy way nature supplies the primary wants of the people here may be the cause of self contentment tending to industrial backwardness. Agriculture is the main stay of the people. Even in this sphere people had not to work hard to get food for living. The other resources of nature remained untapped till occassional individual efforts were made to work an industry here or a colliery there. In the mining side manganese ore mining and coal mining took root early as it was so easy to work the large deposits within easy reach. The rich cotton area attracted textile industry and is now a fairly big industry of the State. There are hardly any other industries worth the name. Since the raw materials and vast natural resources of the State remained untapped, it had an adverse aspect on the economic level of the people. Amongst various factors that contributed to industrial backwardness of this State the greatest single factor was the want of electric power. The supply of economic and abundant electric power, it may be noted, can transform the face of any land but unfortunately this received very scant attention in the past in this State.

The history of electricity in this State does not date back to many years. The first electric licence for electric supply was granted in 1905 to Messrs. Crompton and Company Ltd., London, to supply power to capital town of Nagpur. The present Nagpur Electric Light and Power Company is the successor of the original licensee. Gradually, other Electric Supply Companies sprang up in important towns of the province mostly in the district headquarters. These operated within the municipal limits of the towns. There had been no attempt of large scale electrification in the State until 1937-38 when the first popular Ministry considered the proposals of Messrs C. P. I. Syndicate for a grant of licence for electrification of the Nagpur, Wardha and Chanda districts. The Provincial Government sought the expert advice of Sir William Stamps who recommended the grant of the licence to the Syndicate. The outbreak of Second World War impeded the progress of the scheme. It is interesting to observe that though the first licence was given in 1905, and the second followed after a gap of twenty years while 23 licences were given in thirteen years. Once the ground was made the development was fast. By 1938 twenty-five licensees for electricity supply were working in the province. By then, electricity under private enterprise had assumed urban nature. The development and activities were such that electricity was associated with district places and as more a luxury than a need. Villager could see it in town only. Industrial use did not spread beyond floor mills, saw-mills or some small factories. Even in towns large mills had their own plant. It appeared as though supplying power to large factories or mills was none of the business of the licensees. This can perhaps be best visualised from the comparative graph showing the installed generating capacity of private factory plants shown against the licensees installed capacity in the State. The total capacity of private generating plant was slightly more than that of all the licensees in the province. The war period imposed considerable restrictions on the eletricity supply industry. But the war effort activities were very opportune for developing the electricity industry but dependance on foreign plant and equipment and electrical wiring material curbed the development. It however showed rising tendencies and electrical generation in the State grew fast in spite of controls (Fig. 2). In this machine age electrical consumption is a pointer to development and it is gratifying to note that during the past ten years, it had nearly doubled. Want of cheap and abundant electric power to build up industries was very badly felt by the people and peoples' Government. In 1944 interest in development of electrical power as a prerequisite to idustrial planning was keenly taken when the Post-War Development Plans were formulated in the State. The State Government invited Sir Hency Howard to advise them on the co-ordinated planning of electricity.

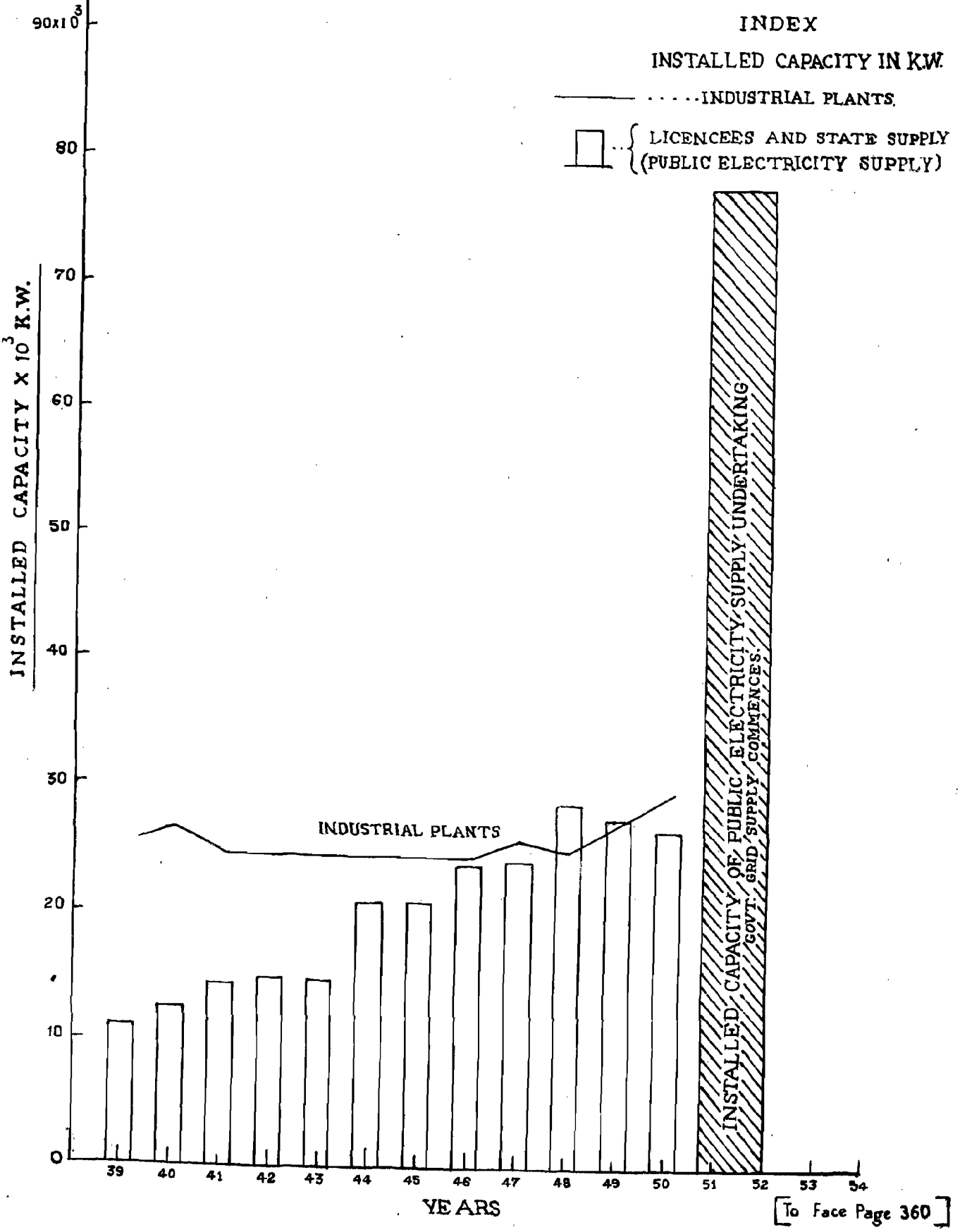
The Assessment of electricity requirement was undertaken of most of the promising areas of the State. A Five-Year Development plan was chalked out for providing the nucleus of State Electricity Supply System to supply power to as wide an area as possible. River valley schemes, which are essentially a long term planning, involving huge capital expenditure, will get their place when Thermal Schemes build a load. The recent load survey of the State indicates a load potential of 240,000 K. W. prospective and 129,000 K. W. firm by 1955 and 346,000 K. W. prospective by 1960 and 161,700 K. W. firm. When this forecast is compared to the development of the State during past ten years it brings out the tremendous task ahead and the bright future this State has. Fig. 1 and Fig. 2 shows the supply position immediately after the Grid power commences. Details such as installed capacity, consumers, units generated etc., during last ten years in the State have been tabulated in Tables I and II.

To achieve this objective beginning has been made by establishing a Central Thermal Station at Khaparkheda near Nagpur. The State has been divided into three Grid areas namely (i) the Southern (ii) the Northern and (iii) the Eastern. Each of these areas will have an independent electric Grid system fed initially from one or more suitably located thermal stations. In course of time these will be linked to water power stations in the area, will obtain inter connection amongst themselves through a system of State trunk lines, with neighbouring State systems at State borders and to an all-India net work at appropriate location when it develops. Due to geographical position and proximity of coal we believe that some of the Madhya Pradesh Stations of which Khaperkheda is one will develop into a regional station. This station of the Southern Grid planned for 60,000 K. W. capacity will be in operation early in 1951. At first 2× 10,000 K. W. sets will commence supply and third will follow soon. Other stations of the Southern Grid are (i) one at Chandni near Burhanpur and (ii) Ballarshah. The station at Chandni is under erection. It will have a total capacity of 17,000 K. W. Practically all the power will be used at site in the first Newsprint paper Factory of the State. The Station at Ballarshah is under project stage. Machinery however is available. The station will have an installed capacity of 24,000 K. W. will work in parallel with the Nagpur Station. In Eastern Grid Area, pilot station of 4,000 K. W. capacity will be completed soon at Raipur and in the Northern Grid area surplus capacity of the Jabalpur Electricity Power Company's Power House will be utilised to develop the area. Places beyond the economic reach of the Grid will be developed by nursery and pilot generating stations and as load builds up will be linked to the Grid. Thus, during 1951-52 plant capacity of the State will have increased by nearly 60,000 K. W. and to 84,000 K. W. by 1952-53 (including

ELECTRICITY STATISTICS

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Fig. 1

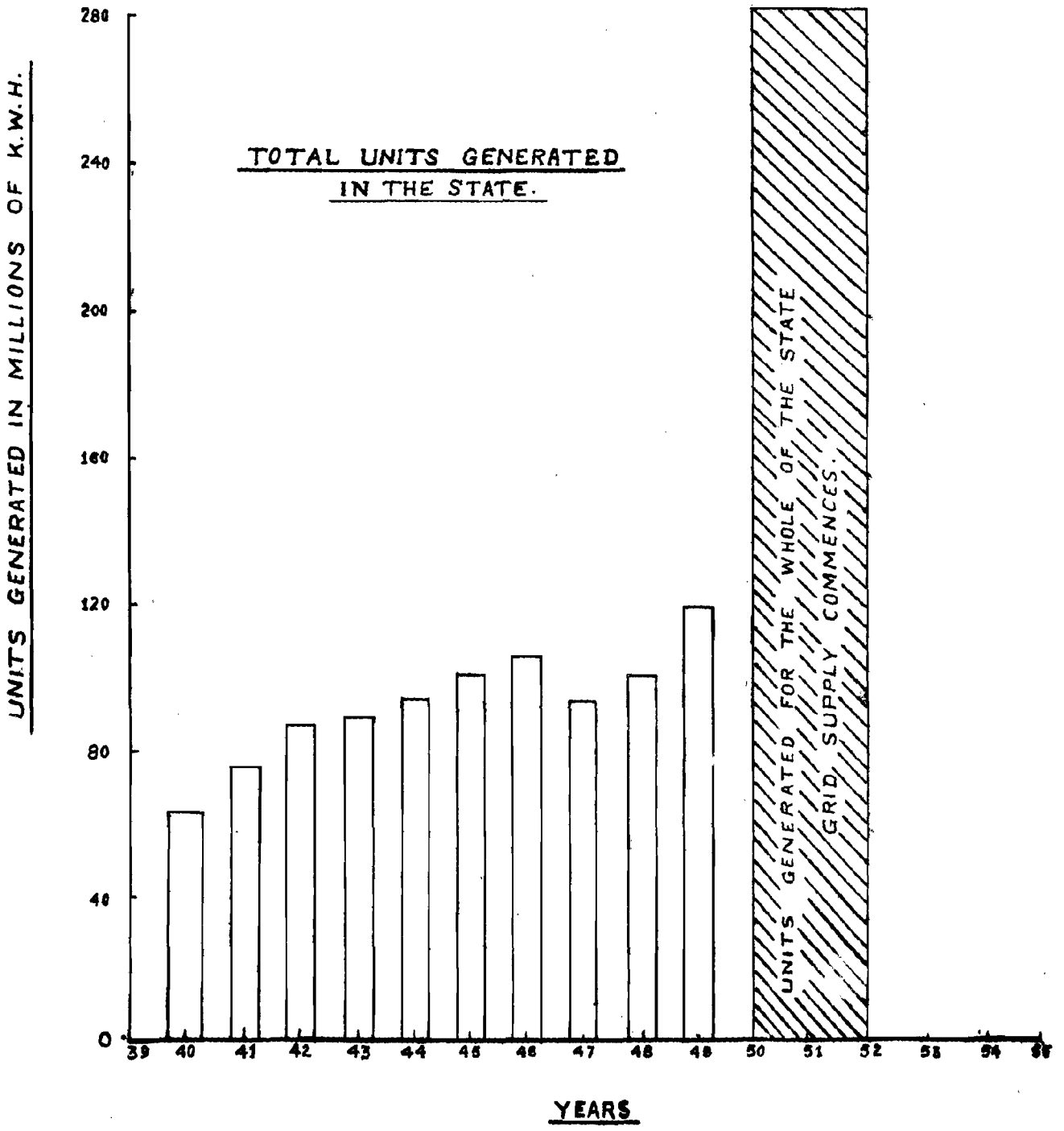


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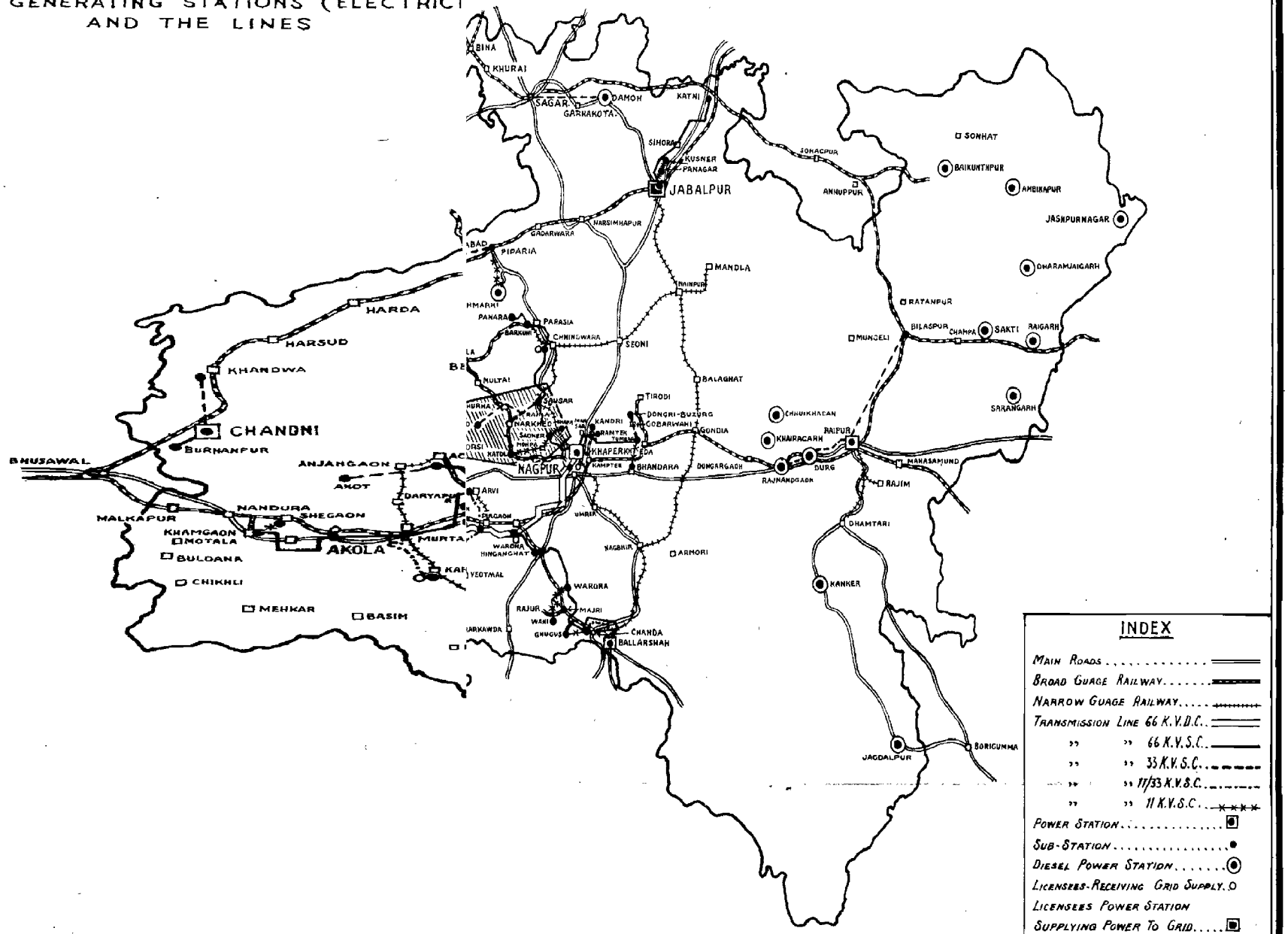
ELECTRICITY STATISTICS

Fig. 2



MAP OF MADHYA PRADE

SHOWING GENERATING STATIONS (ELECTRIC)
AND THE LINES



INDEX

- Main Roads
- Broad Guage Railway
- Narrow Guage Railway
- Transmission Line 66 K.V.D.C.
- " " 66 K.V.S.C.
- " " 33 K.V.S.C.
- " " 11/33 K.V.S.C.
- " " 11 K.V.S.C.
- Power Station
- Sub-Station
- Diesel Power Station
- Licensees-Receiving Grid Supply.
- Licensees Power Station Supplying Power To Grid
- Area Under Rural Electrification Scheme

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8,000 K. W. of Jabalpur Supply Co., already available). A glance at figure 1 showing the installed plant availability of the public utility undertaking during last ten years and now in 1951-52 when State Electricity becomes available is worth noting—in 1949-50 it was 26,485 K. W. only while in 1951-52 it will be nearly 80,000 K. W., *i.e.*, nearly trebled.

The State Government have declared their policy in respect of electricity development which clearly states—

> " Lest prospective customers particularly bulk consumers like mills and factories should feel uncertain as regards Government's intentions in the matter of power supply to the public, and with a view to helping them to draw up their own post-war plans, the State Government would take this opportunity of stating that it hopes to ensure that the rate for electric power offered to the public will not exceed the actual cost of electricity that can be generated by the consumer's existing plant or the hypothetical cost of electricity that can be generated by a new plant of adequate capacity required to be erected to replace the former or for a newly established enterprise ".

This had a very salutary effect on the industrial development of the province. They have been assured of economic power, at least not costlier than what they can generate, has relieved the burden of finding out capital for private generating plant and thus enabling them to utilise the same for the betterment or an establishment of industry. The result of such a progressive policy has been to book up all the available capacity at Khaperkheda even before it could commence supply necessitating the extension very soon. The industries which will be taking power from Grid are Textile Mills, Ginning and Pressing, Oil Mills, Saw Mills, Rice Mills, Flour Mills, Paper Mills, Aluminium Industry, Steel Industry, Cement Mills, News Print Factory, Manganese Mines, Collieries and in rural areas pumping, etc., and many others. This has all been possible by the bold policy of supplying power at economic rates to industry.

To carry electricity from the source of generation to extensive areas in the State nearly 1,200 miles of high voltage lines will have been laid as a first stage. These will be progressively increasing till every hut has supply. A map showing the generating stations of the State Electricity Supply industries and the lines is enclosed.

In the past electricity had mostly served urban areas and the needs of rural areas remained neglected. In the development schemes today rural areas have been given special emphasis. Comprehensive rural electrification scheme for the province has been planned. The transmission lines radiating all over the State are the arteries of supply which will feed the main centres of rural development.

State electricity industry has taken its birth now and it is hoped that with this healthy outlook it will have made well rapid progress by the time next census has its operation.

TABLE I

Electricity statistics for the State of Madhya Pradesh

Year	Total installed capacity in K. W.	Units generated
(1)	(2)	(3)
1938-39	36,494	..
1939-40	39,124	..
1940-41	39,325	62,436,328
1941-42	39,815	75,028,947
1942-43	39,574	86,473,176
1943-44	45,374	87,184,335
1944-45	45,372	93,888,377
1945-46	48,485	101,595,055
1946-47	50,133	104,547,989
1947-48	53,582	91,150,238
1948-49	55,118	99,283,221
1949-50	55,979	118,174,774

TABLE II

Electricity Statistics—Private Industrial Supply and Supply by Licensees

Year	Licensees				Industrial private plants	
	Number of licensees	Total installed capacity in K. W.	Units generated	Number of consumers	Total installed capacity in K. W.	Units generated
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1938-39	24	11,030	..	10,400	25,464	..
1939-40	25	12,413	1,46,88,479	12,392	26,711	..
1940-41	26	14,352	1,79,20,775	15,744	24,973	4,45,15,553
1941-42	26	14,915	2,19,70,776	17,288	24,900	5,30,58,171
1942-43	26	14,701	2,82,71,792	18,291	24,873	5,82,01,384
1943-44	26	20,640	2,95,40,291	18,648	24,734	5,76,44,044
1944-45	26	20,691	3,88,64,384	18,723	24,681	5,50,23,993
1945-46	26	23,915	4,08,41,409	19,188	24,570	6,07,53,646
1946-47	26	24,181	3,98,27,117	21,158	25,952	6,47,20,872
1947-48	26	28,617	448,60,350	23,526	24,965	4,62,89,888
1948-49	24	27,662	5,05,75,386	26,232	27,456	4,37,07,635
1949-50	24	25,485	5,78,59,391	29,331	29,494	6,03,15,383

APPENDIX N

A brief note showing the notable activities of the Public Health Engineering Department during the last five years by Shri Purtej Singh, Public Health Engineer, Madhya Pradesh

This department is dealing with the following Post-War Development Schemes :—

(1) Scheme No. 228.—Water Supply and Drainage to important towns of the State.
(2) Scheme No. 229.—Water Supply to Rural Areas—Sinking of Wells.
(3) Scheme No. 230.—Protected Water Supply for Fairs.

Urban Water Supply.—(1) Out of 130 towns in the State only 21 towns have piped water supply. These works serve 5·73 per cent of the total population in the State. None of these water works can be called satisfactory from either qualitative or quantitative points of view. This department prepared preliminary schemes for protected water supply to 32 towns in the state which included remodelling of the existing water works and also providing new water works in the towns having a population of above 20,000. Preliminary sewerage schemes for these 32 towns were also prepared.

(2) In pursuance of these objects in view, this department carried out detailed survey and investigation and prepared stage I water supply schemes for 18 towns in the State. Of this, the improvements to Raipur water supply scheme came up for execution at a cost of 9·21 lakhs financed by the Municipal Committee. The water works was formally opened on the 15th August 1951 and will be handed over complete in all respects to the Municipality by March 1952. The Pachmarhi Water supply scheme financed by the State Government is also under execution by this department. This scheme is expected to be completed by the next summer. For the last two years the maintenance of the existing water works at Raipur is also being carried out by this department. The water supply schemes for Durg and Warora have been approved by the Public Health Board. The Durg water supply scheme is being taken in hand very shortly. Orders for pumps, pipes and plant are being placed. The Warora water supply scheme is also likely to be taken up for execution within about two months' time. The execution of other schemes is dependent on the availability of funds at the disposal of the Municipal Committees. As the State Government is not in a position to sanction loans to the Municipal Committees to undertake these schemes the Municipal Committees are finding difficulty in financing them.

(3) This department investigated and prepared a tentative scheme for the water supply to Nepa Mills. The scheme is now under execution by the mill authorities. A scheme for water supply to Pench Valley Coal Field area had also been formulated by this department. The Government of India, Labour Department, placed a sum of Rs. 50,000 at the disposal of this department for constructing an experimenta well at Datla as a preliminary step towards implementation of the scheme. This scheme was, however, subsequently dropped.

Rural Water Supply.—This department undertook survey and investigations regarding rural water supply conditions in 5,606 villages in the State and submitted proposals for sinking of wells as may be required in villages according to priority. It was, however, subsequently decided by Government that the execution of the scheme should be entrusted to the Janapada Sabhas. Accordingly this department is exercising technical control over this scheme which is being executed by the Janapada Sabhas. The control of grant-in-aid payable to the Janapada Sabhas to meet half the expenditure of the construction of wells in rural areas is also vested with this department. So far five wells have been constructed and 173 wells are under construction.

Water Supply at Places of Fairs and Festivals.—(1) Due to poor sanitation, places of Fairs were always the centres of outbreak of Cholera and Dysentry epidemics. Preventive measures were only in the nature of Mass Inoculation of Pilgrims. The Public Health Engineering Department has since March 1948, started making arrangements for supply of protected water for drinking purposes at all important fairs in the State.

(2) For this purpose, the Department is equipped with twelve water supply units. Each Unit consists of a Truck, a Mobile Filtration Plant and a Portable Pump. The Filtration Plant is capable of pumping water at the rate of 3,000 gallons per hour, and after proper filtration and disinfection water is pumped into Canvas Tanks of 500 gallons capacity, to which twelve taps are connected, from which pilgrims draw water.

(3) The number of fairs where arrangements were made for protected Water Supply are as under :—

During 1948-49	27 fairs.
During 1949-50	35 fairs.
During 1950-51	33 fairs.
During 1951-52 (to date) ..	18 fairs.

The daily attendance at these fair s ranged from 10,000 to a lakh of pilgrims. The duration of the fairs varied from three days to a month.

(4) From reports received from the Medical Officers, posted to these fairs, from Janapada Sabha Presidents, and from Press Reports, it is seen that there has been a complete stoppage of Cholera, Dysentry etc., at all these places of fairs.

(5) Four Filter Units were sent to Raipur at the request of the Director of Health Services in December 1950, to combat the Cholera epidemic, as a result of large number of people returning from Angul. With the help of these units, filtered and chlorinated water was supplied at all the camps and the epidemic was quickly brought under control. The District Authorities at Raipur and the Director of Health Services expressed their appreciation of the work done.

(6) In addition to the achievements reported above in connection with the 3 developments schemes under operation, this department executed improvements to Samanvaya Rugnalaya at Nagpur with water supply and sanitary arrangements.

(7) The designs and specifications for water supply and sanitary works for Medical college buildings, Ministerial staff quarters at Nagpur, Leper Asylum at Amravati, Dufferin Hospital, Sagar, Irwin Hospital, Amravati, Victoria Hospital, Jabalpur, Police Lines Takli were prepared by this department.

(8) The local bodies were supplied with suitable designs and specifications for all sanitary works proposed by them. Number of type designs for all sanitary installations were prepared by this department and distributed to the local bodies and other Government departments for adoption. Sanitary requirements in the mills and factories constructed in the State are also scrutinised by this department and necessary advice rendered before granting permission for such constructions. This department undertook training Gram Panchayat Supervisors in elementary principles of Public Health Engineering, particularly in methods of collection and disposal of human excreta, cattle dung and waste fodder and provision of safe water supply in rural areas.

(9) Detailed drainage schemes for five towns have also been prepared and will shortly be finalised. As the execution of a drainage scheme is more or less dependent on water supply scheme, this will obviously materialise after the water schemes are undertaken.

(10) This department is carrying out inspection of the existing water works in the State and suggests ways and means to improve the existing conditions as far as possible.

APPENDIX O

Vital Statistics

1. In Madhya Pradesh the Vital Statistics figures are received from all the districts in the office of the Director of Health Services where they are compiled. The method of collecting the data in the urban and rural areas of the State and the opinion of the Director of Health Services on the system as a whole are contained in the note very kindly prepared by him and included in Annexure I.

2. In the previous Census Reports of the State the validity and accuracy of the Vital Statistics have been commented upon and in the 1931 Report the following observations were made :

> " The opinion expressed at past Censuses was that whereas reporting of actual occurrences is fairly accurate, the classification under the diseases which caused death is very unsatisfactory. ....The figures (relating to excess of births over deaths and growth of population) prove that for purposes of demography the vital statistics must be treated with care. In certain places, as will be indicated in the more detailed discussion hereafter, registration is tolerably efficient. In others, specially in the backward tracts and in some of the States, it is quite unreliable."

3. With regard to the standard of maintaining vital statistics during the period 1931 to 1940 and 1941 to 1950, it might be pointed out that while the general trend towards improvement continued fairly uniformly during the first decade, it was probably affected during the second decade in the Chhattisgarh sub-division of the East Madhya Pradesh Division on account of the pre-occupation of the District Officers and their staff in activities connected with food procurement and distribution.

4. Although the present system of collecting vital statistics is not free from defects, it has been in vogue from a very long time and not only have many of the Watchmen in actual practice become expert in handling this type of work, but in some cases, particularly in the villages the people have also come to regard it as one of their duties to inform the Watchmen of the vital events. In fact the method has almost acquired the sanctity of a village custom and has become as it were a part of the usual village life. This is an advantage which has a very considerable effect on the accuracy of the data collected from these places. Besides, the check by superior officers, with all its faults and inadequacy, has had the effect of giving the whole work a formal outlook which has not been without its influence on the innocent villagers to a certain extent. The number of errors found and the occassional disciplinary action taken by the Tahsildar against the Village Headman or the Kotwar have all helped, though in a limited manner, to improve matters. In fact in certain parts of the State such as the South-West Madhya Pradesh Division the registration is comparatively very accurate. In other parts such as those of the Integrated States, where the system of recording births and deaths was hardly in existence and where an attempt is now being made to introduce it, the available figures are unreliable and are, therefore, not taken into consideration in reviewing the problem for the State as a whole and the Natural Divisions. In the East Madhya Pradesh Division and in the Integrated States in particular, there are in fact serious physical obstacles in the way of the vital statistics organisation including those connected with the topography, extreme distances, lack of communications and almost universal illiteracy.

5. The standard of maintaining the vital statistics in the South-West Madhya Pradesh Division may be considered to be the best in the State followed by that in the North-West Madhya Pradesh Division and the East Madhya Pradesh Division. In fact as early as 1911 the Census Superintendent mentioned in his report (page 33) that reporting in Berar was found to be specially accurate.

ANNEXURE I

Note on the Registration and Compilation of Statistics in Madhya Pradesh including the Integrated States with particular reference to the views as regards the accuracy and working of Vital Statistics, by the Director of Health Services, Madhya Pradesh, Health Section

A.—Registration of Vital Statistics

(i) In Municipal towns, Notified areas and Cantonments

1. In all Municipal towns, Notified areas and Cantonments where there are byelaws or other orders under the law to this effect, it is compulsory on the head of the family to report every case of birth, death or still-birth occurring in his house, at the nearest police station-house or outpost. A definite period is allowed for making these reports and the failure on the part of persons responsible to report such occurrences are dealt with by the Municipal Committee, Notified area Committee or Cantonment authority by means of prosecution in selected cases.

2. Deaths from epidemic diseases, such as plague, cholera, smallpox, influenza, relapsing fever, acute poliomyelitis, anthrax, epidemic pneumonia, encephalitis, lethargica, diphtheria, measles, scarlet fever, typhus, typhoid, mumps, dysentery, whooping cough, tuberculosis of the lungs, chickenpox, puerperal fever, leprosy, yellow fever and cerebrospinal meningitis or any case of sudden death are to be reported at once and the period allowed for such reports, when these are necessitated by byelaws or other orders under the law, does not ordinarily exceed 24 hours.

3. In order to provide a check on the figures entered in the police registers, the Conservancy staff are required to collect information regarding births, deaths and still-births occurring in their respective circles from the inhabitants. In the byelaws of certain Municipalities it is compulsory to furnish such information on requisition by any member or paid servant of the Municipal Committee. The Conservancy staff will report these occurrences to the Health Officer, if any, or to the Secretary of the Municipality or, where there is no paid secretary, to the Honorary Secretary or to some paid servant of the Municipality or Cantonment, selected with the approval of the Deputy Commissioner.

4. The police registers as prescribed in paragraph 14 will be compared weekly, *i.e.*, on the 1st, 8th, 15th and 22nd of each month at the police station-house with the Municipal or Cantonment registers, by the Municipal Secretary or Health Officer or any other approved Official entrusted with the duty, who should ensure that all corrections are entered in red ink in the police registers and should submit a list of any persons who have failed to report to the police (see paragraph 1), to the Municipal Committee or the Cantonment authority for legal action against them. The weekly return sent by the police to the Civil Surgeon's office on the dates and for the periods specified in paragraph 14 will contain the corrected figures *i.e.*, those embodying both items reported to them and items taken from the Municipal or Cantonment registers.

*Notes 1.—In order to facilitate check, the entries in Police registers should be made by mohallas or other well defined areas.

2.—The weekly retun from Police outposts too will be submitted to the Civil Surgeon through the town or Cantonment Police Station.

5. In addition to the weekly returns referred to in paragraph 4, the police in all District headquarter towns, Cantonments, and other towns, the population of which is 30,000 and upwards, should submit to the Civil Surgeon a weekly return in Form No. 11 (at page 346 of the C. P. Public Health Manual of 1934 Print) showing :—

Births and total deaths registered from all causes and also deaths from cholera, smallpox, plague, fever, respiratory diseases, dysentery and diarrhoea.

These returns should be prepared for weeks commencing on Sunday and ending on Saturday and submitted so as to reach the Civil Surgeon's office every Monday.

The Civil Surgeon should compile a district return in the same form and submit it so as to reach the Office of the Director of Health Services (Health Section) on every Wednesday for publication in the local gazette.

6. Where the ward member or members may be found willing to help, the Statistics obtained by the conservancy staff should be sent to the ward members concerned who should enquire into the completeness of the information for their wards.

7. If any other local methods of obtaining correct vital statistics suggest themselves and are approved by the Deputy Commissioner, they may be tried and an account of them and of the result may be given in the Annual Public Health Report.

8. In places where arrangements have been made by the Municipal Committee to register deaths of still-births at burning ghats or burial grounds, and to record births through dais, the inhabitants of such places will not in any way be exempted from the essential duty of reporting at police-station-houses or out-posts; the municipality should utilize the information in verifying the Statistics collected by the Conservancy staff.

(ii) In Rural Areas

9. In the rural areas the registration of births, deaths and still-births is not legally obligatory on the head of the house hold, and the duty of making such reports is in the Central Provinces laid on the Mukaddam of the village by section 193 (i) of the Land Revenue Act, II of 1917, and on the village Kotwar by rule 5 (vii) of the rules framed under section 227 (2) (q) (iii) of the Act, and in Berar on the Police Patel by rule 25 of the schedule of duties of Police Patels contained in Appendix A to the rules framed under section 21 of the Berar Patels and Patwaris Law.

10. All births, deaths and still-births are reported at fixed intervals at the police station-house of the circle in which the village is situated.

11. It is the duty of village Watchmen to report all births and deaths occurring within their villages at the police-station to which they make their periodical reports. Report books for village Watchmen (of one uniform pattern) should be obtained on an indent from the Superintendent, Central Jail Press, Nagpur and issued free to Mukaddams in the Central Provinces and to Patels in Berar.

12. The state Government have delegated to the Director of Public Health, Madhya Pradesh, the powers to sanction the grant of recurring honoraria to Police Station writers, who record the Vital Statistics and submit the weekly returns, at the rates mentioned below:—

(*a*) In towns of 5,000 inhabitants or more .. .. Rs. 2 per mensem

(*b*) In charge of a rural circle of 75 populated villages or more .. .. .. Do.

(*c*) In smaller towns or rural circles .. .. Re. 1 per mensem

(*d*) If a station-house includes two rural ranges for which separate returns of vital statistics are submitted two allowances can be given. ..

(*e*) If a station-house circle includes both a rural circle and a town which counts as a town or urban circle (*i.e.* for which a separate return of vital statistics is submitted), then the allowance will be Re. 1 or Rs. 2, as the case may be, for the rural circle. The fact that a village containing 5,000 people is included in the rural circle does not entitle the station writer to two allowances. ..

13. The report books should be written by the Mukaddam, Malguzar, Patel, or by any literate person in the village under the direction of the Mukaddam or Patel.

14. The Officer-in-charge of each police-station will enter, village by village, each birth or death reported to him in a register in Form No. 6, (at Page 333 to 336 of the C. P. Public Health Manual of 1934 Print.) and he will send to the Civil Surgeon's office, on the dates and for the periods specified below, a copy of the totals of khalsa and zamindari figures separately recorded:—

On the 3rd of each month, for the period intervening between the 22nd and last day of the preceding month;

On the 10th of each month, for the week ending on the 7th of the current month;

On the 17th of each month, for the week ending on the 14th and on the 24th of each month, for the week ending on the 21st.

15. The mere reporting of Vital Statistics is of little use for purposes of scientific deduction, unless—

(*a*) as large a number of entries as possible is actually checked in the villages,

(*b*) the accuracy with which the entries in the Kotwar's book are transcribed into the police register is checked at the station-house, and

(*c*) information is furnished as to the extent to which the above two checks have been performed, and the proportion of errors which was detected.

When this information has been furnished, it is possible to form a judgment as to the reliability of the statistics, as a whole, and to gauge their usefulness for scientific purposes. The following instructions should therefore be followed by Officers of the Revenue, Medical and Police Departments in checking statistics :—

(*a*) The entries in the Kotwar's books should be checked in the village by all Revenue and Medical Officers including the vaccination staff, the method being to assemble the villagers and question them as to the births and deaths which have occurred in the village and as to the correctness of the entries made in the book.

(*b*) The vaccination staff should also make enquiries at all houses which they visit in the course of their vaccination work, in order to ascertain that all births and deaths have been correctly reported.

(*c*) Enquiries in the villages should not be made by Police Officers, this work not being part of their legitimate duties.

(*d*) The entries in the police register should be checked by —

(i) All Revenue Officers not below the rank of Naib-Tahsildar.
(ii) All Medical Officers not below the rank of Assistant Medical Officer.
(iii) Superintendents and Assistant Superintendents of vaccination.
(iv) All Police Officers not below the rank of Circle Inspector.

Any Kotwar, who is present at the station-house, should first be questioned in order to test the accuracy of the entries made in his book and these entries should then be compared with the entries made in the police register.

(*e*) On the first day of every quarter, every revenue officer should send to the Deputy Commissioner and every Medical Officer should send to the Civil Surgeon a report in Form No. 12 (at page 347 of the C. P. Public Health Manual—1934 Print) showing the results of the checking done by him (i) in the villages, and (ii) at police stations during the preceding quarter. Only those entries should be entered in the form which have actually been checked, *i. e.*, if the Kotwar's book contains 50 entries, and 15 of them are chosen at random for verification the number to be recorded in the form is 15, and not 50.

Similarly, only those entries in the police register should be considered as checked which have actually been verified in detail from the Kotwar's book.

(*f*) A similar return should be submitted on the first day of every quarter by the Police Officer, specified above, to the District Superintendent of Police, only those columns which relate to the police registers being filled up. The District Superintendent of police should take early action to deal with those police officers who are responsible for mistakes in their registers.

(*g*) The above return should be tabulated each quarter as received, and a consolidated statement in the same form should be forwarded by the Deputy Commissioner and the District Superintendent of police respectively to the Civil Surgeon before the 10th of the first month of the quarter. In this statement checks made by the Deputy Commissioner and the District Superintendent of police personally should be included. Details of checking officers, villages checked and so on, should be omitted, and totals only should be given under each column. These statements will be used by the Civil Surgeon for compiling the information required for the Annual Public Health Report.

(iii) In Railway Limits and Forest Areas

16. Births and deaths occurring within railway limits are reported to the nearest police-station by certain Officers of the Railway Administration concerned, in accordance with arrangements made with them by the local Government.

17. In forest villages the Kotwars who are appointed by the Forest Department will report the vital occurrences in forest areas to the Range Officers and the Range Officers will send the monthly statistics to the Civil Surgeon, before the 10th of the month following that to which they relate.

B.—Compilation of Vital Statistics

18. From the materials furnished to the Civil Surgeon in accordance with paragraphs 4 and 14 there will be compiled in his office two monthly statements in Forms Nos. 7 (at pages 337 to 340 of the C. P. Public Health Manual—1934 Print) and 8 (at page 341 of the C. P. Public Health Manual—1934 Print). In the former will be entered the account of all births, deaths and still-births registered in rural circles (showing khalsa and zamindari separately) of the district, and in the latter all births, deaths and still-births registered in towns. The term 'town' includes (1) all Municipalities, (2) all Notified Areas, (3) all Headquarters of Districts, (4) all Cantonments and (5) places with a population of 5,000 or more. The totals of statement Form No. 8 (at page 341 of the C. P. Public Health Manual—1934 Print) will be entered in statement Form No. 7 (at pages 337 to 340 of the C. P. Public Health Manual—1934 Print) after the totals of that statement, and a grand total made up for the whole district.

Note.—In form No. 7 the registration circle will be entered in geographical, not alphabatical order.

19. The Civil Surgeon will, as soon after the close of the month as possible, send a copy of the statements, referred to in the preceding paragraph direct to the Director of Public Health, and another copy thereof to the Deputy Commissioner of the district, who will transmit it with any observations he may wish to add to the Director of Public Health. The Civil Surgeon will carefully scrutinize the figures contained in the statements, and address the Deputy Commissioner on such points as may call for remarks. These remarks, with the Deputy Commissioner's orders thereon, will be forwarded to the District Superintendent of Police and a copy of the same will be sent to the Director of Health Services (Health Section), Madhya Pradesh, by the 15th of the month following that to which the statistics relate.

Omissions and corrections when discovered by the Checking Officers (Revenue, Medical, Public Health, Police and Vaccination staff) should be entered in the Kotwar's books which will be copied periodically in the Police Register. The Station House Officer should submit every month a statement of corrections and additions so made to the Civil Surgeon of the district who in turn should forward the same to the Director of Health Services (Health Section), Madhya Pradesh, through the Deputy Commissioner, in the prescribed form.

20. On receipt of the monthly statements in Forms No. 7 and 8 from all districts, the Director of Health Services will have two statements in Forms Nos. 9 (at pages 342—343 of the C. P. Public Health Manual—1934 Print) and 10 (at pages 344—345 of the C. P. Public Health Manual—1934 Print) compiled in his office and published in the Supplement to the *Madhya Pradesh Gazette*.

21. All deaths from the following diseases or deaths from any other disease of an unusual nature or in unusual numbers shall be reported to the Civil Surgeon by the Station House Officer on the same day :—

English		Hindi (हिंदी)		Marathi (मराठी)
Cholera	..	हैजा	..	पटकीचा आजार.
Plague	..	प्लेग	..	प्लेग.
Small-Pox	..	चेचक	..	देवी.
Cerebrospinal	..	गर्दनतोड बुखार	..	मानमोडी ज्वर.
Dysentery	..	पेचीश	..	हगवण किंवा आंवरक्त.
Measles	..	गोवरी	..	गोवर.
Typhoid	..	मोतीझिरा	..	विषम ज्वर.
T. B. of Lungs	..	फेफडे का क्षय	..	कफक्षय.
Mumps	..	गलसुवा	..	गालफुगी.
Malaria	..	जाडे का बुखार	..	हींवताप.
Influenza	..	तीवे का बुखार	..	तिव्याचा ज्वर.

22. (*a*) In municipal towns and notified area committee, the Medical Officer of Health or Secretary, Municipal or Notified Area Committee, where there is no Medical Officer of Health shall submit to the Civil Surgeon daily returns of infectious diseases enumerated in Rule 2, Chapter II of the Public Health Manual.

(*b*) Mukaddams and Kotwars in the Madhya Pradesh except Berar and Police Patels in Berar shall, under section 193 (i) of the Land Revenue Act II of 1917, Rule 5 (vii) of the rules framed under section 227 (2) (q) (ii) of the Act and under Rule 25 of the Schedule of duties of police patels contained in Appendix A of the Rules framed under section 21 of the Berar Patels and Patwaris Law, respectively report deaths from the diseases mentioned in paragraph 21 or deaths of an unusual nature or in unusual numbers to the nearest police station or outpost the same day.

23. The Civil Surgeon shall submit daily returns of these diseases, as indicated in Rule 53, Chapter I of the Public Health Manual.

VIEWS AS REGARDS THE ACCURACY AND WORKING OF VITAL STATISTICS

24. The existing system is unsatisfactory for the following reasons :—

(1) There is no satisfactory machinery for counter-checking the accuracy and completeness of the registration. In Madras Presidency, the District Health Officers through their Health Inspectors and Vaccinators constantly check the accuracy and completeness of the registration by the village headman. This is not possible in Madhya Pradesh because we don't have these staff excepting the vaccinators.

(2) Delay in collection and compilation of statistics.—The existing procedure is that the village watchmar reports the occurrence of births and deaths to the Police Station House, who in their turn report to Civil Surgeons of the districts. The Civil Surgeons consolidate the figures for the whole district and forward them to the office of the Director of Health Services (Health Section), Madhya Pradesh; whereas in the Madras system the village headman reports to the Tahsildar who reports the figures of births and deaths directly to the Director of Public Health. This considerably shortens the period of compilation.

(3) Inadequacy of the staff at State headquarters to analyse the statistical information received, collect useful data and communicate to the executive authorities for necessary action. In the office of the Director of Health Services there are two Upper Division clerks and two Lower Division clerks for this work. There is no officer to supervise and guide this work.

Registration of births and deaths in rural areas is not compulsory.

APPENDIX P

Articles on the Census Economic Enquiry by Shri V. S. Krishnan, Deputy Secretary to the Government of Madhya Pradesh in the Publicity Department

I.—SCOPE OF THE ENQUIRY

The census operations involving the writing out of approximately 350 million individual enumeration slips, each recording certain important data regarding every man, woman and child living in India, is a stupendous undertaking. But the value and usefulness of the information so collected are so immense that this is worth doing; indeed, it is obligatory on every State to do. Such a census enumeration has been done once in every 10 years in the past, the last census having been taken in 1941. But the enquiry that has now to be made, from the 9th February to the 28th February 1951, is different and unique in many ways. Apart from the fact that this is the first census after the partition of the country and the inauguration of the Indian Republic, it is also the first census in which the fundamental principle of classification will be the economic role that each individual plays in the country.

In the past the basic data according to which the census slips were sorted out was the "religion" of the individual. In every district and every village the population was first of all separated into religious groups, and these divisions were maintained throughout the sorting operation, and all data regarding literacy, livelihood, distribution of age groups, etc., were cross-tabulated according to religion. Such a procedure was not only unhelpful but was capable of being misused; though, no doubt, it is necessary to record the religion of every individual as one of the facts of information.

The main purpose, therefore, of the present census enquiry is to group every individual in respect of his share in the economic activity of the whole community. In this sense an individual may be economically active, passive or partially active. It is this that determines his place in the economic structure of society. Is a person economically active? Does he either produce goods or render services? Or is he inactive and, therefore, dependant? Or alternately is he active in a small measure, but not sufficiently active to get a living for himself? The answers to these questions will indicate the person's position in the community *vis-a-vis* its economic life.

In regard to the active and semi-active people there are other enquiries regarding the kind of occupations they pursue, whether they are engaged in agriculture, commerce, trade, non-agricultural production or other services. These will again raise other questions as to whether the person is employed by some one, or whether he himself employs others, or whether his activity is independant of both employees and employers. All these facts will be collected during the present census. But the foundation of the whole enquiry is the placing of the individual as an economically active or non-active person, because it is this that will enable us to judge the actual and the potential man-power in the country, and the degree of economic productivity that has been attained.

In order to get at this knowledge what is the test that we may apply to each individual to see if he is economically active? The simplest test is to ascertain whether by means of this activity he is able to sustain himself, or whether he has to depend on somebody to sustain him. In other words, is he a "self-supporting" person or is he a dependant? In our country there is usually also another category of persons in most households who are economically active in a limited way but not sufficient to earn a sustenance independent of the household. A younger brother or a son may do manual labour or engage in some cottage industry, but the income would go to the common pool and will have to be supplemented by the head of the family for supporting him. Such persons are reckoned as economically semi-active and classified as "earning dependants".

The term "self-supporting person" as used in the enumeration has led to some misunderstanding in certain quarters who fear that by the use of this term in the census operation, hundreds of semi-starving persons will be classified as self-supporting just because they are the bread-winners of their households. The result, they fear, would be to give a false picture of the condition of life in the country. But there is really no ground for this fear, because the enumerators who use the term, the census officials who tabulate the results, and the Government who will publish the report, are all fully aware of the precise and technical sense in which this common and non-technical phrase is used in the census operation. It has been made very clear to every one that this phrase has no reference to the standard of living, but where a person was in receipt of an income—though it might be a pittance—and that income was sufficient for his maintenance, though at a miserable level, he was to be described for the purpose of the census as "self-supporting person". This has been made abundantly clear to everyone concerned, and will be amply brought out in the census reports.

For, there is no attempt made in the present census enquiry to ascertain the standard of living at which the individual is able to sustain himself. All that is attempted is to find out whether a person is sufficiently active economically to maintain himself at the *de facto* level—deplorable and low as it may be,—at which he actually does live. A labourer, for instance, who breaks stones for the railway tract may earn twelve annas a day and with that he may be able to feed and maintain himself in howsoever poor a condition. Nevertheless, he is a bread-winner and is economically active and, therefore, he is counted as such in the census enquiry.

It would, no doubt, be very valuable, and highly instructive to social studies, if it were possible to ascertain the actual earnings of each active individual, and classify the standard of living of the different groups of the population. Then we shall get a picture of the pattern of life with all its dark shadows and grim bleakness. But during the present census enquiry this is not possible. It will not be desirable to mix up too many investigations in an operation where 350 million people have to be questioned and answers recorded by enumerators not all of whom are technically expert, and who undertake this task voluntarily during their leisure hours. If questions regarding the actual income, family budgets, cost of living, etc., were to be asked to every individual, there is bound to be suspicion and reticence on the part of people and even a feeling of opposition. It may be feared by ignorant folks that all this is a subtle device for increasing taxation and adding to their burden in other ways. This will result in an absence of that co-operation between the individual citizen and the enumerator without which this enquiry cannot be fruitful. Thus the entire census operation would have defeated its purpose by attempting to do more than what was practicable.

For these reasons, the scope of the present enquiry has been restricted to the limited and attainable object of ascertaining the broad divisions of the economically active and the economically passive persons in the country. At the same time, the important question of the standard of living is not altogether ignored. Wherever it was feasible, samples are studied in a more thorough manner in respect of family incomes and cost of living, and it is hoped that the information made available by the present census will help in pursuing the investigation more thoroughly in future. Under expert guidance and patient scientific enquiry it may be possible later on to unfold the economic map of the people in all its revealing details.

II.—THE ECONOMIC STATUS

Every individual, whatever his social status may be, must necessarily enjoy one or the other of three kinds of economic status. He may be a self-supporting person, or he may be a non-earning dependant, or thirdly he may be an earning dependant. To determine which of these three categories is the economic status of each person, the Census Enumerator addresses to every individual Part I of question No. 9, namely, "Are you a self-supporting person, a non-earning dependant, or an earning dependant".

Self-supporting Persons

The phrase "self-supporting" must not be taken to have any reference to the person's standard of living. As explained in an earlier article, it is only meant to indicate the actual fact whether a person is able to maintain himself, at whatsoever standard of living he actually does live, by means of the income he earns. If for his one meal or half a meal a day, he does not depend on anyone but earns it by his own work, if he can clothe himself and shelter himself in howsoever poor a fashion by his own earnings, he is classified as a self-supporting person without any implication of the manner or level at which he supports himself.

It is necessary to understand this significance of the phrase. The Enumerators do understand it in this sense, and the tabulators and officers connected with the census will interpret it so. But the common people also must know it, otherwise they may be misled by interested persons and may get a wrong idea of Government's intention behind this question.

Non-earning Dependants

It is easy to understand the category of persons called "Non-earning dependants". These are persons in a household who do not get an income but are maintained by the earnings of the person on whom they depend. Young children, aged and disabled persons and other dependants in a household who have no earnings will come under this description. It may be pointed out that a person may do work and yet be a non-earning dependant. A house-wife who cooks for the family, washes and cleans the house, looks after children, does very important work but since she does not earn any income by this work, she is not classified as a "Self-supporting person" but as a "Non-earning dependant".

Earning Dependants

In other words, anyone who is not a self-supporting person is a dependant. But we have to remember that in many cases a dependant may also earn a small regular income which may, however, be insufficient to support him. For instance, a young boy may be working in a shop for part of the day and earning petty wages. Or again, the woman in a household may do part-time work elsewhere for daily wages. All these earnings may not be able to support the wage-earners unless helped by the bread-winner of the house hold. In our country where the system of joint family is widely prevalent, this category of person is found in many households. Hence, we have the third type of economic status called "Earning Dependants".

We have to remember that Part I of question No. 9 will be put to each member of the family household separately and not to the entire household collectively. For, in the collective sense every household must be considered to be self-supporting. It cannot exist otherwise. The surplus earnings of the self-supporting person within the household would, in every case, be enough to meet the deficit of the earning and non-earning dependants. That is how the family household balances itself. The question is to be put to individual members of the households so that we may know at the completion of the census how many persons in our country are able to maintain themselves without another's support, and how many persons are dependants.

Having got these three classes of economic status clearly ascertained, a further question has to be pursued with those persons only who are self-supporting, in order to determine whether in their economic activities they are employers, employees or independent workers. This is the object of Part II of question No. 9 which asks "Are you ordinarily an employer, an employee, or an independent worker?"

Employer

When one has to employ the services of one or more persons for performing the duties by which one secures one's income, that person is classified as an "Employer". A doctor who must employ a compounder, a lawyer who must have a clerk, or a cultivator who employs labour for working in the fields are all employers. What is important to notice is that in all cases the person or persons so employed must have regular employment. They should not be casual employees. Their principal means of livelihood must be derived from such employment. Secondly, the assistance of such employees must be utilised by the employer to perform that business or activity from which the employer earns his living. A person who employs a cook in his house, for example, is not to be regarded as an employer, because though the cook may receive regular wages and may perform very useful service, he does not help the employer in the performance of the latter's business or occupation.

Employee

The term "Employee" is simple enough to understand. He is one who works under another person institution, or establishment, receiving a salary or wages in cash or kind as the means of his livelihood. Thus Government servants will be classified as employees. If a land owner employs a manager or a superintendent to look after his estate, the latter would be an employee though he in his turn may employ labourers and other subordinate workers. It will be seen that a large portion of the people will thus find themselves properly grouped under this category.

Independent Workers

The persons who will be described as "Independent Workers" are those who are able to earn their living without either being employed by someone else, or employing other workers under them. A handicrafts man who out of materials collected by himself makes toys with his hands and sells them is an independent worker. A petty shopkeeper who does not employ a servant for running his shop will be an independent worker. The independence here implied is not necessarily financial independence, but reliance upon oneself without assistance of human labour for the performance of the work which provides the means of livelihood.

These three broad divisions help us to classify those persons who are self-supporting and who are engaged in gainful occupation. It is necessary to remember that this classification of employer, employee and independent worker does not concern persons who support themselves through dividends, rents, or interest on their capital. Such persons are supposed to have no economic activity and, therefore, cannot fall into any one of these three classes. Thus while Part I of question No. 9 gives us ***the primary economic status***, covering all persons, part II of the questions furnishes us with the information regarding the secondary economic status of those persons who are engaged in gainful economic activity.

III.—MEANS OF LIVELIHOOD

Two questions will be asked by the enumerators to elicit information regarding the means of livelihood. But first it is necessary to know what is meant by "Means of Livelihood". Generally, it is defined as that gainful occupation which forms the source of the income which is utilised by an individual for his maintenance. But it is common knowledge that there are certain incomes which may be obtained without engaging oneself in a gainful occupation. For instance, the landlord who lives on the rent received from houses, or the investor who lives on the dividends accruing from his investment cannot be said to be engaged in a gainful occupation. Therefore, for the purpose of the census enquiry, the term "Means of Livelihood" has to be taken in a more comprehensive sense to include all these classes of persons. Again, there are certain dependants in a household, such as, the child, wife and aged or disabled persons who have no source of income themselves but are maintained out of the means of livelihood of the bread-winner of the family. All such persons will not be shown as not having a means of livelihood, but their means of livelihood will be recorded as the same as that of the person on whom they depend. Thus, if the head of the family is a cultivator and he supports his children, a wife and a sister, then in the census record all these dependants will be shown as having cultivation as their means of livelihood. This is done with a view to ascertain the pressure of the population which each class of occupation supports.

2. It will thus be seen that there is not a single individual living who has no means of livelihood. The means may be anything from begging to the highest intellectual labour; or, it may be dependence on one who is pursuing any of these occupations. Thus the means of livelihood is a universal data which helps us to place a man in the economic system of society. It determines his share in the economic life of the country and his role in the various categories of occupations.

3. Therefore one question is addressed to every individual, namely, question No. 10.—"What is your principal means of livelihood?" After this has been answerd, another question is addressed to only those persons who are "self-supporting" persons; and that is question No. 11. "What is your secondary means of livelihood"? These two questions draw an important distinction between two kinds of livelihood means. This is necessary in order to understand the actual and available manpower in the different economic activities in the country. A person may keep a shop and also have a small piece of agricultural land which he cultivates. Or again, one may be clerk and also work as an agent for selling a newspaper or an agent of an insurance company. In such cases, that occupation which brings him the greatest part of his income should be treated as the major or the principal means of livelihood, and that which gives him the next most important part of his income should be taken as the minor or secondary means of livelihood. It is possible that a person may have more than two sources of income, but it has been decided that the ends of the present enquiry will be served if only the first two important means of livelihood are recorded. Therefore, the enumerators have been instructed not to take down more than two occupations in each case.

It has already been explained that the principal means of livelihood of a dependant—whether earning or non-earning—is the same as that of the person on whom he depends. But the "earning dependant" has a source of income. This will be recorded as his secondary means of livelihood. For the "non-earning dependant" there will naturally be no secondary means of livelihood.

4. Of all the economic activities in the country the most important is the cultivation of land and the production of field crops. In our country this may be said to account for nearly 80 per cent of the entire population directly or indirectly. These may be called the agricultural classes and the other activities may be grouped together under the head "non-agricultural classes". Thus when once the "means of livelihood" data has been recorded for every individual, the entire people of the country can be divided into the two broad categories, namely, the agricultural classes and the non-agricultural classes. Every person must fall under one or the other of these two groups.

5. Taking the agricultural classes first, those who are supported by this occupation can be further classified under four distinct groups:—

(i) Cultivators of land, wholly or mainly owned; and their dependants;

(ii) Cultivators of land, wholly or mainly unowned; and their dependants;

(iii) Cultivating labourers; and their dependants; and

(iv) Non-cultivating owners of land; agricultural rent receivers; and their dependants.

6. It will be noticed that in this classification three distinct types of relationship to the land are indicated. There is first *the cultivator*, who is different and distinguishable from a cultivating labourer. The cultivator is the person who is responsible for, and takes decisions regarding the entire process of

cultivating a piece of land, such as, when and where to plough, when to sow, when and where to reap and so on. He need not necessarily perform the actual manual labour of cultivation, though many cultivators do in fact perform. The cultivator may himself own the land which he cultivates in which case he comes under the category (i), or he may hold a lease or he may be an agent or manager, in which case he comes under category (ii). In either case what distinguishes the cultivator is that he is the person who directs and controls the agricultural operations on the particular piece of land. By the use of the word "owned" in this connection it is only indicated that the rights on the land involve the right of permanent occupancy for purpose of cultivation. Such right should be heritable; it may be, but need not necessarily be also transferable.

7. The second type of relationship with the land is that of the cultivating labourers who plough, sow, reap and perform all the manual labour under the direction of another in return for wages, in cash or kind. These people are not to be referred to as cultivators. They are employees of the cultivator and have no right on the land, but seek their means of livelihood by doing labour under either piece-work or time-work basis.

8. Then there is the third type of person who owns land but does not cultivate it himself, but gives it out on lease or employs an agent or manager who actually cultivates it. The owner only receives a rent either in cash or kind. Such persons will come within the fourth category mentioned above, of non-cultivating owners of land.

9. These are the four principal categories of agricultural classes within which every one who derives his livelihood either directly from land or is dependent on one who so derives it, must necessarily fall. If each person belonging to the agricultural classes will only analyse within his own mind his relationship to the land he will find that he comes within one of these classifications.

10. As regards the non-agricultural classes, the activities covered are classified with reference to the nature of the commodity produced or services performed. For this purpose, this group of persons is also divided into four categories comprising of all persons (including their dependants) who derive their principal means of livelihood from—

I. Production (other than cultivation);
II. Commerce;
III. Transport, and
IV. Other services and miscellaneous sources.

11. These four categories are further divided on the basis of the previous Census classification adapted to suit the inter-national usage. According to this principle the first category called Production (other than cultivation) is divided into (1) Primary Industries; (2) Mining and quarrying; (3) Processing and manufacture of food-stuffs, textile, leather and products thereof; (4) Processing and manufacture of metals, chemicals and their products; and (5) processing and manufacture of other unclassified products. The second category called "Commerce" forms a major division by itself; so also does "Transport", combined with "Storage and Communications". Under "Other Services" are included three major divisions; (1) Construction and Utilities, (2) Health, Education and Public Administration, and (3) Miscellaneous Services not elsewhere specified. There are thus ten divisions of non-agricultural classes, each having several sub-divisions, forming altogether 88 identifiable classes, in which are comprehended every possible service or industrial occupation.

12. If the entries under these varied heads are to be accurate and reliable, it is most essential that the answers given by the public when describing their means of livelihood should be clear and precise. A trader, for example, must say not merely that he is a trader, but also what kind of articles he sells, and whether he is a retail trader or a wholesale trader. A factory hand must say not only that he works in a factory, but whether he works in a cotton mill, glass factory or coal mine. The success of this enquiry, in this respect as well as in others, depends upon the fullness and clearness of all replies to the enumerator's questions.

13. In the tabulation of the 1951 Census, it is the Means of Livelihood that will be the basic data for all sorting of enumeration slips. The slips will at the very outset be sorted into two large groups, the agricultural classes and the non-agricultural classes; and this separation will be maintained throughout the sorting operations. All the other information regarding the economic status and literacy will be cross-tabulated according to this basic division.

14. It may be mentioned here that the system of occupational classification attempted in the Census is broadly in conformity with the schemes suggested by the United Nations Organisation. The Economic and Social Council of the United Nations has recommended a system of classification of economic activities known as the International Standard Industrial Classification Scheme, and has suggested that all Member-Governments should either adopt this system or rearrange their statistical data in accordance with this system. The purpose behind this suggestion is that International comparability must be possible between corresponding census data of different countries. The scheme accepted for the next Census follows the latter of the two courses suggested by the Economic and Social Council, while at the same time suiting the classification to the special needs of our country. Hence in the next Census, a degree of comparability with other nations in regard to comparable items has been achieved without sacrificing the peculiar needs of a general population Census.

IV.—WHAT THE CENSUS DATA WILL REVEAL

In regard to the Census, particularly those aspects of it which deal with economic questions, there has always been a lurking suspicion, even in the minds of quite educated people, that all this elaborate enquiry is a subtle prelude to new taxation. But it has to be emphasized and repeatedly made clear that the object of collecting this complex variety of data is quite different. The object is to provide a clear and graphic picture of the condition, composition and the economic life of the people of the country. The Census enquiry will provide, by means of millions of recorded facts the material for the research scholar, the social reformer and the legislator with the material necessary for social reform and legislation.

2. During the 10 years that have elapsed since the last Census was taken in 1941, what great changes have swept over our country. The world-war has left its mark on every aspect of life. The pattern of economic life has been transformed. The partition of India has totally changed the limits of the country and the composition of its people. The influx of displaced persons has swelled hundreds of towns and villages. How has the shifting population distributed itself ? How many people live in towns and how many in villages ? What do they do for a living ? How have the industries and occupations of the people changed ? How many are employed and how many unemployed ? The answers to these and many more such questions can be supplied by the census figures.

3. The Indian Census has to deal with one of the largest populations in the world. It involves the counting of nearly 350 million people. And yet this operation is being conducted administratively in the most economical manner. The cost is not expected to be more than Rs. 43 per thousand population. In America the cost in 1950 was 600 dollars per thousand population. The cost has been kept so low because the enumerators are all honorary workers drawn from Government servants, employees of local bodies and most of all from school teachers. This voluntary help is not only valuable but significant ; because though the census is the responsibility of the Government, it is equally the duty of every citizen to help in this operation. A modern democratic State strives to be welfare State. How can the welfare of the people be planned without those basic data which are essential for all planning ? It is, therefore, in the interest of the people that the material facts required for their welfare are accurately and efficiently collected. For these reasons, the Census is a matter as much of the people's concern as of the Government's.

4. What then are these facts ? A study of the 14 questions which will be put by the enumerators shows that in respect of each citizen about 20 facts will be collected. Some of those are very simple and clear. Facts, such as the name, the nationality and religion, age, place of birth, the marital status, *i.e.*, whether one is married, unmarried, widowed or divorced—all these are comparatively simple and straightforward and should cause little difficulty in answering. The aftermath of the partition has left its mark on one question enquiring whether one is a displaced person, and if so, when did he arrive in India and which part of Pakistan he hailed from. By means of these questions it will be possible to assess accurately for the first time the magnitude of the problem of resettlement which is still far from a satisfactory solution. It will also reveal where and in what density the displaced persons are now dispersed.

5. Equally simple to answer and equally important from the national point of view are the questions regarding the language or languages spoken by each citizen. The large majority of the people in our country is bi-lingual and a good number is multi-lingual. The questions, therefore, are directed to ascertain not only what the mother-tongue of each citizen is, but also what other Indian language the person commonly uses. Only one other subsidiary language most commonly used by each person will be recorded. It should be obvious to every one how very valuable the facts so collected will be in planning for a common language in the country as a whole.

6. The three vital questions pertaining to the economic life of the community have been explained at length in the previous articles. It has also been pointed out how these mark of a new feature of the present Census. By means of these facts, the entire population will be divided into agricultural and non-agricultural classes. It will be ascertained how many persons are economically active, semi-active and passive, and to what kinds of occupations they belong. The last three questions deal with the literacy, the sex, and the fertility, *i.e.*,the number of children born to each woman, how many surviving, and the age of the women at her first child-birth.

7. All these questions, it will be noticed, are not only comprehensive but are modelled on the U. N. O. classification, and will provide a ready comparison between our country and other member-countries in regard to comparable data. The question regarding fertility which has been included by the State Government is a part of the international standard of Census questions. By including this data, the Census information collected in our State will come closer to the standard of international Census enquiry.

8. It is not necessary to repeat that no Government can undertake any measure of social reform or legislation, nor can it function as a welfare State unless it knows correctly how many people live in its territory, what they do for earning a living, what is the structure of their household and how many are able to read and write. On the foundation of these vital and material facts, a Government is able to plan for the future and to estimate the magnitude of its responsibilities, its requirements for the present, and the planning necessary for the future to promote the welfare of the people. The Census facts are thus the bricks out of which the vast structure of national progress can be built.

9. As soon as the enumerations are over, the Census slips are all sent to the tabulation centres in each State where these slips will be sorted out first into the two great divisions of agricultural and non-agricultural classes, and then into the sub-divisions under each head. This will be done for each village and each district so that the Census data will be available separately for every village and ward in the country. Every district will also prepare a Census Handbook containing all the information within the district properly tabulated. There will also be published a Primary Census Abstract for each village, town and city giving details of number of houses and household population, divided into the two classes—agricultural and non-agricultural.

10. It is expected that provisional totals of population will be ready within a month after the enumeration is over. The classification tables will, however, take sometime and may be ready by the end of 1951. Altogether 20 different Census tables will be prepared grouped under three main heads :—

I. General Population Tables.

II. Economic Tables.

III. Social and Cultural Tables.

Under the first head there will be 5 tables, one of them giving area, houses and population, both rural and urban, for each State ; another showing towns and villages of each State classified according to population ; and another with towns arranged territorially according to the livelihood classes of their population.

11. The economic tables will show the population of each State divided into the 16 livelihood classes (agricultural and non-agricultural) explained earlier, and each class further divided into the three economic status groups, namely, self-supporting, earning dependants and non-earning dependants. Other tables will give the secondary means of livelihood, and also the non-agricultural classes divided into employers, employees and independent workers. The social and cultural tables will provide the figures, State by State, of languages, religion, displaced persons and the livelihood classes arranged according to educational standards. Besides these, some important facts will be cross-tabulated such as marital status according to age group, literacy related to age and livelihood classes arranged according to age groups.

12. When it is remembered that all these tabulated facts will be made available village by village, tahsil by tahsil, and district by district in every State of this country, the immense value of this huge work can be easily imagined. How many persons are employed on land, persons of what age follow certain professions, how is literacy distributed among various age groups, how many persons of certain ages are widows, how many are married, what is the extent of infant mortality—all these and many more similar questions can be readily answered and used with advantage for the good of the country. Plans of food and other production, supply of food grains to the people, promoting cottage industries, improving social conditions, opening of schools and organising rural uplift, indeed every aspect of State administration and reform will be possible on the basis of known and exact facts instead of on the gamble of conjecture. It is, therefore, the solemn duty of every citizen to render all assistance and actively co-operate in collecting the exact figures during the Census operations which are now in progress.

APPENDIX Q

Instructions regarding Sorting by Livelihood Classes

Sorting for livelihood classes is the most important operation to be undertaken by each Sorter and you must have very clear ideas about it before you begin the work, because mistakes committed during this sorting will have very bad effects on the entire tabulation work.

2. There are eight livelihood classes. They are—

I. **Cultivation of owned land** for which the contraction '1' would appear in answer to question 10 in the enumeration slip.

II. **Cultivation of unowned land** for which the contraction '2' would appear in answer to question 10 in the enumeration slip.

III. **Cultivating labourers** for whom the contraction '3' is used in answer to question 10 in the enumeration slip.

IV. **People who give out their land to others on rent,** etc., and for whom the contraction '4' is used in answer to question 10 in the enumeration slip.

V. **Production other than cultivation.**

VI. **Commerce.**

VII. **Transport.**

VIII. **Other services and miscellaneous sources.**

3. When you proceed to sort for livelihood classes, you have to mark eight pigeon-holes—I, II, III, IV, V, VI, VII and VIII and to deal your slips into them according to the answer you find in question 10 in the enumeration slip.

4. With regard to the first four livelihood classes dealing with agriculture, you will have no trouble because you will merely deal the slips into the pigeon-holes I to IV according to the contractions 1 to 4 appearing in column (10) of the slip.

5. With regard to the non-agricultural classes V to VIII, you have to carefully study the answer recorded in the slip in column (10) and have to decide to which of the four classes the particular slip belongs. While doing so, you should remember the following points :—

(1) The general rule in respect of classifying employees is that every employee is to be classified with reference to the commodity produced or service rendered **by his employer**—

(*a*) There are, however, the following exceptions to this rule, in which you must classify the employees **with reference to their own activity and without reference to that of their employer**—

(i) persons actually engaged in production.

(ii) persons actually engaged in commerce.

(iii) persons actually engaged in transport.

(*b*) Thus, suppose a man is engaged as a truck-driver in the Empress Mills, Nagpur, for transporting textile material manufactured there. In such a case, you must classify the driver under the head "Transport" and not under the head "Production". But a clerk engaged in the same Mill must be classified under "Production", because he is to be classified "with reference to the commodity produced or service rendered by his employer". Similarly, a grazier appointed by a person, who rears cattle will be classified under "Production" and not under "Miscellaneous services", because the work he actually does has to be determined in his case by the "commodity produced or service rendered by his employer". A person, who is engaged to sell milk by another who is a carting contractor, will be classified under "Commerce" and not under "Transport", because his actual activity is with reference to "Commerce" and, therefore, he will not be classified "with reference to the commodity produced or service rendered" by his employer.

(*c*) Another important exception to the general rule is about domestic servants. These servants must be classified under livelihood class VIII "Other services and miscellaneous sources" without reference to the nature of their work. Even drivers of private cars will, therefore, be classed under this head and not under "Transport".

(2) The second rule of classification is that all employers who engage others and all independent workers, like petty shop-keepers, etc., who do not employ any one else in their small business or other work must be classified with reference to the commodity produced or service rendered by them individually.

(3) There are certain independent workers, who produce certain articles and sell them and the question arises whether they are to be classed under "Production" or "Commerce". Thus, for example, a Cobbler, who prepares shoes and sells them himself, should be classed under "Production" because according to the rule mentioned under (2) above he is to be classed with reference to the "commodity he produces".

6. Appendix B of the 'Tabulation Office Guide' gives the divisions and sub-divisions of Industries and Services. (Annexure II to the Indian Census Economic Classification Scheme, given in Part II-B of the Census Report, shows the divisions and sub-divisions of Industries and Services.) It will be noticed that there are ten divisions and each division is divided into sub-divisions and the sub-divisions are further divided into groups. The simple decimal method is adopted in giving a specific number to each group instead of giving a single lengthy series of numbers in a serial order. Thus, if you wish to refer to the 3rd group of the 1st sub-division of division 2, you will merely say 2·13. These are called the code numbers of the groups. Again 1·7 will mean that it is the code number of the 7th sub-division of division 1. Similarly, 3·84 will be the code number of the 4th group of the 8th sub-division of division 3.

7. As the sorting for livelihood classes is the first and the most important step in the tabulation work, you must fully acquaint yourself with the Appendix B in the Tabulation Office Guide. First of all, you should mark the eight livelihood classes in the margin of the Appendix B as follows :—

(i) Divisions 1 to 4 fall under Livelihood Class V, namely, "Production other than cultivation."

(ii) Division 5 falls under Livelihood Class VIII—Other services and miscellaneous sources.

(iii) Division 6 falls under Livelihood Class VI—Commerce.

(iv) The first 4 sub-divisions of division 7, namely, up to 7·4 fall under Livelihood Class VII—Transport.

(v) The last 5 sub-divisions of division 7, namely, from 7·5 to 7·9 as well as divisions 8 and 9 fall under Livelihood Class VIII—Other services and miscellaneous sources.

8. Whenever there is any difficulty about deciding whether a particular occupation should be regarded as falling under one or the other of the 4 non-agricultural livelihood classes, immediately consult the marked Appendix B of the Tabulation Guide and remove your doubt before dealing the slip into a particular pigeon-hole.

9. In the following paragraphs, we will deal with some of the questions which were asked during the trial sorting.

10. Graziers appointed by breeders and keepers of cattle are required to be classed under V—Production, while a gardener is ordered to be classed under VIII—Other services and miscellaneous sources. What is the explanation ? It is simple. Under the rule explained in paragraph 5 above, the grazier has to be classified according to the "commodity produced or service rendered by his employer" and, therefore, he is classed under "Production", because his employer falls under this head. In the case of the "gardener", he is a "domestic" servant and, therefore, under the exception mentioned in paragraph 5 (1) (*c*) above, he has to be classified under Class VIII.

11. How will you classify—(*a*) a weaver in a textile mill ? (*b*) a waterman in the same mill ? (*c*) a man described as "doing textile mill service" ?

The answers will be as follows:—(*a*) "Production", because the man is himself engaged in production and the rule described in paragraph 5 (1) (*a*) applies. (*b*) The waterman will also be classed under "Production", because he is to be classified with reference to the commodity produced by his employer as explained in paragraph 5 (1) above. (*c*) Same as (*b*) above.

12. A man catches and sells fish. How do you classify him? Under Production or Commerce ?

As he is an independent person, his classification will be based on the rule mentioned in paragraph 5 (2) above and he will be classified with reference to the commodity produced by him and, therefore, under "Production".

13. A person repairs gunny bags in a rice mill, how do you classify him ? [The answer is on the same lines as that in 11 (*a*) above].

14. Why is construction of building not regarded as Production ?

Because no commodity is produced and, therefore, the entire division 5 of Appendix B at page 38 of the Tabulation Guide dealing with "construction and utilities" is taken under Livelihood Class VIII—Other services and miscellaneous sources.

15. Production of motion pictures is clearly an occupation which should fall under V.—Production. Why is it included under VIII.—Other services and miscellaneous sources ?

Because this occupation is held to be clearly a "Recreation Service".

16. An artist produces pictures, a sculptor produces statues, the authors produce books. Why are these apparently productive activities not classified under "Production" ?

Because "Arts, letters and journalism" are held to be useful services only for the people.

17. How will you classify—(*a*) A milkman who produces milk and sells it ? (*b*) A clerk or an employee appointed in a commercial, transport or productive concern ?

Answer.—(*a*) A milkman has an independent work and as the commodity produced by him is milk, he would be classed under "Production" (See 12 above).

(*b*) The clerk will be classed under "Commerce", "Transport" or "Production", because he is to be classified according to the services rendered or commodity produced by his employer as explained in paragraph 5 (1) above.

18. How will you classify—(*a*) A mason (Kadiya) ? (*b*) One who manufactures rubber balloons ? (*c*) A person who sells rubber balloons ?

Answer.—(*a*) A mason and bricklayer go under "Construction and utility" and have to be classified under VIII—Other services and miscellaneous sources. (*b*) Production of rubber products will go under V.—Production. (*c*) He will be classified under Commerce. "Commerce" includes every type of trade and it also includes a few more items as mentioned in Appendix B at pages 38-39 of the Tabulation Office Guide.

19. How will you classify a slip, in which the principal means of livelihood is described as—(*a*) "Tonga Hakalna" (Tonga driver), ? (*b*) "Motor Chalana" (Motor driver) ?.

Answer.—(*a*) VII—Transport. In fact, it is transport by road and comes under division 7·1, unless the person is a private tonga driver in which case he will be classed as a domestic servant. (*b*) If the person has a private motor driver, he will have to be classified under VIII.—Other services and miscellaneous sources, as explained in paragraph 5 (1) (*c*) above. If the person is a driver in a transport service, he would be classified under VII—Transport.

20. Why construction and maintenance of road, bridges and other transport works is not included under the head "Transport".

Answer.—Transport really means the actual movement of freight, etc., whereas construction and maintenance of roads, bridges and other transport works are rightly classified under "Construction and utilities", because they relate to construction and maintenance of the means of communication and, therefore, persons engaged in such works are classified as those doing work of construction and utility. Therefore, while actual movement of freight, etc., comes under VII—Transport, persons engaged in construction and maintenance of the roads and bridges fall under VIII.—Other services and miscellaneous sources.

21. How will you classify a slip in which the Principal means of occupation is described as follows :—

"Works as carpenter and Sells furniture".

Answers.—As the commodity produced by the carpenter is furniture, he will be classified under "V—Production",. See 12 above. It may be noted that a carpenter, who does not prepare furniture, falls under division and sub-division 4·6, while a carpenter who manufactures furniture falls under division and sub-division 4·7.

22. How will you classify a slip, in which the principal means of livelihood is given as "pahalwani karna" (wrestling) ?

Answer.—The slip would fall under VIII—Other services and miscellaneous sources. The detailed classification would be 9·5—Recreation services.

23. How will you classify a slip if the occupation is described as dealer in "pan-bidi and cigarettes" and "keeper of hotel" ?

Answer.—This is actually an improperly written slip. There are two distinct means of livelihood of the person, namely, (*a*) dealer in pan-bidi and cigarettes, and (*b*) keeper of hotel. The Enumerator should have ascertained from this particular person the source, which gave him more income. If the man got more income from keeping a hotel, this fact should only have been written in answer to question 10 and his side-business of being a dealer in pan-bidi should have been noted in question 11. Such a slip should be given to the Supervisor, who would consult the Deputy Superintendent of Census Operations. If, after referring to the National Register of Citizens, it is found that the principal means of livelihood is in fact 'keeping a hotel', the slip should be classified under VIII—Other services and miscellaneous sources. On the other hand, if the principal income is derived from the 'Pan-bidi' and cigarettes shop, the slip would be classified under VI—Commerce.

24. How will you classify slips, in which the principal means of livelihood is described as "household work" ?

Such a person is a domestic servant and would be classified under VIII—Other services and miscellaneous sources.

25. How will you classify a person in whose slip the following entry appears—"He is a cooly in the paper mill, which is under construction" ?

As the cooly is obviously engaged in the construction of the building of the paper mill, which has not yet gone into production, he is obviously to be classed under "construction and utilities", *i.e.*, under VIII—Other services and miscellaneous sources.

26. How will you classify a railway cooly ?

If the cooly is not employed in any actual construction work, then he would fall under division and subdivision 7·4, *i.e.*, under livelihood class VII—Transport. But if the cooly is employed in actual construction work, he would be classified under division 5 construction and utilities, *i.e.*, under livelihood class VIII—Other services and miscellaneous sources.

27. Why is natural gas classified under production and gas supply under construction and utility ?

Gas supply is an obvious utility service for the people and is, therefore, grouped under construction and utilities and falls under livelihood class VIII—Other services and miscellaneous sources, whereas natural gas and oil wells, etc., fall under the category "mining and quarrying" and are, therefore, grouped under V—Production.

28. How will you classify a person, whose main source of income is from the rent of building ?

He would fall under livelihood class VIII—Other services and miscellaneous sources. His classification will not be found in Appendix B of the Tabulation Office Guide, because it is a non-productive activity. In this connection, you should read the instructions contained in paragraph 4 of Sorter's Ticket 2 as well as paragraph 32 of the Tabulation Office Guide.

29. How will you classify—(*a*) a fitter or a moulder working in a cotton gin, (*b*) a person who takes his own bullock-cart on hire, and (*c*) a person who sends out his bullock-cart with his servant on hire ?

Answer.—(*a*) The fitter as well as the moulder are engaged in actual production work and, therefore they would be classified under V—Production.

(*b*) and (*c*) Transport. (See rules given in paragraph 5 above.)

30. How will you classify—(*a*) a blacksmith, (*b*) a servant in a coal-mine, (*c*) a person who grinds flour in a hand-driven chakki (mill), (*d*) a servant in a bidi factory, (*e*) a tailor, (*f*) a photographer, (*g*) a railway key-man, (*h*) a proprietor of a bidi factory, (*i*) a servant in a tailor's shop, (*j*) a person who has a photography shop, (*k*) a person who owns a photographic studio, (*l*) a person who is a fitter in an electric power house and (*m*) a servant in a sugar factory ?

Answer.—(*a*) A blacksmith is classified under processing and manufacture of metals and is, therefore, classified under V—Production.

(*b*) Coal-mining is a productive activity and the servant in the coal-mine would be classified under V—Production.

(*c*) A person engaged in flour grinding falls under division 2·11, as it is an occupation connected with the processing and manufacture of food-stuffs and, therefore, such a person would be classed under V—Production.

(*d*) and (*h*) The proprietor of the bidi factory, as well as a servant working there will both be classified under division 2·51 and would, therefore, be classed under V—Production. (The rules explained in paragraph 5 above should please be seen.)

(*e*) and (*i*) Tailors, dress-makers, etc., fall under division 2·71 (processing and manufacture of textiles) and, therefore, fall under V—Production. (In this connection, please read the rules in paragraph 5 above).

(*f*), (*j*) and (*k*) Photographers would come under VIII—Other services and miscellaneous sources. The detailed classification would be 9·5.

(*g*) Railway key-man—All railway employees fall under division 7·4 and come under VII—Transport as explained above.

(*l*) The fitter in the electric power house comes under "construction and utilities" and will, therefore, fall under VIII—Other services and miscellaneous sources.

(*m*) A servant in a sugar factory will fall under V—Production. (The detailed classification will be 2·30. Please read the rule explained in paragraph 5 above.)

31. How will you classify a refugee who repairs sweaters and does other needle work ?

Answer.—Under V—Production. Classification will be 2·7.

32. How do you classify a private cycle repairer ?

Answer.—Under V—Production.

What is really meant by a private cycle repairing is that a particular individual himself works as a cycle repairer. He would naturally fall under classification 3·32 and will go under V—Production.

33. How will you classify a person who is described as owning a "Chai-pan shop" (Cafe) ?

This is a hotel and will be classified under 9·4 and will, therefore, fall under VIII—Other services and miscellaneous sources.

34. How will you classify—(*a*) a sweeper and a chowkidar in a cotton mill, and (*b*) a motor mechanic ?

Answer.—(*a*) According to the rule explained in paragraph 5, they will be classed under V—Production.

(*b*) Motor mechanics fall under classification 3·32 and will fall under V—Production.

35. How will you classify the following:—(*a*) A person is described as a servant in a shop where shoes are sold ? (*b*) A person is described as a servant in an Insurance Company ? (*c*) A man is described as a "Munim" in a Ginning Factory ? (*d*) A person described as telegraphman in a Railway Company ? (*e*) A person employed in the Oil Mill ?

Answer.—(*a*) A servant in a shoe shop is obviously engaged in commerce and will, therefore, be classed under VI—Commerce. (Please see rules explained under paragraph 5 above.)

(*b*) A servant of the Insurance Company will be classified under 6·7. Insurance is a commercial activity and will, therefore, fall under VI—Commerce.

(*c*) The case of a "Munim" or clerk or accountant in a ginning or other manufacturing concern wil be covered by the rule about classifying of servants with reference to the commodity produced by their employers and, therefore, the "Munim" would be classified under V—Production. (Please see rule 5 above.)

(*d*) As the railway servant in this case is engaged in construction and maintenance of telegraph lines he will be classified under 5·3. (Please see the exception under classification 7·4.)

(*e*) A person employed in the Oil Mill will obviously fall under Production according to the rule explained in paragraph 5 above.

36. How will you classify the following slips ?—(*a*) A forest contractor ?

(*b*) A Government pensioner ?

(*c*) A servant in a hotel ?

Answer.—(*a*) A forest contractor buys and sells forest produce. His activities, therefore, are obviously of commercial nature and he falls under VI—Commerce.

(*b*) A Government pensioner would be classified under Livelihood Class VIII. This is a non-productive activity and will not be found in Appendix B as mentioned above. [Please see paragraph 27 (2) above.]

(*c*) A servant in a hotel will be classified under 9·4 and will fall under VIII—Other services and miscellaneous sources. (Please see rule explained in paragraph 5 above.)

37. How will you classify "Halwai's shop" ?

Answer.—This is clearly a retail trade in sweetmeat and falls under classification 6·11. It will, therefore, be classified under VI—Commerce.

38. How will you classify the principal means of livelihood of a person if it is described as bringing wood from the forest ?

Answer.—The activity is classified as 0·42 and falls under V—Production.

39. How will you classify the following persons:—(*a*) A servant in a Kirana shop ?
(*b*) An oil hawker who sells oil from street to street ?
(*c*) Labourers working in a forest ?
(*d*) Motor conductor ?
(*e*) Grass-cutter ?
(*f*) Clerks, peons and other servants of the Forest Department ?
(*g*) Clerks, peons and accountants of general store or shop ?

Answer.—(*a*) A servant in a Kirana shop is obviously engaged in commercial activity and would be classified under VI—Commerce.

(*b*) The oil hawker will also be classified under VI—Commerce, because he sells oil to others.

(*c*) The labourers working in the Forest would fall under clause 0·4—Forestry and wood-cutting, and will, therefore, be classified under V—Production.

(*d*) The motor conductor would obviously fall under classification 7·1—Transport by road and would be classified under VII—Transport.

(*e*) If the grass-cutters are employed in a domestic garden, they would fall under the category of domestic servants and would be classified under 9·1 and would fall under VIII—Other services and miscellaneous sources. If the grass-cutters work in the fields they would belong to the agricultural classes and would not be covered by Appendix B. If the grass-cutters are employed in a Forest, they would be classified under 0·4 and would then fall under V—Production.

(*f*) The clerks, peons and other servants of the Forest Department are mainly engaged for conservation of forest and for works connected with forestry and, therefore, they would be classified under 0·4 and would fall under V—Production. (In this connection, please see classification 8·7 about employees of State Government where a distinct exception is made about the persons classifiable under any other division or subdivision.)

(*g*) Clerks and Accountants and other servants of store or shop are all engaged in commercial activities of their masters and, therefore, they would be classed under VI—Commerce. (Please see rules explained in paragraph 5 above.)

APPENDIX R

Verification of the 1951 Census Count

In the light of the recommendations contained in the Review of the Population Census Methods of all countries published by the Secretariat of the United Nations and in view of the great importance attached to statistics in general and basic population data yielded by the Census in particular, the Government of India decided in the middle of April 1951 to make a definite ascertainment of the degree of error which might be present in the Census statistics for being used in the interpretation of the significance of the results of the Census enumeration. The State Government accepted the proposals and the enquiry started in June 1951 and was completed throughout Madhya Pradesh by the middle of August 1951.

2. **Scope of the Enquiry.**—The scope of the enquiry was limited to—

(*a*) determining the percentage of error, if any, present in the Census Count, either in the form of under-enumeration or in the form of over-enumeration, and

(*b*) to verify whether any occupied houses escaped enumeration.

3. **General description of arrangements made.**—The verification work was entrusted by the State Government to the Additional District Magistrates in charge of each Janapada Sabha area. These Additional District Magistrates, who were also the Chief Executive Officers of the Janapada Sabhas, were appointed Chief Verification Officers and were authorised to appoint the Revenue Officers under them to be the Verification Officers. The Verification Officers actually appointed by the Chief Verification Officers were the Tahsildars and Naib-Tahsildars who exercised magisterial powers also. The duty of the Verification Officer was to visit the selected village or ward personally and to complete the verification form after making personal enquiries in the selected houses and to return it to the Chief Verification Officer for being transmitted to the Deputy Superintendent of the particular Tabulation Office from which it was received.

4. **Instructions issued.**—The sample Census were undertaken throughout the State on the basis of the instructions contained in the Registrar General's letter No. 2-26-51-R. G., dated the 31st March 1951. reproduced in Annexure 1.

5. **Difficulties encountered and manner of carrying out the instructions.**—The original scheme contemplated that the National Registers of Citizens should be sent to the Verification Officers. As the National Registers were constantly required in the Tabulation Offices and as there was also risk of losing them in transit, etc., the verification form was suitably modified to contain all the details in respect of the selected households of the particular blocks. These details and the relevant entries were copied out in the Tabulation Offices from the original registers into the verification forms.

6. For purposes of verifying whether any occupied houses escaped verification, the verification form contained a large column in which the Verification Officer was required to give the house numbers and the names of the heads of the households of three occupied houses adjacent to each of the houses to be verified by him.

7. In carrying out the instructions in respect of the selection of households in the selected villages, a difficulty was experienced when the total number of households in the village was less than ten. According to the instructions, the total number of households in the selected block, which happened to be the village, was to be divided by ten, and the first sample household was to be the household arrived at by adding one to the remainder. As, however, the households were less than ten in some of the selected villages, these were completely left out in the Raipur Tabulation Office, while in the Nagpur Tabulation Office in such cases one of the households at random was taken for the enquiry. Unfortunately, the Deputy Superintendents did not make a reference in this connection and to this extent there was divergence in their complying with the instructions. The total number of households in the State is 4,886,049 while the number actually selected for the sample enquiry was 3,728 or one household in 1,310.

8. **Salient features.**—The salient features of the scheme, as it was actually executed in Madhya Pradesh, were as follows :—

(*a*) The sample Census was undertaken early in June and was completed by the second week of August 1951, *i.e.*, within 5½ months of the date of the original Census, namely, the 1st of March 1951.

(*b*) The blocks and households in every tract were selected on a random sample basis from the National Registers of Citizens in the Census Tabulation Offices.

(*c*) The size of the sample actually verified was one in 1,310.

(*d*) The actual work of verification was entrusted to Revenue Officers of the State Government including Tahsildars and Naib-Tahsildars, exercising magisterial powers.

9. **Results of the Sample Verification of the Census Count.**—The table at the end of the Appendix gives the result of the sample Census Count in the State as a whole.

The size of the sample of one in 1,310 was in respect of the households and is obviously fairly adequate. It will be seen from the table mentioned above that the 3,728 sample households selected in the Tabulation Offices on the random sample basis were all duly verified, and similarly, it will be noticed that none of the three houses adjoining the houses of the selected household was found to be missing. The total number of occupied houses in the State is 4,412,403 and during the sample enquiry 14,912 houses were verified or one out of every 300 houses. This sample was also thus adequate. In other words as far as the coverage of houses and households during the main Census is concerned, the sample verification enquiry based on adequate samples shows that this was very satisfactory.

10. The question with regard to the percentage error in the Census Count either in the form of under-enumeration or in the form of over-enumeration is also to be judged taking into consideration the number of people actually counted during the sample enquiry and the total population. In all, 17,131 persons were counted during the sample Census in the whole State out of the total population of 21,247,533, or one person out of 1,240 persons. The sample, therefore, with regard to this aspect of the enquiry was also adequate. We will now proceed to discuss the percentage error in the Census Count either in the form of under-enumeration or in the form of over-enumeration and for this purpose we will take up the discussion for each natural division one by one before considering the figures for the State as a whole.

11. **The North-West Madhya Pradesh Division.**—This division consists of the districts of Sagar, Jabalpur, Hoshangabad, Nimar, Mandla, Betul and Chhindwara, with an area of 37,645 sq. miles and having a population of 5,490,410. In this division, 4,444 persons were actually enumerated during the sample Census, that is, one out of 1,235 persons. Thirty-one cases of omission and 30 cases of fictitious entry were detected during the enquiry, giving a percentage of 0·7 both for omissions and for fictitious entries. The percentage omission for rural and urban areas is as follows :—

	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	0·6	1·1	0·2
Urban	1·1	1·4	0·8
Total	0·7	1·1	0·3

Similar percentage for the fictitious entries is given below :—

	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	0·7	0·7	0·7
Urban	0·6	..	1·2
Total	0·7	0·6	0·8

In the North-West Madhya Pradesh Division, errors on account of faulty enumeration of visitors or absentees were not detected during the sample enquiry. The sample enquiry, therefore, shows that the final Census figures in the Natural Division would be fairly accurate.

12. **The East Madhya Pradesh Division.**—This division consists of the districts of Raipur, Bilaspur, Durg, Bastar, Raigarh, Surguja, Chanda, Bhandara and Balaghat, and has an area of 68,550 sq. miles and a population of 10,199,360. The actual number of persons enumerated during the sample enquiry was 8,612 or one person out of 1,184. Two hundred and two cases of

omissions and five cases of fictitious entry were found. The percentage of error on account of the omissions in this division works out at 2·3, whereas the percentage for fictitious entry is only 0·06. The percentage figures in respect of the rural and urban areas are given below :—

	Percentage for omissions		
	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	2·2	3·4	0·9
Urban	6·0	8·7	3·1
Total	2·3	3·7	1·0

	Percentage for fictitious entries		
	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	0·06	0·05	0·07
Urban	..	..	..
Total	0·06	0·05	0·07

In this division also no cases of omissions of visitors and absentees are reported during the enquiry. This Natural Division of Madhya Pradesh consists of some of the most backward areas and a careful examination of the districtwise figures given in the table at the end of the Appendix will show that the number of omissions in the backward tracts of the Chhattisgarh districts is comparatively larger than the number of omissions in the districts of the East Maratha Plain. In the East Madhya Pradesh Natural Division, therefore, the enquiry shows that there is a tendency towards under-enumeration to the extent of about 2·3 per cent.

13. **South-West Madhya Pradesh Division.**—This division consists of the districts of Wardha, Nagpur, Amravati, Akola, Buldana and Yeotmal, with an area of 24,077 sq. miles and a population of 5,557,763. Four thousand and seventy-five persons were actually enumerated during the sample enquiry in this division or one person out of 1,363 persons. Fifty-seven cases of omissions and 18 cases of fictitious entry were found. Eight errors tending to under-enumerate and three errors tending to over-enumerate in respect of the count of visitors were also detected. The percentages, therefore, work out as follows :—

Omissions	1·4
Fictitious entries	0·4
Errors in respect of visitors tending to under-enumeration	0·2
Errors in respect of visitors tending to over-enumeration	0·07

The percentages with respect to the rural and urban areas are given below :—

Percentage in respect of omissions.

	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	1·1	0·7	1·5
Urban	2·0	2·2	1·7
Total	1·4	1·2	1·6

Percentage in respect of fictitious entries.

(1)	Persons (2)	Males (3)	Females (4)
Rural	0·1	..	0·2
Urban	1·1	1·0	1·2
Total	0·4	0·3	0·5

Percentage in respect of errors tending to under-enumerate visitors.

(1)	Persons (2)	Males (3)	Females (4)
Rural	0·2	0·1	0·2
Urban	0·2	0·3	0·3
Total	0·2	0·2	0·2

Percentage in respect of errors tending to over-enumerate visitors.

(1)	Persons (2)	Males (3)	Females (4)
Rural	..	..	..
Urban	0·2	0·3	0·2
Total	0·07	0·1	0·05

The above analysis shows that in this division under-enumeration to the extent of about one per cent is indicated.

14. **Percentageof errors in Madhya Pradesh.**—The percentage error indicated by the sample enquiry in respect of omissions for the whole of Madhya Pradesh is given in the table below :—

(1)	Persons (2)	Males (3)	Females (4)
Rural	1·6	2·3	0·8
Urban	2·5	3·1	1·7
Total	1·7	2·4	1·0

The percentage figures in respect of fictitious entry are as follows :—

(1)	Persons (2)	Males (3)	Females (4)
Rural	0·2	0·2	0·3
Urban	0·8	0·6	1·0
Total	0·3	0·4	0·4

The percentage figures in respect of errors relating to visitors and absentees and tending to under-enumeration are as follows :—

(1)	Persons (2)	Males (3)	Females (4)
Rural	0·03	0·03	0·04
Urban	0·1	0·2	0·09
Total	0·05	0·05	0·05

The percentage figures in respect of errors relating to visitors and absentees and tending to over-enumeration are as follows :—

(1)	Persons (2)	Males (3)	Females (4)
Rural	0·02	0·03	0·01
Urban	0·1	0·2	0·09
Total	0·04	0·05	0·02

The figures given above show that the tendency is towards under-enumeration to the extent of about 1·4 per cent in the State as a whole.

15. **Omissions and fictitious entries by age groups.**—On the basis of the enquiry, two tables were prepared showing by age groups :—

(i) Number of cases of clear omissions, and (ii) number of cases of fictitious entry.

They are given at the end of the Appendix. The tables indicate that the omissions are highest in the case of young children—particularly infants and that fictitious entries have been made mostly in respect of those who are above 15 years of age.

16. In considering the percentage error arrived at by the sample Census enquiry, an important fact has to be borne in mind. The sample Census was based on the data furnished in the National Registers of Citizens which were first written on the normal residence basis and during the verification stage account was to be taken of the visitors and absentees. The enumeration procedure adopted at the 1951 census and the method followed in writing the National Registers of Citizens are given in Appendix S and T respectively. With a view to ascertaining the difference between the population figures as ascertained from the National Register and from the Census slips a sample verification of the National Registers of Citizens with the Primary Census Abstracts prepared from the Census enumeration slip was undertaken as explained in Appendix T and it was found that for the State as a whole the figures in the National Registers were about 0·16 per cent less than in the Primary Census Abstracts probably due to the failure in applying the absentee rule properly during the verification stage. The fact to be taken note of is, therefore, that the figure of 1·4 per cent under enumeration for the State as a whole detected in the Sample Census Enquiry includes the inherent under-enumeration on account of adopting the National Register figures during the sample Census and not the figures arrived at from the Census enumeration slips. In other words, the under-enumeration detected in the sample Census would be actually less because the final Census figures are based on the figures of the enumeration slips.

17. Another point to be borne in mind is that the sample Census was taken some five months after the main Census and this perhaps accounts for the low percentage of error detected in the count of absentees and visitors and correspondingly higher figure for under-enumeration.

18. It is suggested that in future the sample Census might be taken immediately after the main Census and the data for the sample Census should be furnished from the actual enumeration slips before the pads are broken-up for tabulation purposes in the Tabulation Offices. The organisation for the sample Census should be kept ready so that time might not be wasted in settling the preliminaries about the selection of the staff, etc., to undertake the important work.

19. In coming to a conclusion with regard to the accuracy of the main Census figures, we have to take into consideration the following facts :—

(*a*) The salient points and drawbacks of the Sample Census Enquiry undertaken to verify the figures collected at the Census and the results obtained.

(*b*) The fact that the enumeration organisation largely rested on the Land Records Staff and other paid public servants who were trustworthy and mostly capable persons who had an intimate knowledge of the people within their sphere of work.

(*c*) Plenty of time was given for the various steps in the organisation of the Census.

(*d*) Training of the Census staff was of a real high standard in vast majority of cases.

(*e*) Co-operation of the people was of an unprecedented type and they helped in every way to make the Census a success. The leaders of all parties and the press came forward magnificently to educate the people in giving correct replies to the Census questions and to get themselves enumerated considering it to be their national duty to do so, because as they rightly pointed out the future of the country depended upon the administrative and economic policies the success of which rested to no small degree on the accuracy of the data furnished at the Census.

(*f*) Actual verification done at spot by the numerous officers during their intensive tours while the main Census was being taken, including that made by the Deputy Superintendents of Census Operations and myself showed that the standard of accuracy was very satisfactory.

20. Taking all the above points into consideration, I am of the opinion that the Census figures give a good picture of the population of Madhya Pradesh.

TABLE SHOWING RESULTS OF THE SAMPLE VERIFICATION CENSUS IN MADHYA PRADESH

Table showing Results of the Sample Veri

Serial No.	State, Natural Divisions, Sub-Divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	MADHYA PRADESH								
	Rural	3,228	3,228	14,857	7,439	7,418	234	171	63
	Urban	500	500	2,274	1,175	1,099	56	37	19
	Total ..	3,728	3,728	17,131	8,614	8,517	290	208	82
	3·2 NORTH CENTRAL HILLS AND PLATEAU SUB-REGION								
	3·24 North-West Madhya Pradesh Division								
	Rural	891	891	3,901	1,987	1,914	25	21	4
	Urban	124	124	543	285	258	6	4	2
	Total ..	1,015	1,015	4,444	2,272	2,172	31	25	6
	3·241 Nerbudda Valley.								
	Rural	477	477	2,011	1,026	985	14	12	2
	Urban	113	113	490	256	234	6	4	2
	Total ..	590	590	2,501	1,282	1,219	20	16	4
1	Sagar District—								
	Rural	132	132	571	292	279	6	4	2
	Urban	22	22	67	34	33	1	1	..
	Total ..	154	154	638	326	312	7	5	2
2	Jabalpur District—								
	Rural	124	124	533	264	269	1	1	..
	Urban	40	40	161	81	80	1	1	..
	Total ..	164	164	694	345	349	2	2	..
3	Hoshangabad District—								
	Rural	160	160	688	357	331	4	4	..
	Urban	29	29	141	79	62	1	..	1
	Total ..	189	189	829	436	393	5	4	1
4	Nimar District—								
	Rural	61	61	219	113	106	3	3	..
	Urban	22	22	121	62	59	3	2	1
	Total ..	83	83	340	175	165	6	5	1
	3·242 Plateau.								
	Rural	414	414	1,890	961	929	11	9	2
	Urban	11	11	53	29	24	..	..	..
	Total ..	425	425	1,943	990	953	11	9	2
5	Mandla District—								
	Rural	96	96	430	218	212	7	7	..
	Urban	..	..	..	..	..	..	..	..
	Total ..	96	96	430	218	212	7	7	..
6	Betul District—								
	Rural	37	37	173	91	82	..	..	..
	Urban	3	3	11	8	3	..	..	..
	Total ..	40	40	184	99	85	..	..	..
7	Chhindwara District—								
	Rural	281	281	1,287	652	635	4	2	2
	Urban	8	8	42	21	21	..	..	..
	Total ..	289	289	1,329	673	656	4	2	2

fication Census in Madhya Pradesh

Number of casesof fictitious entry			Erroneous count of visitors and absentees						Number of cases of omission of occupied houses
			Number of errors tending to underenumeration			Number of errors tending to over-enumeration			
Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
35	15	20	5	2	3	3	2	1	..
18	7	11	3	2	1	3	2	1	..
53	22	31	8	4	4	6	4	2	..
27	13	14	..	..	..	..	..	..	..
3	..	3	..	..	..	..	..	..	..
30	13	17	..	..	..	..	..	..	..
20	9	11	..	..	..	..	..	..	..
3	..	3	..	..	..	..	..	..	..
23	9	14	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
20	9	11	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
20	9	11	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
3	..	3	..	..	..	..	..	..	..
3	..	3	..	..	..	..	..	..	..
7	4	3	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
7	4	3	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
7	4	3	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
7	4	3	..	..	..	..	..	..	..

Table showing Results of the Sample Veri

Serial No.	State Natural Divisions, Sub-divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	3·3 North-East Plateau Sub-Region								
	3·32 East Madhya Pradesh Division								
	Rural	1,731	1,731	8,209	4,077	4,132	178	140	38
	Urban	86	86	403	208	195	24	18	6
	Total ..	1,817	1,817	8,612	4,285	4,327	202	158	44
	3·321 Chhattisgarh Plain.								
	Rural	1,225	1,225	5,794	2,871	2,923	158	127	31
	Urban	62	62	277	141	136	20	16	4
	Total ..	1,287	1,287	6,071	3,012	3,059	178	143	35
8	Raipur District—								
	Rural	302	302	1,264	617	647	22	13	9
	Urban	19	19	72	38	34	13	13	..
	Total ..	321	321	1,336	655	681	35	26	9
9	Bilaspur District—								
	Rural	308	308	1,423	701	722	33	24	9
	Urban	18	18	80	41	39	..	..	..
	Total ..	326	326	1,503	742	761	33	24	9
10	Durg District—								
	Rural	259	259	1,221	600	621	32	25	7
	Urban	8	8	50	24	26	3	1	2
	Total ..	267	267	1,271	624	647	35	26	9
11	Bastar District—								
	Rural	103	103	581	291	290	16	16	..
	Urban	..	..	..	..	..	..	..	..
	Total ..	103	103	581	291	290	16	16	..
12	Raigarh District—								
	Rural	149	149	760	384	376	23	19	4
	Urban	16	16	72	37	35	4	2	2
	Total ..	165	165	832	421	411	27	21	6
13	Surguja District—								
	Rural	104	104	545	278	267	32	30	2
	Urban	1	1	3	1	2	..	..	..
	Total ..	105	105	548	279	269	32	30	2
	3·322 East Maratha Plain								
	Rural	506	506	2,415	1,206	1,209	20	13	7
	Urban	24	24	126	67	59	4	2	2
	Total ..	530	530	2,541	1,273	1,268	24	15	9
14	Chanda District—								
	Rural	138	138	709	356	353	14	7	7
	Urban	12	12	74	41	33	3	1	2
	Total ..	150	150	783	397	386	17	8	9

fication Census in Madhya Pradesh

Number of cases of fictitious entry			Erroneous count of visitors and absentees						Number of cases of omission of occupied houses
			Number of errors tending to under-enumeration			Number of errors tending to over-enumeration			
Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
5	2	3	..	..	..	3	2	1	..
..	..	..	..	..	..	..	..	..	..
5	2	3	..	..	..	3	2	1	..
3	2	1	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
3	2	1	..	..	..	..	..	..	..
..	..	..

Table showing Results of the Sample Veri

Serial No.	State, Natural Divisions, Sub-divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	3·322 East Maratha Plain—concld.								
15	Bhandara District—								
	Rural	239	239	1,095	549	546	..	..	..
	Urban	8	8	40	20	20	1	1	..
	Total ..	247	247	1,135	569	566	1	1	..
16	Balaghat District—								
	Rural	129	129	611	301	310	6	6	..
	Urban	4	4	12	6	6	..	..	..
	Total ..	133	133	623	307	316	6	6	..
	3·4 North Deccan Sub-Region								
	3·41 South-West Madhya Pradesh Division								
	Rural	606	606	2,747	1,375	1,372	31	10	21
	Urban	290	290	1,328	682	646	26	15	11
	Total ..	896	896	4,075	2,057	2,018	57	25	32
	3·411 West Maratha Plain								
	Rural	606	606	2,747	1,375	1,372	31	10	21
	Urban	290	290	1,328	682	646	26	15	11
	Total ..	896	896	4,075	2,057	2,018	57	25	32
17	Wardha District—								
	Rural	64	64	251	128	123	..	..	..
	Urban	17	17	73	39	34	..	..	..
	Total ..	81	81	324	167	157	..	..	..
18	Nagpur District—								
	Rural	134	134	609	321	288	9	4	5
	Urban	21	21	90	48	42	1	..	1
	Nagpur City	86	86	439	212	227	..	..	..
	Total ..	241	241	1,138	581	557	10	4	6
19	Amravati District—								
	Rural	65	65	277	136	141	1	..	1
	Urban	65	65	294	157	137	11	7	4
	Total ..	130	130	571	293	278	12	7	5
20	Akola District—								
	Rural	88	88	404	211	193	7	2	5
	Urban	53	53	236	120	116	13	8	5
	Total ..	141	141	640	331	309	20	10	10
21	Buldana District—								
	Rural	93	93	455	217	238	..	..	..
	Urban	23	23	102	56	46	..	..	..
	Total ..	116	116	557	273	284	..	..	..
22	Yeotmal District—								
	Rural	162	162	751	362	389	14	4	10
	Urban	25	25	94	50	44	1	..	1
	Total ..	187	187	845	412	433	15	4	11

fication Census in Madhya Pradesh

Number of cases of fictitious entry			Erroneous count of visitors and absentees						Number of cases of omission of occupied houses
			Number of errors tending to under-enumeration			Number of errors tending to over-enumeration			
Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	..
3	..	3	5	2	3	..	..	..	..
15	7	8	3	2	1	3	2	1	..
18	7	11	8	4	4	3	2	1	..
3	..	3	5	2	3	..	..	..	..
15	7	8	3	2	1	3	2	1	..
18	7	11	8	4	4	3	2	1	..
..	..	..	2	1	1	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	2	1	1	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
3	..	3	1	1	..	..	..	..	..
3	2	1	2	1	1	3	2	1	..
6	2	4	3	2	1	3	2	1	..
..	..	..	2	..	2	..	..	..	..
12	5	7	1	1	..	..	..	..	..
12	5	7	3	1	2	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..

Number Of Cases Of Clear Omissions By Age-Groups

State, Natural Divisions, Sub-divisions and District	Age-Groups: Total of all ages		"0"		"1"		"2"		"3"		"4"		"5—14"		"15 and over"		Age not stated	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
MADHYA PRADESH	**208**	**82**	**58**	**12**	**30**	**7**	**15**	**4**	**12**	**6**	**6**	**5**	**46**	**23**	**30**	**22**	**11**	**3**
3·2 North Central Hills and Plateau Sub-Region.																		
3·24 North-West Madhya Pradesh Division.	**25**	**6**	**7**	**3**	**2**	..	..	..	**1**	..	..	**1**	**9**	**1**	**5**	**1**	**1**	..
3·241 Nerbudda Valley	*16*	*4*	*4*	*3*	..	..	..	..	*1*	..	..	*1*	*5*	..	*5*	..	*1*	..
Sagar	5	2	..	2	..	..	..	..	1	..	..	..	1	..	3	..	..	..
Jabalpur	2	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..
Hoshangabad	4	1	1	1	..	..	..	..	..	..	..	..	2	..	..	..	1	..
Nimar	5	1	3	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..
3·242 Plateau	*9*	*2*	*3*	..	*2*	..	..	..	..	..	..	..	*4*	*1*	..	*1*	..	..
Mandla	7	..	3	..	..	..	..	..	..	..	..	..	4	..	..	..	..	..
Betul	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chhindwara	2	2	..	..	2	..	..	..	..	..	..	..	..	1	..	1	..	..
3·3 North-East Plateau Sub-Region																		
3·32 East Madhya Pradesh Division ..	**158**	**44**	**41**	**5**	**25**	**3**	**15**	**4**	**10**	**2**	**6**	**3**	**32**	**15**	**20**	**9**	**9**	**3**
3·321 Chhattisgarh Plain	*143*	*35*	*37*	*5*	*23*	*3*	*14*	*2*	*10*	*2*	*5*	*3*	*27*	*12*	*18*	*5*	*9*	*3*
Raipur	26	9	6	1	4	1	3	..	2	1	1	1	2	2	2	3	6	..
Bilaspur	24	9	4	..	2	1	3	2	2	1	2	2	7	3	4	..	..	..
Durg	26	9	8	2	5	..	3	..	2	..	1	..	3	2	1	2	3	3
Bastar	16	..	..	..	2	..	..	..	2	..	..	..	7	..	5	..	..	..
Raigarh	21	6	4	2	2	1	1	..	1	..	1	..	8	3	4	..	..	..
Surguja	30	2	15	..	8	..	4	..	1	..	..	..	..	2	2	..	..	..
3·322 East Maratha Plain	*15*	*9*	*4*	..	*2*	..	*1*	*2*	..	..	*1*	..	*5*	*3*	*2*	*4*	..	..
Chanda	8	9	2	..	1	..	1	2	..	..	1	..	2	3	1	4	..	..
Bhandara	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Balaghat	6	..	1	..	1	..	..	..	..	..	..	..	3	..	1	..	..	..
3·4 North Deccan Sub-Region																		
3·41 South-West Madhya Pradesh Division.	**25**	**32**	**10**	**4**	**3**	**4**	..	..	**1**	**4**	..	**1**	**5**	**7**	**5**	**12**	**1**	..
3·411 West Maratha Plain	*25*	*32*	*10*	*4*	*3*	*4*	..	..	*1*	*4*	..	*1*	*5*	*7*	*5*	*12*	*1*	..
Wardha	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nagpur	4	6	2	1	..	1	..	..	1	1	..	1	..	1	1	1	..	..
Amravati	7	5	3	..	1	1	..	..	..	..	..	..	1	1	2	3	..	..
Akola	10	10	4	1	1	..	..	..	..	2	..	..	2	3	2	4	1	..
Buldana	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yeotmal	4	11	1	2	1	2	..	..	..	1	..	..	2	2	..	4	..	

Number Of Cases Of Fictitious Entry By Age-Groups

State, Natural Divisions, Sub-divisions and Districts	Age-Groups															
	Total of all ages		"0"		"1"		"2"		"3"		"4"		"5—14"		"15 and over"	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
MADHYA PRADESH	**22**	**31**	**2**	**1**	**1**	**1**	..	..	**1**	..	**1**	..	**3**	**9**	**14**	**20**
3·2 North Central Hills and Plateau Sub-Region																
3·24 North-West Madhya Pradesh Division ..	**13**	**17**	**2**	..	**1**	**1**	..	..	**1**	..	**1**	..	..	**6**	**8**	**10**
3·241 Nerbudda Valley	*9*	*14*	*2*	..	..	*1*	..	..	*1*	..	*1*	..	..	*5*	*5*	*8*
Sagar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jabalpur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hoshangabad	9	11	2	..	..	1	..	..	1	..	1	..	..	4	5	6
Nimar	..	3	..	..	..	..	..	..	..	..	..	..	..	1	..	2
3·242 Plateau	*4*	*3*	..	..	*1*	..	..	..	..	..	..	..	..	*1*	*3*	*2*
Mandla	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Betul	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chhindwara	4	3	..	..	1	..	..	..	..	..	..	..	..	1	3	2
3·3 North-East Plateau Sub-Region																
3·32 East Madhya Pradesh Division	**2**	**3**	..	..	..	..	..	..	..	..	..	..	**1**	**1**	**1**	**2**
3·321 Chhattisgarh Plain	*2*	*1*	..	..	..	..	..	..	..	..	..	..	*1*	*1*	*1*	..
Raipur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bilaspur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Durg	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bastar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Raigarh	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..
Surguja	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..
3·322 East Maratha Plain	..	*2*	..	..	..	..	..	..	..	..	..	..	..	..	..	*2*
Chanda	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Bhandara	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Balaghat	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
3·4 North Deccan Sub-Region																
3·41 South-West Madhya Pradesh Division ..	**7**	**11**	..	**1**	..	..	..	..	..	..	..	..	**2**	**2**	**5**	**8**
3·411 West Maratha Plain	*7*	*11*	..	*1*	..	..	..	..	..	..	..	..	*2*	*2*	*5*	*8*
Wardha	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nagpur	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Amravati	2	4	..	1	..	..	..	..	..	..	..	..	1	1	1	2
Akola	5	7	..	..	..	..	..	..	..	..	..	..	1	1	4	6
Buldana	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yeotmal	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

ANNEXURE TO APPENDIX R

No. 2-26-51-RG

GOVERNMENT OF INDIA

MINISTRY OF HOME AFFAIRS

Office of the Registrar General, India

NEW DELHI-2,
The 31st March 1951.

MEMORANDUM

1951 CENSUS COUNT—SAMPLE VERIFICATION

1. **General.**—The 1951 Census Count will be verified throughout India by an enquiry conducted on a random sample basis in the manner explained in this memorandum. The scope of this enquiry will be strictly limited to determining the percentage of error, if any, which is present in the Census Count, either in the form of under-enumeration or in the form of over-enumeration. This enquiry will be limited to the ascertainment of the identity of persons, and will not be concerned with the accuracy or otherwise of answers to any of the Census questions.

2. **Selection of Sample Households.**—(i) In rural tracts, one *village Census block* will be chosen out of every 100 blocks ; and in each of the selected Census blocks, every tenth household will be chosen. In urban tracts, one *town Census block* will be chosen out of every twenty blocks ; and in each of the selected blocks, every fiftieth household will be chosen. Thus, in every tract (whether rural or urban) the sample chosen for verification will represent approximately one in one thousand of the total.

(ii) Selection of blocks on the foregoing basis will be made from lists of Census blocks ; and selection of households from each Census block will be made from that section of the National Register of Citizens which relates to the Census block.

(iii) The Officer-in-Charge of each Census Tabulation Office will be responsible for selecting the sample households for every tract in his region. Detailed instructions for ensuring the random character of the selection are appended (Enclosure I).

3. **Sample Verification Forms.**—The Officers-in-Charge of the Tabulation Office should mark (with his initials) the selected households, as entered in the section of the National Register of Citizens which relates to the Census block. He should prepare a Sample Verification Form (Enclosure II) for each Census block, in accordance with instructions given at the back of the form. As soon as all the forms relating to a Verification Area are completed, he should attach each form to the related section of the National Register, and despatch all the forms and sections to the Chief Verification Officer concerned (*vide* next paragraph).

4. **Verification Area, Chief Verification Officers and Verification Officers.**—Where a district is divided into a number of sub-districts, each constituting the territorial jurisdiction of a Sub-Divisional Magistrate, each sub-district will constitute a Verification Area ; and the Sub-Divisional Magistrate concerned will be the Chief Verification Officer for such area. In other cases, the entire district (or such part thereof, as may be specified by the Head of the District) will constitute the Verification Area and an officer specified by the Head of the District (who should be either a Sub-Divisional Magistrate or a Magistrate of the First Class) will be the Chief Verification Officer of the Area.

The Chief Verification Oficer may appoint any officer as the Verification Officer in respect of any part of his Verification Area. Such officer should ordinarily be a Magistrate of the First Class, and may (where this is unavoidably necessary) be a Magistrate of the Second Class.

5. **Duties of Chief Verification Officers and Verification Officers.**—(i) It will be the duty of the Chief Verification Officer to distribute the work among Verification Officers, to instruct them and satisfy himself that the instructions have been correctly carried out and to return the verification forms together with the related sections of the National Register to the Tabulation Office, duly filled up ; and also to submit a brief report on the manner in which the verification was carried out and the significance of the results.

(ii) It will be the duty of each Verification Officer to visit every household as specified in the Sample Verification Form personally, make all enquiries necessary for the purpose of ascertaining whether there are any cases of "clear omissions", "fictitious entry" or "erroneous count of visitors and absentees" in each household, fill up the verification form in accordance with instructions at the back of the form, and return the papers to the Chief Verification Officer together with a brief report. If, on visiting a Sample Household, it is ascertained that the householder has left the house permanently, that fact should be noted against the household in the sample Verification Form. The household in question will be excluded from the Scope of Verification.

(iii) The foregoing will complete the verification of enumeration of individuals in households. It is necessary also to verify whether any occupied houses in the blocks escaped enumeration. For this purpose, the Verification Officer should (as soon as he has completed the verification of a sample household) ascertain the house numbers of three occupied houses which are nearest to the sample house, and make sure that they find a place in the relevant section of the National Register. If he finds any occupied house to be omitted, the fact should be noted in column 18. If all the three houses find a place in the National Register he should note *"Nil"* in column 18. *The Verification Officer should not concern himself with any house other than the three nearest occupied houses and should not ascertain the number of persons in such houses.*

6. **Tabulation of Results.**—After the figures in the forms have been filled up they should be compiled and tabulated districtwise for each Tabulation Region in the form shown in Enclosure III. Copies of these tables should be submitted to the Superintendent of Census Operations concerned as well as the Registrar General, India, for consolidation for the State and All-India.

R. A. GOPALASWAMI,
Registrar General, India.

ENCLOSURE I

Selection of Sample Households.

Rural Tracts.—One village Census block should be chosen out of every hundred blocks in each rural tract and in each selected block every tenth household should be marked. Take the number of Census blocks in the tract and divide it by hundred. Add one to the remainder after division and this will give the first sample block. The section of the National Register which relates to that block should be taken for marking sample households. Every hundredth block from the first sample block should then be selected for the sample and the relevant sections of the National Register should be taken out for marking sample households.

Every tenth household should be marked for sample in each of the National Registers taken out. Take the number of households in each Register and divide that number by ten and add one to the remainder. The number thus arrived at is the first sample household in each Register. Mark that household for the sample and mark also every tenth household after the first sample household.

Urban Tracts.—One town Census block should be chosen out of every twenty blocks in each urban tract ; and in each of the selected blocks every fiftieth household should be chosen. Divide the number of Census blocks in an urban tract by twenty and add one to the remainder. The number thus got will be the first sample block. The section of the National Register which relates to that block should be taken out for marking sample households. Every twentieth block from the first sample block should then be selected for the sample and the relevant sections of the National Register should be taken for marking sample households.

Every fiftieth household should be marked for sample in each section of the Register taken out. Divide the number of households in each section by fifty and add one to the remainder. The number thus got will give the number of the first sample household in the Register. Mark that household for the Sample and mark also every fiftieth household after the first Sample.

ENCLOSURE II

1951 *Census Count—Sample Verification Form.*

No. of Census Tract ..... No. and name of district .....

Description of Tract ..... No. and name of tahsil .....

No. of Census Block ..... No. and name of village/town/ward .....

Serial No.	House and Household No.	Number of persons actually enumerated in Sample Households			Number of cases of Clear Omission			Number of cases of Fictitious Entry			Erroneous Count of Visitors and Absentees: Number of Errors tending to Under-enumeration			Erroneous Count of Visitors and Absentees: Number of Errors tending to Over-enumeration			Omission of Occupied Houses
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	

Instructions for filling the Sample Verification Form

The headings of the form and columns (1)—(5) of the form should be filled in by the Officer-in-Charge of the Tabulation Office. The headings should be filled with reference to the details in the National Register of Citizens, delimitation of tract for tabulation purposes and details of the Census block. The serial number of the household should be written in column (1) and the house and household number in column (2); the household numbers being written in order of their appearance in the National Register of Citizens. Columns (3)—(5) should be filled from the details for the household in the National Register of Citizens.

When these columns are filled, the Officer-in-Charge of the Tabulation Office should attest the form.

Columns (6) to (17) of the form should be filled by the Verification Officer.

2. **Columns (6)—(8) (Clear Omissions).**—These columns relate to non-enumeration of persons who are members of the household in question and who were actually present in that household during the enumeration period. [The name (including father's name, sex and age of such persons should be noted in the relevant section of the National Register against the marked household in question), and the new entries attested by the Verification Officer.] The number of such persons (if any) as ascertained by the Verification Officer should be noted in columns (6) to (8) of the Sample Verification Form. If there are no such persons "*Nil*" should be entered in these columns.

3. **Columns (9)—(11) (Fictitious Entry).**—These columns relate to purported enumeration in the household in question of persons who never existed; or the purported enumeration of real persons who did not normally reside in or visit the household during the enumeration period. [Such names, together with entries relating to them, should be crossed out from the relevant section of the National Register and attested by the Verification Officer.] The number of such persons, if any, as ascertained by the Verification Officer, should be given in columns (9) to (11) of the Sample Verification Form. If there are no such persons "*Nil*" should be entered in these columns.

4. **Columns (12)—(17) (Erroneous Count of Visitors and Absentees)—(i) Correct Count.**—Census Instructions regarding the correct method of enumerating absentees and visitors are extracted below:—

> "(ii) . . . enquire whether there is any person who is normally resident in the house but is absent at the time you visit the house. All such persons should be enumerated, unless they left the house before the 9th February 1951 and are not expected to come back to the house until after 1st March 1951."

"(iii) Occasionally, you may find a visitor in a house who does not normally reside there. You should enquire from him when he left his house and when he expects to be back there. Do not enumerate him if he left his house on or after the 9th February or expects to go back there before sunrise on the 1st March. If, however, he is away from his house throughout the enumeration period and has not been enumerated anywhere else, you should enumerate him at the house where you find him."

* * * * *

"*Final Check.*—You should revisit every house in your block and carry out a final check during the first three days of March. The object of this second visit is to bring your enumeration up to the reference date.

* * * * *

"(iii) If you happen to find any visitor who has not been enumerated anywhere also during the period of enumeration, you should enumerate him also."

(ii) **Erroneous Count tending to Under-enumeration.**—Non-enumeration of persons who were moving about during the period of enumeration and who should have been enumerated in the household in question according to the instructions is, *prima facie an erroneous count tending to under-enumeration.* If the Verification Officer finds such a case, it should be noted as an erroneous count in columns (12) to (14), unless he is satisfied that the person in question was actually enumerated elsewhere. In the absence of an erroneous count, "*Nil*" should be written against columns (12) to (14).

(iii) **Erroneous Count tending to Over-enumeration.**—Enumeration in the household in question of persons who were moving about during the period of enumeration and who should not have been enumerated in that household according to the instructions is, *prima facie an erroneous count tending to over-enumeration.* If the Verification Officer finds such a case, it should be noted as an erroneous count in columns (15) to (17), unless he is satisfied that the person in question was not enumerated anywhere else. In the absence of an erroneous count, "*Nil*" should be written against columns (15) to (17).

5. **Column (18) (Omission of Occupied Houses).**—The Verification Officer should (as soon as he has completed the verification of a Sample Household) ascertain in respect of three occupied houses which are nearest to the sample house, whether they were numbered for Census enumeration and find a place in the relevant section of the National Register. If he finds any such occupied house to have been omitted, the fact should be noted in column (18). If all the three houses find a place in the National Register, he should note "*Nil*" in column (18). *The Verification Officer should not concern himself with any house other than the three nearest occupied houses and should not ascertain the number of persons in such houses.*

ENCLOSURE III

1951 *Census Count—Sample Verification—District Returns.*

Tabulation Region ————

Serial No.	District	Number of Sample Housholds		Number of persons actually enumerated in verified Sample Households			Number of cases of Clear Omission			Number of cases of Fictitious Entry			Erroneous Count of Visitors and Absentees						Number of cases of Omission of Occupied Houses
													Number of Errors tending to under-enumeration			Number of Errors tending to over-enumeration			
		Selected	Verified	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	District A—																		
	General ..																		
	Rural																		
	Urban ..																		
2	District B—																		
	General ..																		
	Rural																		
	Urban ..																		

APPENDIX S

THE ENUMERATION PROCEDURE

The object of all Census enumeration is the determination of the total population in a country and its geographical distribution. There are two ways of referring to the population of an area—one depending upon the actual location of the persons and the other upon their habitual residence. The former is known as the *de facto* population, according to which people are counted at the place at which they are found on the date of the Census, regardless of their usual residence. The latter is called the *de jure* population in which people are counted at their usual residence on the date of the Census.

2. Up to the year 1931, the population in Madhya Pradesh was taken on a purely *de facto* basis, which aimed at obtaining a photographic impression of the population as it stood distributed all over the State on the Census night. Although, for purposes of international comparability, the *de facto* system of enumeration is recommended, it had to be modified to a certain extent on account of practical difficulties since 1941. The simultaneous count of about twenty million people within a few hours on the Census night was an almost impossible task and actually during the Censuses prior to 1941 the schedules were prepared by the Patwaris and other Enumerators long before the date of Census, and an attempt was made to simultaneously correct them on the Census night. The difficulties of finding the large number of suitable Enumerators required was always felt, and the problem of covering all the distant villages and habitations in the interior in one night was even more difficult with poor means of communications and dearth of literate persons in the interior. In fact even in those days of *de facto* Census, there used to be certain officially recognised areas described as "non-synchronous tracts". In actual practice, many more places had to be under this category for the simple reason that simultaneous enumeration was impracticable. In his Administration Report for the 1941 Census, the Superintendent has remarked :

> "I have found in fact that in 1931 and almost certainly at previous Censuses enumeration was simultaneous at many places only in name, and the Census was really a count performed over a period of several weeks, starting nearly two months before the Census."

3. The 1941 Administration Report further shows that in that year an attempt was made "to make the enumeration present a more 'normal' picture of the population, *i.e.*, show it according to place of usual residence and to eliminate the unwieldy organisation required to take a simultaneous Census and thereby (1) reduce the difficulties of getting and training Enumerators, (2) increase the efficiency of the Enumerators, and the scope of the Census questionnaire". The 1941 procedure contemplated that every person was to be enumerated at his usual residence subject to a criterion for the enumeration of casual visitors and absentees. The criterion adopted for the enumeration of a person at a place other than his usual residence was the period of absence exceeding one month on the 1st of March from that residence. The simultaneous counting was confined to only the floating population consisting of beggars, wanderers, foreign tourists, etc. The actual count in 1941 commenced from the 1st of March and was carried out for different number of days at different places according to the volume of work with the Enumerators.

Enclosure II

4. **The extended de facto System of Enumeration.**—In 1951, the question of the method of determination of the total population was very intensively examined at the Census Conference held by the Registrar-General and Census Commissioner of India in February 1950, and the theory underlying the different methods of enumeration as well as the practical difficulties were freely and frankly discussed, and it was decided to adopt the "extended *de facto*" system based on a prescribed enumeration period of twenty days before the reference point of time, namely, the sunrise of the 1st March 1951, followed by three days of final check-up of births and deaths and visitors who might not have been enumerated at their normal places of residence if they stayed there at any time during the enumeration period. They were to be enumerated elsewhere only if they were away from their normal places of residence throughout the period and also if they were houseless persons.

5. **The rule about the absentees and visitors.**—The rule was fairly well understood in most of the urban areas, but in other places and particularly in the interior, where people has no idea of dates, it proved to be a really tough task for the Enumerators to ascertain the dates with reference to Bazar days or Festivals, etc. Many of these Enumerators sometimes made confusion in putting questions to the visitors or about people who were away from their houses. Some of them would come to hurried conclusion after asking the visitors questions such as, "When did you come here ?". Some others would again ask, "When did you come and when will you leave this place ?". It was a problem to fix it into their minds that the relevant points were only about the date of leaving one's own house and the date of his returning there and that the dates of visiting different places were irrelevant.

6. The final instructions issued about the rule for absentees were as follows :—

"The cardinal principle of the Census is that every person must be enumerated and enumerated only once.—Therefore, the rule about absentees must be carefully understood and remembered while filling the enumeration slips between the 9th of February 1951 and the 1st of March 1951 :—

(i) If a person is to be away from his house from the 9th February 1951 to the 1st March 1951, he must not be enumerated on the slip at his house.

(ii) If a person remains in his house or is likely to remain in his house even for a day or few hours between the 9th of February 1951 and the 1st March 1951, he must be enumerated on the slip at his house and at no other place in India. If he is absent from his house when the Enumerator goes there, his slip should be filled in after due enquiry is made from other members of the household or from the neighbours. The National Register, which is already written, should be used while writing the slip.

(iii) The above rule must be known to each Enumerator, and he must intelligently ask questions to the members of a household before deciding whether he would or would not fill in the slip of a member who is absent. If a GUEST is found in a house, he SHOULD BE FIRST ASKED IF HE HAS BEEN DULY ENUMERATED ELSEWHERE. If he is not enumerated elsewhere, then he should be asked about the date of his leaving his house and the date of his going back to his house, and if it is found that he was or would be in his house at any time between the 9th February and the 1st March, then you would leave him even if he says that he was not enumerated before he left his house because he would be enumerated at his house in his absence according to the rule.

(iv) Remember that in the rule about absentees the important points are only two—

(*a*) date of leaving his own house, and

(*b*) date of reaching his own house

and ask question for finding out these dates and your work will be easy."

7. During the numerous enumeration training classes and conferences attended by me at different places, I found that the local officers had to spend considerable time in training the Enumerators to enable them to remember the rule and although to the credit of all concerned, it must be stated that the rule was well enforced, it would, nevertheless, be desirable at the next Census to try to simplify it, if possible.

8. **Census of Houseless People.**—The houseless persons, *i.e.*, persons who did not normally reside in houses, *e.g.*, members of wandering tribes, tramps, sadhus, etc., were enumerated at sunrise on the 1st March 1951. Executive Officers made their own arrangements for enumeration of such people. Similarly, inmates of hospitals, jails, hostels, etc., were also enumerated on the 1st March at sunrise, and the instructions to the Enumerators were that only those inmates were to be enumerated who had left their houses before the 9th of February and who were not previously enumerated anywhere else.

9. **The Census Schedule and the Enumeration Slips.** Up to the year 1931, all Census information was recorded on schedules and was later copied out on slips for purposes of sorting. This procedure was given up in 1941, when answers to the questions were taken down straight on the enumeration slips, and this was done in 1951 also. Enumeration slips were supplied direct by the Government of India Press, Aligarh, to the Deputy Commissioners in books of 100 forms. The supply was not adequate and eventually 500,000 slips had to be printed locally to meet last moment demands.

10. **Contractions.**—The use of contractions in the enumeration slips is a matter which deserves particular mention. The original theory on which the contractions were introduced was based on the "belief that a man who is intelligent enough to understand our questions, put them and record the answers, is intelligent enough to use contractions and to appreciate the convenience they bring". Unfortunately, the belief about the appreciation of the theory by the average village Enumerator does not seem to be well founded, and actually many Enumerators complained that it was an additional burden for them to remember the contractions. They pointed out that they had to frequently refer to their instruction booklets or charts not for purposes of reading the instructions, but for finding out the contractions to be used for particular answers.

11. I am, therefore, of the opinion that, we should not try to overstress the importance of the use of contractions, and we should use only such contractions as require no real mental effort to remember them. It might be mentioned that although the use of contractions was not much appreciated by the enumerators they responded well in making use of them correctly. In some places, small cardboard charts were given to them giving the contractions which they could see at a glance. In other places, neat folders were supplied ; while some enthusiastic people composed interesting poems, songs or couplets to enable the village Enumerators to "lighten their burden" of remembering the contractions by resorting to popular tunes. The result of all this co-operative effort was that in actual practice the contractions were mostly correctly used, and during my tours I found on verification that even in villages the mistakes in the use of contractions were negligible.

APPENDIX T

The National Register of Citizens

1. At the 1951 Census a National Register of Citizens was for the first time prepared for each village and ward in Madhya Pradesh. The utility and importance of these registers are pointed out by the Registrar-General in his letter No. 290-50-RG., dated the 11th April 1950 which is reproduced in Annexure I to this appendix. In addition to the name of each person the register contains his house number, household number, relationship to the head of the family, sex, religion, special group, civil condition, age, mother tongue, economic status, means of livelihood and particulars about literacy and education.

2. **Agency employed.**—With a view to effecting economy, the National Registers were written in place of the usual house-lists which were always prepared in the previous Censuses, as these Registers contained all the information normally included in the house-lists. They were written in the interior by the Patwaris and in the urban areas by the Municipal and Government staff available who used to write the house-lists in the previous Censuses.

3. **Time of writing the Registers and their check.**—The work of writing the National Register of Citizens was undertaken in Madhya Pradesh from the 1st of November and was completed in December 1950. The additional advantage of getting the Registers written in place of the house-lists fairly early was that the District Officers and their subordinates got plenty of time at their disposal to check them on the spot. In fact, the checking of the National Register of Citizens continued up to the end of the Census period. The Chief Executive Officers of Janapada Sabhas prepared detailed checking programmes for the National Register of Citizens, allotting specific areas to specific Government officers and in many places this system worked very satisfactorily. Apart from the routine tours of officers, even special tours were undertaken wherever these were necessary for checking the National Registers. These tours were allowed as it was felt that the value of the records would be enhanced by getting them reverified by responsible officers on the spot.

4. **Method of writing the Registers.**—The Registers were written on the basis of normal residence of people in their houses and instructions were issued that during the Census period beginning from the 9th of February and ending with the 1st of March, when the enumeration slips were to be filled in by the Enumerators, they were to take the National Registers with them and were required to write "O" in the remarks column against those persons for whom the enumeration slips were not be written in accordance with the rule for absentees. By this method, the final figures from the National Register and the enumeration slips could be tallied easily and at the same time the National Register of Citizens contained a full record of the citizens on the basis of their normal residence for being used with advantage later for correcting the electoral rolls, as contemplated in the Registrar-General's letter referred to above. The names of houseless persons, persons residing in institutions and visitors, etc., for whom enumeration slips were filled in during the Census period were also ordered to be written in the National Register of Citizens at the end for purposes of tallying the figures. While making entries in respect of visitors at the end of the Register, details about the houses in which they were found were duly entered, while suitable remarks were also made in the remarks column of the register against the original entries pertaining to the particular houses.

5. **Training and Instructions connected with the writing of the National Register of Citizens.**—As most of the columns of the National Register of Citizens were the same as those in the enumeration slips, the training was common for both the purposes, particularly as in the Register also the same contractions were ordered to be used as in the enumeration slips.

6. **Accuracy of the National Register of Citizens.**—As has been pointed out, the National Registers of Citizens in Madhya Pradesh were written on the spot, and are, therefore, documents which contain the information recorded by those persons who actually collected them. It has also been pointed out how these Registers were intensively checked where prepared and they were prepared with as much care as could be exercised in a work of this nature done throughout the State. It is to be remembered that these Registers were actually written by the Patwaris who are paid Government servants and by School masters and Municipal employees who are also paid public servants. During the intensive

tours undertaken by the Deputy Superintendents of Census Operations and by me, we found that the standard of accuracy in the writing of the National Registers of Citizens was very satisfactory. District Officers and their subordinates, who have checked the National Registers have also pointed out the high standard of accuracy which they generally came across in the writing of these Registers. In the Tabulation Offices, no serious defects were noticed in the Registers. In fact, the Registers proved to be very valuable when there was some doubt about the answers recorded in particular enumeration slips.

7. **Utility of the National Registers.**—The purposes intended to be served by the National Registers of Citizens are—

(*a*) local extraction of Census information,

(*b*) frame work for social economic surveys based on Random Sampling, and

(*c*) maintenance of electoral rolls.

For the local extraction of Census information, the registers actually prepared will be extremely helpful, particularly in the rural areas where the movement of population is negligible. In the urban areas, great care will have to be taken in making use of the information contained in the Registers if they are not properly maintained as the movement of population in these areas is at times very considerable and the statistics based on old entries in the National Registers would not be so accurate.

For the random sample surveys, the National Registers will be most helpful, particularly because by undertaking a scientific sample Census it has been found that occupied houses and households have been fully covered in these Registers. (The account of the sample Census is given in Appendix R).

The National Registers of Citizens would be useful in maintaining the electoral rolls as they contain a fair record of the ascertained ages of the citizens and it would be possible annually to extract from the Registers the age groups which have become newly entitled to be entered in the electoral rolls. If, however, the National Registers are duly maintained, their utility for keeping the electoral rolls up to date would be very much enhanced, and questions of movements of population, etc., will not then affect the comparison and similarly, it would also be possible to remove from the electoral rolls names of such persons as are not entitled to be in the voters' list of the particular constituency.

8. **Sample verification of the National Registers of Citizens.**—With a view to ascertaining the nature of discrepancy between the National Registers of Citizens and the Primary Census Abstracts prepared in the Tabulation Offices from the enumeration slips, a sample check was undertaken in each Tabulation Office. This check consisted of verifying 5 per cent of the rural tracts and 10 per cent of the urban tracts by finding out the total population, males and females, for each village or ward from the National Register of Citizens and comparing the figures with those given in the Primary Census Abstracts. The statement given below gives the percentage of difference between the two totals. For the State as a whole, the discrepancy works out at about 0·16 per cent between the two sets of figures indicating that there has been this amount of under-enumeration in the National Registers. In considering this difference, it is to be remembered that the National Registers were prepared on normal residence basis, whereas the Primary Census Abstracts prepared from the enumeration slips were based on the " extended *de facto enumeration* " described in Appendix S. Although instructions were issued to take into account the rule in respect of the absentees and visitors at the time of finally checking up the National Registers of Citizens as already pointed out, it is probable that errors in this respect might have crept in. This type of error will, however, not affect the utility of the Registers for the specific purposes for which they are intended. In fact, its preparation on normal residence basis has an advantage of very considerable value in making use of the registers for the different purposes mentioned above.

Comparison of Population totals, by tracts, between the National Register of Citizens and Primary Census Abstracts.

State, Natural Divisions, Sub-Divisions and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col. (2)÷ col. (3)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col (5)÷ col. (6)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (9)— col. (8)÷ col. (9)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MADHYA PRADESH									
Rural	760,533	759,856	−0·089	379,485	378,734	−0·198	381,049	381,122	+0·019
Urban	275,514	277,874	+0·847	144,280	144,734	+0·314	131,234	133,140	+1·432
Total ..	1,036,047	1,037,730	+0·162	523,765	523,468	−0·057	512,283	514,262	+0·385
3·2 North Central Hills and Plateau Sub-Region									
3·24 North-West Madhya Pradesh Division									
Rural	214,259	213,195	−0·49	108,115	107,274	−0·78	106,144	105,921	−0·21
Urban	90,765	91,657	+0·97	48,548	49,231	+1·39	42,217	42,423	+0·49
Total ..	305,024	304,852	−0·06	156,663	156,508	−0·09	148,361	148,344	−0·01
[3·241] *Nerbudda Valley*									
Rural	123,326	122,747	−0·47	62,727	62,380	−0·56	60,599	60,367	−0·63
Urban	79,581	79,497	−0·11	42,666	42,922	+0·59	36,915	36,575	−0·93
Total ..	202,907	202,244	−0·33	105,393	105,203	−0·086	97,514	96,942	−0·59
Sagar District—									
Rural	37,581	37,288	−0·78	19,098	19,049	−0·26	18,483	18,239	−1·3
Urban	18,660	18,408	−1·4	9,712	9,468	−2·5	8,948	8,940	−0·09
Total ..	56,241	55,696	−0·98	28,810	28,517	−1·01	27,431	27,179	−0·92
Jabalpur District—									
Rural	39,364	38,930	−1·1	19,756	19,500	−1·3	19,608	19,430	−0·9
Urban	33,527	32,823	−2·1	18,763	18,825	+0·33	14,764	13,998	−5·2
Total ..	72,891	71,753	−1·6	38,519	38,325	−0·5	34,372	33,428	−2·7
Hoshangabad District—									
Rural	30,340	30,691	+1·144	15,614	15,687	+0·465	14,726	15,004	+1·853
Urban	16,590	17,340	+4·325	8,665	9,076	+4·528	7,925	8,264	+4·102
Total ..	46,930	48,031	+2·292	214,279	24,763	+1·955	22,651	23,268	+2·652
Nimar District—									
Rural	16,041	15,838	−1·282	8,259	8,144	−1·412	7,782	7,694	−1·144
Urban	10,804	10,926	+1·117	5,526	5,553	+0·486	5,278	5,373	+1·768
Total ..	26,845	26,764	−0·303	13,785	13,697	−0·642	13,060	13,067	+0·054
[3·242] *Plateau*									
Rural	90,933	90,448	−0·54	45,388	44,894	−1·100	45,545	45,554	+0·197
Urban	11,184	12,160	+8·03	5,882	6,312	+6·812	5,302	5,848	+9·34
Total ..	102,117	102,608	+0·48	51,270	51,206	−0·13	50,847	51,402	+1·08
Mandla District—									
Rural	25,104	24,835	−1·07	12,560	12,209	−2·8	12,544	12,626	+6·65
Urban	948	946	−0·2	536	538	+0·4	412	408	−0·97
Total ..	26,052	25,781	−1·04	13,096	12,747	−2·7	12,956	13,034	+0·6
Betul District—									
Rural	21,391	21,193	−0·934	10,654	10,533	−1·149	10,737	10,660	−0·722
Urban	3,885	4,622	+15·945	2,120	2,410	+12·033	1,765	2,212	+20·205
Total ..	25,276	25,815	+2·088	12,774	12,943	+1·306	12,502	12,872	+2·874
Chhindwara District—									
Rural	44,438	44,420	−0·041	22,174	22,152	−0·099	22,264	22,268	+0·018
Urban	6,351	6,592	+3·656	3,226	3,364	+4·102	3,125	3,228	+3·191
Total ..	50,789	51,012	+0·437	25,400	25,516	+0·455	25,389	25,496	+0·419

Comparison of Population totals, by tracts, between the National Register of Citizens and Primary Census Abstracts—cont.

State, Natural Divisions, Sub-Divisons and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col. (2)÷ col. (3)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col (5)÷ col. (6)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*. 100 × col. (9) col. (8) - col. (9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
[3·3] North East Plateau Sub-Region									
[3·32] East Madhya Pradesh Division									
Rural	417,250	416,211	— 0·25	206,289	205,672	—0·29	210,961	210,539	—0·208
Urban	62,827	62,500	—0·52	32,715	31,559	—3·66	30,112	30,941	+2·60
Total ..	480,077	478,711	—0·29	239,004	237,231	—0·75	241,073	241,480	+0·17
[3·321] *Chhattisgarh Plain.*									
Rural	339,366	337,006	—0·7	167,411	166,138	—0·77	171,955	170,868	—0·64
Urban	36,368	34,568	—5·207	19,342	17,285	—11·99	17,026	17,283	+1·49
Total ..	375,734	371,574	—1·12	186,753	183,423	—1·82	188,981	188,151	—0·44
Raipur District—									
Rural	76,621	76,229	—0·51	37,355	37,069	—0·77	39,266	39,160	—0·27
Urban	11,306	11,602	—2·6	6,097	5,440	—10·77	5,209	6,162	+15·46
Total ..	87,927	87,831	—0·1	43,452	42,509	—2·17	44,475	45,322	+1·86
Bilaspur District—									
Rural	74,570	73,793	—1·04	36,726	36,342	—1·03	37,844	37,451	—1·04
Urban	5,171	5,179	+0·15	2,564	2,572	+0·31	2,607	2,607	..
Total ..	79,741	78,972	—0·96	39,290	38,914	—0·96	40,451	40,058	—0·97
Durg District—									
Rural	67,204	66,252	—1·4	32,795	32,168	—1·9	34,409	34,084	—0·9
Urban	8,561	7,944	—7·2	4,217	3,901	—7·5	4,344	4,043	—6·9
Total ..	75,765	74,196	—2·1	37,012	36,069	—2·5	38,753	38,127	—1·6
Bastar District—									
Rural	42,326	42,739	+0·97	21,188	21,293	+0·5	21,138	21,446	+1·4
Urban	4,432	3,653	—17·6	2,337	1,995	—14·6	2,095	1,658	—20·8
Total ..	46,758	46,392	—0·78	23,525	23,288	—1·0	23,233	23,104	—0·56
Raigarh District—									
Rural	43,065	43,294	+0·5	21,426	21,796	+1·7	21,639	21,498	—0·7
Urban	4,625	3,977	—0·14	2,880	2,160	—0·25	1,745	1,817	+0·4
Total ..	47,690	47,271	—0·9	24,306	23,956	—1·5	23,384	23,315	—0·3
Surguja District—									
Rural	35,580	34,699	—2·5	17,921	17,470	—2·5	17,659	17,229	—2·4
Urban	2,273	2,213	—2·64	1,247	1,217	—2·4	1,026	996	—2·9
Total ..	37,853	36,912	—2·5	19,168	18,687	—2·5	18,685	18,225	—2·5
[3·322] *East Maratha Plain.*									
Rural	77,884	79,205	+1·67	38,878	39,534	+1·66	39,006	39,671	+1·68
Urban	26,459	27,932	+5·27	13,373	+14,274	+6·31	13,086	13,658	+4.19
Total ..	104,343	107,137	+2·6	52,251	53,808	+2·89	52,092	53,329	+2·32
Chanda District—									
Rural	29,618	29,369	—0·848	14,930	14,617	—2·141	14,688	14,752	+0·434
Urban	17,068	17,830	+4·274	8,456	8,856	+4·517	8,612	8,974	+4·034
Total ..	46,686	47,199	+1·087	23,386	23,473	+0·371	23,300	23,726	+1·795

Comparison of Population totals, by tracts, between the National Register of Citizens and Primary Census Abstracts—cont.

State, Natural Divisions, Sub-Divisions and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col. (2)÷ col. (3)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (3)— col (5)÷ col. (6)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [*i.e.*, 100 × col. (9)— col. (8)÷ col. (9)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bhandara District—									
Rural	24,146	24,074	−0·299	11,976	11,913	−0·529	12,170	12,161	−0·074
Urban	6,700	6,758	+0·858	3,385	3,415	+0·878	3,315	3,343	+0·838
Total ..	30,846	30,832	−0·045	15,361	15,328	−0·215	15,485	15,504	+0·123
Balaghat District—									
Rural	24,120	25,762	+6·5	11,972	13,004	+7·94	12,148	12,758	+4·78
Urban	2,691	3,344	+19·5	1,532	2,003	+23·5	1,159	1,341	+13·6
Total ..	26,811	29,106	+7·9	13,504	15,007	+10	13,307	14,099	+5·6
[3·4] North Deccan Sub-Region									
[3·41] *South West Madhya Pradesh Division*									
Rural	129,024	130,450	+1·09	65,081	65,788	+1·07	63,944	64,662	+1·11
Urban	121,922	123,717	+1·45	63,017	63,941	+1·45	58,905	59,776	+1·46
Total ..	250,946	254,167	+1·28	128,098	129,729	+1·26	122,849	124,438	+1·28
[3·411] *West Maratha Plain*									
Rural	129,024	130,450	+1·09	65,081	55,788	+1·07	63,944	64,662	+1·1
Urban	121,922	123,717	+1·45	63,017	63,941	+1·45	58,905	59,776	+1·41
Total ..	250,946	254,167	+1·28	128,098	129,729	+1·26	122,849	124,438	+1 28
Wardha District—									
Rural	19,759	19,538	−1·131	9,942	9,816	−1·284	9,817	9,722	−0·977
Urban	15,818	15,768	−0·317	8,286	8,181	−1·283	7,532	7,587	+0·725
Total ..	35,577	35,306	−0·768	18,228	17,997	−1·28	17,349	17,309	−0·231
Nagpur District—									
Rural	21,789	22,248	+2·063	10,887	11,213	+2·907	10,902	11,035	+1·205
Urban	47,408	48,995	+3·239	24,240	25,177	+3·722	23,168	23,818	+2·729
Total ..	69,197	71,243	+2·872	35,127	36,390	+3·471	34,070	34,853	+2·247
Amravati District—									
Rural	12,729	13,068	+2·594	6,475	6,684	+3·127	6,254	6,384	+2·036
Urban	27,386	27,137	—0·918	14,270	14,140	—0·919	13,116	12,997	—0·916
Total ..	40,115	40,205	+0·224	20,745	20,824	+0·379	19,370	19,381	+0·057
Akola District—									
Rural	34,163	35,285	+3·179	17,401	17,904	+2·809	16,762	17,381	+3·561
Urban	13,659	14,234	+4·039	7,105	7,392	+3·883	6,554	6,842	+4·209
Total ..	47,822	49,519	+3·427	24,506	25,296	+3·123	23,316	24,223	+3·744
Buldana District—									
Rural	9,973	9,956	−0·171	5,141	5,113	−0·548	4,833	4,843	+0·206
Urban	8,317	8,282	−0·423	4,300	4,272	−0·655	4,017	4,010	−0·175
Total ..	18,290	18,238	−0·285	9,441	9,385	−0·597	8,850	8,853	+0·034
Yeotmal District—									
Rural	30,611	30,355	−0·777	15,235	15,058	−1·175	15,376	15,297	−0·516
Urban	9,334	9,301	−0·355	4,816	4,779	−0·774	4,518	4,522	+0·088
Total ..	39,945	39,656	−0·678	20,051	19,837	−1·079	19,894	19,819	−0·378

ANNEXURE I TO APPENDIX T

Copy of Letter No. 290-50-R.G., dated the 11th April 1950, from the Registrar-General of India, to all State Governments

SUBJECT.—*National Register of Citizens.*

1. I am directed by the Government of India to address you on the proposal that a National Register of Citizens should be compiled in 1951 along with the population Census.

The proposal, as formulated in the light of the conclusions reached at the recent All-India Census Conference, is as follows :—

(i) There should be a National Register of Citizens of the Indian Union. It should be compiled in separate parts, one relating to each village and each ward of every town or city in the Indian Union.

(ii) The Register should contain the names of all citizens enumerated during the forthcoming 1951 Census arranged by households in the house numbering order in the part relating to the village/ward where enumerated.

(iii) The Census data relating to each citizen, as ascertained in reply to the more important Census questions, should be transcribed in the Register from the Census enumeration slips. These data should include (in every case) the replies to the following questions, namely, 14 (Sex), 4 (Age), 9 (Economic Status), 10 (Principal Means of Livelihood), and 11 (Subsidiary Means of Livelihood). Any other ascertained data which either the Government of India or the Government of the State concerned might consider necessary should also be included.

(iv) The preparation of this Register should be undertaken by the Census organisation, either in the course of or immediately after, the enumeration of the population, which will take place between the 9th February and 1st March 1951.

(v) The parts of the Register relating to village/ward of each district should be kept in the tahsil offices (or other appropriate offices) in that district. They should be unpublished administrative records, available for reference by authorised persons either for administrative purposes or for any social economic enquiries which may be undertaken by or with the assistance of the Government of India or the State Government. Unauthorised persons will have no access to them. Like other Census Records, they will be inadmissible in evidence.

2. The purposes intended to be served by the proposed register are explained below :—

(i) *Local Extraction of Census information.*—

The customary Census tabulation is limited by the need for ensuring that Census Reports are published within a reasonable time after the enumeration. It will be necessary, therefore, to concentrate attention, during the Census tabulation stage, on the purely demographic and economic aspects of Census data. Tabulation in respect of religion, caste, tribes, languages, etc., and cross tabulations will be restricted to the unavoidable minimum. It should, however, be made possible, in later years, to extract and compile further information for various purposes as and when this may be found necessary or convenient by the State Governments (either for themselves or on behalf of the Central Government). This consideration applies with special force to data relating to size, internal structure and composition of family households (which will be collected at the 1951 Census for the first time). Cross tabulation of such data with other Census data is likely to yield very useful information. Similar considerations apply also to data regarding castes and tribes which might in due course be required by the Backward Classes Commission, to be set up under the new Constitution.

The proposed Register will thus be useful for local extraction of Census information after the main Census tabulation is completed.

(ii) *Framework for Social Economic Surveys based on Random Sampling.*—A special committee appointed by the Government of India consisting of experienced administrators, economists and statisticians under the Chairmanship of Sir Theodore Gregory made the following recommendation :—

" We had the opportunity of consulting Professor R. A. Fisher on the possibilities of the random sampling method in connection with future economic survey in India and we desire to record his opinion with which we are in agreement, that for any such enquiry it is necessary to have a framework to proceed on and that the household is the appropriate starting point for the purpose. We would accordingly recommend that an attempt should be made to have registers of households prepared

and maintained for both urban and rural areas. The urgency of the need for preparing and maintaining a register of households has been stressed by more than one committee, *viz.*, the Population Data Committee and the Health Survey and Development Committee, as such a house-list can provide a basis for Demographic as well as Socio-Economic enquiries. We would, therefore, strongly recommend that the preparation of the register of households should be taken up early by the appropriate department of the Government of India."

The proposed Register is intended to implement this recommendation.

(iii) *Maintenance of Electoral Rolls.*—The electoral rolls which are at present being prepared throughout the country for general elections under the New Constitution will have to be maintained hereafter from year to year. It is expected that every year approximately 6·3 million non-adults will become adults entitled to vote, and should be brought on the electoral rolls, while 3·6 million voters will die and should be removed from them. Since the proposed Register will contain a record of the ascertained age of every citizen, it will be possible annually to extract from it the age-group which has become newly entitled to vote. Thus, whatever may be the procedure eventually decided upon for the maintenance of electoral rolls, the proposed Register will be one of the basic records to be used for the purpose. In the absence of such a record, the maintenance of electoral rolls will be found to be difficult and costly.

(iv) It should also be mentioned, as an incidental consideration, that the prescription of such a Register is likely to improve the standard of efficiency in Census enumeration and supervision.

3. The Government of India have considered the proposal ; and, for the reasons mentioned above accepted it. They invite the co-operation of all State Governments in putting it into effect. With reference to item (iii) of paragraph 1 above, they consider that the answers to Question No. 3 (Civil Condition) and parts (*b*) and (*c*) of Question No. 2 (Religion and Special Group) should also be included in the Register.

4. The Register should be written up (as proposed) along with, or immediately after, the Census enumeration. I am accordingly to request that special instructions may be issued to the district authorities (who will be directly controlling the Census Enumerators and Supervisors) in order to impress on them the importance of carrying out this work. It has been suggested that in certain States there might be difficulty in getting this work done on an unpaid basis in the same way as the normal Census enumeration work. The Government of India hope that such difficulties, if any, would be removed by the special instructions referred to above ; and would be glad if the Register can be got written up as part of the Census enumeration operation without any special payment being made for this purpose.

5. If, however, the State Governments are of opinion that (having regard to the volume of work simultaneously thrown upon the staff by the general elections and the Census in addition to their normal duties) this additional scriptory work is likely to be regarded as burdensome and that some honorarium should be offered, the Government of India would accept that opinion. They would, in that case, propose that the expenditure involved should be shared on a 50 : 50 basis by the State Government and the Central Government. I am to express the hope that the State Governments would concur in this proposal in view of the fact that the Register would be useful to the State Government to at least as great extent as to the Central Government, if not more.

Paper required for writing up the Register will be supplied entirely by the Central Government.

6. The Census Conference recommended that arrangements should be made for maintaining this Register after its compilation. The Government of India agree that regular maintenance would be useful and might be necessary for certain purposes though it may be noted that for many of the purposes mentioned above, a Register which is out of date by a few years would not, on that account merely, cease to be useful. They intend that this question should be considered separately sometime next year, in view of the fact that the method of maintenance of this Register is connected with questions relating to the improvement of vital statistics as well as the procedure for the maintenance of electoral rolls.

7. I am to request that the State Government may be moved to issue the instructions referred to in paragraph 4 above, and concur in the proposal made in paragraph 5 above.

APPENDIX U

The Census Questionnaire

SECTION I.—LIST OF QUESTIONS AND INSTRUCTIONS

1. *Name and relationship to head of household.*—After the names write 1 for the head of the household. For near relatives (*viz.*, wife, son, daughter, brother, sister, father, mother) write actual relationship in full. For other relatives write 2. For unrelated persons (if any) living in the household write O.

2. *Nationality, religion and special groups—*

Part (a) Nationality.—Write 1 for all Indian Nationals. For others write nationality in full.

Part (b).—Write H. for Hindu ; M. for Muslim ; C. for Christian ; S. for Sikh ; J. for Jain. For oth ers write the answer as actually returned.

Part (c).—Write A. for Anglo-Indian, write O. for any person who says he is not a member of any caste or tribe. Write 1 for any person who is a member of one of the castes mentioned in the list of non-backward castes supplied to you. In all other cases, write the name of the caste or tribe as returned by the person enumerated.

3. *Civil condition.*—Write 1 for unmarried, 2 for married, 3 for widowed. If divorced, write O.

4. *Age.*—Write age last birthday ; that is, the actual number of completed years. Write O for infants below 1.

5. *Birthplace.*—Write 1 for every person born in your district. For others write the name of the district, State or foreign country where he was born, according to the answer given.

6. *Displaced persons.*—If the person enumerated is not a displaced person write O in both compartments. If he is a displaced person, write the date of arrival in India, in the first compartment ; and the district of origin in Pakistan in the second compartment.

7. *Mother-tongue.*—Write 1 for Hindi ; and 2 for Marathi. In any other case write the mother-tongue fully.

8. *Bilingualism.*—If a person commonly speaks any Indian language other than his mother-tongue, record it. For others write O.

9. *Economic status—*

Part One—Dependency.—Write 1 for a self-supporting person, 2 for a non-earning dependant, and 3 for an earning dependant. Write the answer in the first compartment.

Part Two—Employment.—If a self-supporting person earns his principal means of livelihood as an employer write 1, as an employee write 2, as an independent worker write 3. Write O in other cases. Write the answer in the second compartment.

10. *Principal means of livelihood.*—An answer to this question should be recorded on every slip. If the slip relates to a self-supporting person record his principal means of livelihood. If the slip relates to a dependant (whether earning or non-earning) record here the principal means of livelihood of the self-supporting person on whom he is dependent. The means of livelihood which provides the largest income is the principal means of livelihood for a self-supporting person who has more than one means of livelihood. In the case of other self-supporting persons it is the only means of livelihood.

Use the following contractions.—Write 1 for a person who cultivates land owned by him (read instructions about ownership given under question 10 in Part B of Instructions to Enumerators) ; 2 for a person who cultivates land owned by another person ; 3 for a person who is employed as a labourer by another person who cultivates land ; 4 for a person who receives rent in cash or kind in respect of land which is cultivated by another person.

For all other means of livelihood write fully and clearly what the person does in order to earn his livelihood and where (that is, in which factory, mine, etc.) he does it.

11. *Secondary means of livelihood.*—For a self-supporting person who has more than one means of livelihood write the means of livelihood next in importance to his principal means of livelihood. For an earning dependant write the means of livelihood which provides the earning. Use contractions given in question 10.

For a self-supporting person who has only one means of livelihood write O. In the case of non-earning dependent also write O.

12. *Literacy and education.*—Write O for a person who can neither read nor write; write 1 for a person who can read but cannot write: write 2 for a person who can read and write. If a person who can read and write has also passed any examination note the highest examination passed, instead of writing 2.

13. *Number of children born to a married woman and age at birth of the first child.*—First write the total number of children including dead ones. Put a dash and write in brackets the number of surviving children. Again put a dash and write the age of the woman when she gave birth to the first child. Thus the three entries would be written as "7-(5)-20". Put O if the slip refers to a married woman, widow or divorced woman who has had no children, and also if the slip relates to a male or an unmarried female.

14. *Sex.*—Write 1 for a male and 2 for a female.

SECTION II.—INSTRUCTIONS TO ENUMERATORS

Part A.—General Instructions regarding Enumeration

1. *Object of Census.*—The object of the Census is in the words of an old village officer, "to catch every man". Keep this in view as our prime objective. But remember that we have to catch him only once. You must be careful in the case of visitors, absentees, etc., that there is no chance of their being counted in more than one place.

2. *Census dates.*—Our Census count must begin on the 9th February 1951, and end at sunrise on the 1st March 1951. You are thus given 20 days to do the enumeration.

3. *Enumeration of households.*—(i) During this period of 20 days you should visit every house in your block. In each house, enumerate every person whom you find there and *who is also normally resident in that house.*

(ii) Then enquire whether there is any person who is normally resident in the house but is absent at the time you visit the house. All such persons should also be enumerated, *unless they left the house before the 9th February 1951 and are not expected to come back to the house until after the 1st March 1951.*

(iii) Occasionally, you may find a visitor in a house who does not normally reside there. You should enquire from him when he left his house and when he expects to be back there. Do *not* enumerate him if he left his house on or after the 9th February or expects to go back there before sunrise on the 1st March. If, however, he is away from his house throughout the enumeration period *and* has *not* been enumerated anywhere else, you should enumerate him at the house where you find him.

4. *Enumeration of houseless persons.*—Persons who do not normally reside in houses (*e.g.*, members of wandering tribes, tramps, sadhus, etc.) should be enumerated wherever they may be found during the night preceding sunrise of 1st March or at sunrise on the 1st March.

5. *Final check.*—You should revisit every house in your block and carry out a final check during the first *three days* of March. The object of this second visit is to bring your enumeration up to the reference date. This means—

(i) you should enumerate every birth that has taken place in a house since your last visit and before sunrise on 1st March;

(ii) you should cancel the slip for any death that may have taken place in any house since your last visit and before sunrise on 1st March;

(iii) if you happen to find any visitor who has not been enumerated anywhere else during the period of enumeration, you should enumerate him also.

6. *Provisional tables.*—As soon as you have completed a pad, note down the number of males and females, and of literates in that pad and hand the pad over to your Supervisor. After you have completed your enumeration, total up your figures, fill in the columns in the Enumerator's Abstract and hand it over to your Supervisor.

7. *Legal rights and duties.*—Under the Census Act, every person is legally bound to furnish you with the information you need for recording your answers. You must not ask information on any matters not necessary for the purpose of the Census, for example, the amount of any person's income.

Nor must you disclose to any unauthorised person any information given to you or the results of the enumeration. All Census entries are confidential and cannot be admitted as evidence in any civil proceeding whatever or in any criminal proceeding other than a prosecution for a Census offence.

Any Enumerator extracting money on any pretext connected with the Census will make himself liable to punishment under the Census Act or the Penal Code.

Part B.—Special Instructions to Enumerators regarding the filling up of slip

1. *Identifying numbers on slips.*—At the top of the enumeration slip you will find a printed number. This number represents your district. Your Supervisor will give you other numbers representing your tahsil and village or town. You should take care to write these numbers on every slip as soon as you receive the pads. Lastly, when you visit each house for enumeration you should write the house number on the slip relating to every person enumerated in that house. In some houses there may be more than one household. In such cases, you should distinguish each household by adding the letter A, B, etc., to the house number. Thus, if there are two households in house number 49, the slips relating to the first should be given number 49-A and those relating to the second, number 49-B.

Your charge, block or circle number must not be written any where on the slips.

2. *Census Questionnaire.*—You will observe that against each question the answers you are commonly likely to receive are stated and you are asked to use contractions for recording those answers. The contractions have been introduced in order to save you writing long answers by expressing them in single letters or numbers. You should take care to see that you use the correct contractions. You can make quite sure of this by keeping the questionnaire before you while recording the answers.

You should put clear and simple questions to the person you are enumerating which, in most cases, will elicit the correct answer at once. Explanation of ary kind would be necessary only if the person does not understand your question properly. You should record the answers as given to you by the person you are enumerating.

3. *Question* 1 (*name and relationship to the head of the household*).— For purposes of the Census, a "house" has been defined as a dwelling with a separate main entrance. A "household" means all the persons who live together in the same house and have a common mess. In some houses, there may be more than one group of persons with a common mess. In these cases, each group should be regarded as a separate household for purposes of the Census. The head of the household is the person on whom falls the chief responsibility for the maintenance of the household. You need not, however, make any enquiry about this, and you should treat as the head of the household any person who is actually acknowledged as such. A household may include persons (*e.g.*, domestic servants, lodgers, etc.) who are not related to the head of the household, but live together and have a common mess. You should first enumerate the head of the household and then the other members in the household.

4. *Question* 4 (*Age*).—This is an important question and many persons are likely to find it difficult to state their age correctly. You should assist them, and try to record, as far as possible, the correct age of the person enumerated. If you are not able to elicit the correct age directly, you should get at it by referring to some event of importance that occurred in the past and is remembered by every one. You should use any local calendars of such events which may have been prepared for the purpose.

5. *Question* 5 (*Birth place*).—If the person enumerated was born in your State, but not in your district, it is important that the *district* in which he was born should be ascertained and recorded.

6. *Question* 6 (*Displaced persons*).—The definition of a "displaced person" is as follows:—

> " 'Displaced person' means any person who has entered India having left or been compelled to leave his home in Western Pakistan on or after the 1st March 1947, or his home in Eastern Pakistan on or after the 15th October 1946, on account of civil disturbances or the fear of such disturbances or on account of the setting up of the two Dominions of India and Pakistan."

7. *Question* 7 (*Mother-tounge*).—Mother-tongue is the language spoken from the cradle. In the case of infants and deaf-mutes give the mother-tongue of the mother.

8. *Question* 8 (*Bilingualism*).—Record only one subsidiary language. The abbreviations given for the mother-tongue may be used in recording the subsidiary language.

9. (i) *Question* 9, *Part One.*—You are asked to distinguish every person whom you enumerate as either a "self-supporting person" or an "earning dependant" or a "non-earning dependant". The distinction is explained below :—

Where a person is in receipt of an income, and that income is sufficient at least for his own maintenance then he (or she, as the case may be) should be regarded as a self-supporting person. Any one who is not a self-supporting person in this sense is a dependant. A dependant may be either an earning dependant or a non-earning dependant. The test is whether he secures a regular income even though it may be small. Such income may be in cash or in kind. Where the income which he secures is not sufficient to support him, that person is an earning dependant. A person who does not earn any income either in cash or in kind is a non-earning dependant.

NOTE.—Where two or more members of a family household jointly cultivate land and secure an income therefrom, each of them should be regarded as earning a part of the income. None of them is, therefore, a non-earning dependant. Each of them should be classed as either a 'self-supporting person' or an 'earning dependant', according to the share of income attributable to him (or her). The same applies to any other business carried on jointly.

This does not mean that everyone *who works* is necessarily a self-supporting person, or an earning dependant. Thus, for instance, a housewife who cooks for the family, brings up the children or manages the household is doing very valuable works. Nevertheless, her economic status is that of a 'non-earning dependant', if she does not also earn an income, and should be recorded as such."

(ii) *Question* 9, *Part Two.*—You are asked to distinguish whether a self-supporting person is an employer, an employee or an independent worker.

(*a*) You should record as an "employer" only that person who has necessarily to employ other persons in order to carry on the business from which he secures his livelihood. Thus, if a person employs a cook or other person for domestic service, he should not be recorded as an "employer" merely for that reason.

(*b*) An "employee" is a person who ordinarily works under some other person for a salary or a wage in cash or kind, as the means of earning his livelihood. There may be persons who are employed as managers, superintendents, agents, etc., and in that capacity control other workers. Such persons are also employees only, and should not be recorded as employers .

(*c*) An "independent worker" means a person who is not employed by anyone else and who does not also employ anybody else in order to earn his livelihood. Note that dependants (whether earning or non-earning) are not to be classified under these three heads.

10. *Question* 10 (*Principal means of livelihood*).—This is a very important question. Please, therefore, pay great care. You have to ask every person how he makes his living and put down the answer here. A person may have more than one means of living. In that case the occupation which gives him the greatest part of his income is called his principal means of livelihood. That which gives him the next most important part of his income is called the secondary means of livelihood. You have to record only the principal means of livelihood against question 10. The secondary means of livelihood should be shown separately under question 11. A non-earning dependant has no means of livelihood of his own. His principal means of livelihood should be taken to be the same as that of the self-supporting person on whom he is dependent. The same assumption should be made about earning dependant also. (See paragraph 11 below.) In the result, the answer to question 10 should be the same for a self-supporting person, as well as all other persons who may be dependent on him whether earning or non-earning.

Four simple contractions have been provided which will cover most cases where the livelihood is dependent on agriculture. If you find that a person falls under two of these four categories, note that category which provides the largest income against question 10 and the second against question 11. No note need be taken of more than two such categories in any case. Ownership of agricultural land for purposes of the Census enquiry includes such tenures as those of "Raiyats" in Raiyatwari villages and "occupancy tenants" in malguzari or other villages. The test of ownership is existence of a right which should be heritable but may or may not be transferable. Therefore, all tenants who hold such tenancy and who cultivate the land would be regarded as owners of the land and the contraction "1" would be used for them.

In all other cases, you have been asked to write fully and clearly what the person does in order to earn his livelihood and where he does it. There are three lines on the slip provided for answering this question. Use them fully. Avoid vague and general terms. Do not write "service" or "labour". If you are enumerating a trader, describe the articles in which he is carrying on trade and state clearly whether he is a wholesale trader or a retail trader. A retail trader sells to the public and a wholesale trader does not.

If you are enumerating a factory worker, give the name of the factory or the product it makes, *e.g.*, coalmine, jute factory, cotton mill, etc.

11. *Question* 11 (*Secondary means of livelihood*).—Avoid repeating against this question the answer you have recorded against question 10.

(*a*) A "self-supporting person" may have more than one means of livelihood in some cases. If so, you should record his *second* means of livelihood against question 11.

(*b*) An "earning dependant" is maintained partly by the income of some other person and partly by his own. It is unnecessary to enquire which is more important. His principal means of livelihood should always be taken to be the same as that of the self-supporting person on whom he is dependent (see paragraph 10 above). The occupation which gives him an income should always be taken to be his secondary means of livelihood, and recorded against question 11.

(*c*) "Non-earning dependants" have no secondary means of livelihood.

12. *Question* 12 (*Literacy and Education*).—The test for reading is ability to read any simple letter either in print or in manuscript. The test for writing is ability to write a simple letter.

13. *Question* 13 (*Number of children born to a married woman and age at birth of the first child*).—This information is to be obtained only about a married woman, a widow or a divorced woman. The husband or father or other elderly person in the house should ordinarily be requested to give the information. First ask how many children she has had in all (including dead ones). Write down the figure and put a dash. Next ask how many children are surviving ; write the figure in brackets and again put a dash. Then ask how old she was when her first child was born and write the age. Thus an entry "7—(5)—20" on the line against question 13 on the enumeration slip will mean that the woman had given birth to 7 children of whom 5 are alive and that her age when the first child was born was 20 years. For a male or an unmarried female, and for a married woman, widow or divorced woman who has had no children, write O.

14. *Question* 14 (*Sex*).—Eunuchs and Hermaphrodites should be treated as *MALES*.

15. *Practice*.—You should study the questionnaire and these instructions very carefully. Practice the questions as much as you can. You can write down the answers on the back of an envelope or on any odd piece of paper or on a slate in the course of such practice. What we aim at is something like a man who has entered for a competition. At the competition he must be able to do his best and he will not have anyone to help him or to take his place. Consequently, he practises beforehand. Government desire to see this adopted as the general model of our efforts.

Consult your Supervisor in any case of difficulty but remember that in the last resort it is on you as a citizen of the country that India relies for the information she secures through the Census.

Section III.—Practical Difficulties Encountered and their Solution

Part A.—Questions other than the Economic Questions

1. **Question 1**.—This question is about name and relationship to the head of household. Although instructions were very clear that the head of the household was the person on whom lay the chief responsibility for the maintenance of the household and that any person actually acknowledged as the head of the household was to be recorded as such, the problem continued to disturb several people who seemed to be nervous about the legal implications. An assurance had to be given that all Census information was of a confidential nature and could not be cited in evidence in any court and that, therefore, people could unhesitatingly give the facts without any fear of any legal liability with regard to the head of the household. Again, sometimes the inmates mentioned an old man as the head, although he was not really responsible for the maintenance of the household within the knowledge of the Enumerator, who got confused. He had to be told that as in all affairs of human dealings, commonsense was to be used in recording answers to the Census question as well and that when he knew a fact beyond doubt there was no point in getting confused instead of writing out the truth. No difficulty was experienced in ascertaining the husband's name of a woman with the help of her relatives or neighbours.

2. **Question 2—Parts (a) and (b)**.—These related to the nationality and religion and presented no difficulty.

3. **Part (c)**.—According to the instructions replies to this question had to be recorded in accordance with the prescribed procedure and therefore a provisional list of non-backward castes was prepared by the Honorary Provincial Organiser, Backward Area Welfare Scheme, and was approved by the State Government and copies of the list were supplied to the Enumerators. In actual practice, they had to ask every person his caste and it was only at the time of recording the answer that they had to examine the list of non-backward castes to decide upon the answer to be written. Apart from the time taken in frequently referring to the list no other difficulty was experienced.

4. **Question 3—Civil Condition.**—This was one of the simple questions, but at some places unmarried women having illegitimate children presented difficulty about their classification. The average Enumerator hesitated to recognise her as an unmarried woman. In one meeting, an educated gentleman said that there was no use conniving at the evil and classifying such women arbitrarily as unmarried, that is, as virgins, instead of having for them a separate category, so that the extent to which the evil exists in the country could also be known and measures taken to remedy it. The problem does not, however, seem to be so simple, because if such a procedure were adopted, perhaps the tendency to hide true facts might be encouraged.

5. **Question (4)—Age.**—This was one of the really difficult questions, particularly in the interior. On account of the ignorance of the people and because of their taking the matter of age very casually, the difficulties were all the more increased. In every district, local calendars of important events generally known to the people were prepared and copies were distributed to the Enumerators. The calendars for the districts are reproduced in the District Census Handbooks, as the question of age is bound to be troublesome for a fairly long time to come until the standard of education amongst the masses is raised. The usual question asked at the Census Conferences was, "What should we do when even with the help of the local calendar also nothing can be known about the age of a villager who is completely ignorant about it ?". The usual reply given to such questions was, again, "In such cases, please use your commonsense and write the age from your own judgment of the person concerned after having exhausted all means of ascertaining the age by making enquiries from elderly people of the village or the family, etc".

6. In view of the typical difficulties about the ascertainment of age, local officers adopted different methods of arriving at as accurate figures as possible. The Deputy Commissioner, Chanda, ordered the patwaris to take the kotwars and the mukaddams along with them with their books at the time of enumeration and to take their help in ascertaining the age of the villagers. In his report the Deputy Commissioner says, "The age returns of unmarried girls and boys below 12 years were almost accurate as the local Patwaris having full knowledge of the people were the Enumerators and were accompanied by village Kotwars and Mukaddams with their books". In some places, instructions were given to the Enumerators to compare local persons of known ages with those of unknown ages before taking a final decision about the age.

7. Tahsildar, Balod, of the Durg district, has reported that amongst the backward people of his tahsil there is a superstition that giving of correct age brings about premature death.

8. The Deputy Commissioner, Buldana, reports as follows, "Enumerators had to depend upon their individual commonsense for finding out the age of an illiterate backward or an aboriginal person as it was very difficult for such persons to give an approximate idea of their age. They possessed no idea about any important events in the district".

9. The Deputy Commissioner, Hoshangabad, found the local calendar of important events to be extremely helpful. He remarks, "A local calendar of important events was prepared and supplied to the Census workers, who were instructed to elicit the correct age by referring to some event of importance that occurred in the past. This method proved quite successful ; and it can be safely said that no serious mistakes occurred in ascertaining age".

10. The Deputy Commissioner, Wardha, on the other hand reports, "A great majority of the illiterate people of the rural area could not give out their age and that of their family members. Even the calendar of the local events could not help much in securing their ages, and the Enumerators had to depend on their judgment along with that of other elderly literate persons of the village. Exact age of such persons could not be recorded".

11. The Deputy Commissioner, Amravati, said in his report, "The age returns all over the district are fairly accurate except perhaps in the Melghat tract, where the degree of accuracy might have been comparatively low. Efforts have been made by the Enumerators to ascertain correct age by referring to the list of important local events. These observations apply to the ages of men as well as married and unmarried women".

12. Except in the Amravati district, there was no tendency reported from anywhere about exaggeration of old age. In the Amravati district, from where this tendency was reported, the Deputy Commissioner remarked that efforts were made to get at the truth by referring to contemporary events.

13. The Deputy Commissioner, Bastar, has made the following observations about the age returns in his district, "The age returns in respect of interior of all tahsils can by no means be taken as accurate. They can only be taken as approximately correct. Even with the help of hundred years' calendar of

important events supplied to each Enumerator throughout the district, it was not possible in some cases to ascertain correct ages of individuals particularly in aboriginal areas where people do not know when they or their children were born. The age returns in respect of urban areas can generally be taken as accurate. The accuracy of returns of ages of unmarried females in urban areas can be taken as reliable. In so far as the interior of the district is concerned, they can be taken as approximately correct. These remarks hold good for women also. No special tendency was noticeable to exaggerate old age upwards of 50".

14. The discussion given above would show that although all possible efforts were made to get as accurate a record as possible of the age of the people, the returns have to be taken into consideration bearing in mind the circumstances under which the information was collected. From the observations made by me on my extensive tours of the State, I think that on the whole, the probability of error in the urban age returns would be negligible ; whereas it would not be so in parts of the interior, particularly in the backward tracts of the State. In the developed rural tracts, such as those of Berar, Nagpur and Jabalpur divisions also, the age figures can be regarded as fairly accurate.

15. **Question (5)—Birth-place.**—There was no trouble about people born in the district, but with regard to the people coming from outside, the matter was not without difficulty. Occasionally, people gave names of villages or odd places and did not know the names of the districts. In such cases the Enumerators gave the name of the places as returned and were instructed to write the name of the Province or State in brackets.

16. **Question (6)—Displaced persons.**—In many cases, where the displaced persons carried with them their registration cards, the entries were verified and recorded in the enumeration slips. In some cases, they could not give the date of arrival in India and in such cases the month or season of the year had to be recorded. Many displaced persons failed to give their district of origin and gave merely names of villages or other places and as the Enumerators were unable to locate the villages in any particular districts they had to content themselves by writing the answers as returned. Attempts were made in the Tabulation Office to get information from the Rehabilitation Department and the Registrar-General, but these also were not successful and such displaced persons have had to be taken under the head, "District not stated".

17. **Question (7)—Mother-tongue.**—No particular difficulty was encountered anywhere in respect of this question as the language or dialect as returned was recorded as the mother-tongue.

18. **Question (8)—Bilingualism.**—Where a person commonly used only the English language in addition to his mother-tongue, 'O', had to be written in his case and it was not quite clear to some people why the limitation was kept in the question. There was, however, no difficulty in getting replies to the question.

19. **Question (12)—Literacy and Education.**—This question also did not present any particular difficulty, except that in some cases where the Enumerators found difficulty in writing the names of the degrees and diplomas held by certain people. In such cases instructions were issued that the Enumerator should get the correct names of the degrees or diplomas written by the person concerned in the census records.

20. **Question (13).**—No difficulty was experienced any where in getting the replies to the fertility questions. Enumerators were explained that they should obtain the information either from the women themselves or from their close relations as might be found to be convenient.

21. **Question (14)—Sex.**—No difficulty was experienced in connection with this simple question, particularly as the instructions made it clear that eunuchs and hermaphrodites were to be treated as "males".

Part B.—The Economic Questions

1. **Criticism of the Economic Questions.**—The main criticism of these questions was as follows :—

(1) They needed a higher standard of intellectual attainment on the part of Enumerators than was necessary at any previous Census.

(2) They involved not only intensive training of the Enumerators, but also of the people in general.

(3) The order in which the questions were asked was not happy.

(4) Some people thought that Part I of question No. 9 attempted to strike a happy mean between the two methods of enquiry, *viz.*, (*a*) to ascertain only the active and passive members of the labour force and (*b*) to undertake a detailed investigation of the income levels by introducing the semi-active worker. The argument that this category of "earning dependants" was introduced merely because it had special importance in this country helped in enabling people to appreciate the object, but the three-fold enquiry about the "self-supporting

persons", "earning dependants" and "non-earning dependants", though apparently simple, proved to be a really difficult part of the Census enquiry in many places. Families in villages working jointly presented their own problems to a village Enumerator, because although the instructions were clear that no detailed enquiry was necessary about the income of individuals in such cases and that the word of the head of the household was to be taken for granted, the tragedy was that the innocent village folks and their heads of households had no "word" to offer on the subject to the Enumerator who had eventually to sit down quietly with them and had to actually estimate the income of different members after prolonged discussions to ascertain whether a particular member was "an earning dependant" or "a self-supporting person" within the meaning of the Census definition and instructions.

(5) Part II of question No. 9 was typically difficult in respect of numerous border-line cases, and an Enumerator could not easily decide whether a person was to be recorded as an employee or an independent worker when he worked at will more as a petty contractor than as an employee although he was employed by some one else to do the job work.

(6) With a view to avoiding vague replies to question No. 10, it could have been split up into 2 or 3 simpler questions.

(7) Some of the terms used in the economic questions had to be given specific meaning intended by the framers of the questions and not their popular meaning.

2. The efforts to meet the criticism and to overcome the difficulties were directed to—

(*a*) the dissemination of the true doctrines, and

(*b*) the removal of objections.

In the matter of dissemination of true doctrines amongst the people and the workers, the leadership was taken by the Honourable Pandit Dwarka Prasad Mishra, Home Minister to the Government of Madhya Pradesh, who started the intensive campaign of educating all to make the Census Economic Enquiry a real success by holding a Press Conference on the 12th December 1950, at which he appealed to the Press and the enlightened section of the public to educate the people about the importance of the Economic Enquiry during the Census. He pointed out that on the Census depended the future of the people and the prosperity of the country as all our schemes and plans for reforms and developments would be based on the important statistics and information collected at the Census. If the information was not correct, our schemes and plans would go wrong, and the country would suffer a serious set-back. The Honourable Pandit Mishra made a very strong appeal to the people and the Census staff of the State and said :—

"The most important part of the work is to secure correct answers to the questions contained in the Census questionnaire. There were certain terms which had been used in a particular sense in the economic questions and unless the answers collected conveyed that particular meaning or sense, the whole purpose would be defeated. It is in this respect that the people have to be educated."

3. The note on the progress of the Census work in the State and on the scope and nature of the economic enquiry distributed at the Press Conference and published in the newspapers of the State is given in Annexure I. Copies of the note and its translations were printed and distributed throughout the State with the help of the Tahsildars and the Census staff.

4. Four special articles on the Census Economic Enquiry were written in popular style by the Deputy Secretary to the Government of Madhya Pradesh in the Publicity Department explaining the scope of the enquiry, the significance of the economic status and means of livelihood and pointing out what the Census data would reveal. These articles which are reproduced in Appendix P were translated into Hindi and Marathi and were published in all newspapers of the State and were freely and widely distributed. An intensive drive was undertaken throughout the State to educate the people and the workers and in addition to the regular intensive training classes for the workers large public meetings were also arranged at different places and people were explained the importance of the Census enquiry and were told how they could co-operate to make the Census a success. A report of a typical meeting addressed by me is given in Annexure II.

5. Objections raised to the Census questions were systematically dealt with by the members of the superior Census staff who were thoroughly drilled in the details of the economic questions. Leaflets explaining "duties of citizens" and methods of asking the Census questions in a simple way and replying to them properly were widely distributed amongst the people and the workers.

6. Along with his demi-official letter No. 621-50-RG of 28th June 1950, the Registrar-General sent very useful instructions elucidating the Census questions Nos. 9 and 10 in form of questions and answers. They are reproduced in Annexure III. Leaflets containing the instructions were widely distributed and they served a useful purpose in removing doubts and objections.

7. Methods of actually asking the economic questions and a suitable order in which they could be asked in a simple way were explained in leaflets which were translated and distributed to the Enumerators. The final instructions issued were as follows :—

"(i) Amongst the 14 questions to be asked, the most important questions are 9 (1), 10 and 11. On the basis of correct replies to these three questions will depend the real success or failure of the whole Census because the most important economic tables to be prepared will depend on the accurate and full replies given and recorded against these questions.

(ii) Every Census worker must, therefore, check up his knowledge of these questions. Where National Registers of Citizens have already been written, they should be very carefully verified to see that the replies recorded in each case are accurate. At the time of taking the actual Census and filling in the slips between the 9th February and 1st March, every Citizen must be asked these three questions again and replies must be very carefully recorded in the slips. If the entries in the National Register of Citizens need corrections, these should be carefully made.

(iii) Question No. 9 (1) can be asked in a simple way as follows : "Do you earn any income?" If the reply is "no", the person is a non-earning dependant and you have to write 2. If the reply is "yes", you should ask one more question, "Can you support yourself with this income, if you live alone?" If the reply is "yes" the person is "self-supporting" and you have to write 1 for him. If the reply is "no" and the person says that although he earns some income but gets help of some relative, etc., for supporting himself, then he is an earning dependant and you have to write 3 for him.

(iv) To get replies easily for questior No. 9 (2), you should first ask the 10th question as follows : "What is your principal means of livelihood?" If the reply is "service" or "labourer", etc., you have to write 2. If the reply is "trade", "shop-keeping", "cultivation", etc., you should ask one more question : "Do you engage any servants in the particular profession?" If the reply is "yes", write 1. If the reply is "no", write 3. Remember that for beggars, pensioners and convicts, etc., you have to write "O". Similarly, for all dependants, whether earning dependants or non-earning dependants for whom you have written 3 or 2 in question No. 9 (1), you must write "O" in question No. 9 (2).

(v) For question No. 10 you must remember the following hints :—

(*a*) *For a trader or businessman* you must find out two things : (i) *In what articles* or commodity *he trades* and (ii) is he *a retail or a wholesale trader*?

(*b*) For "service" or "labourer" find out the actual job which the person does, and if he works in a factory, etc., point out what articles are manufactured there. In short, give full details of the nature and type of work the person does and details of the factory or other place where he does the work. *Giving of full details is most essential.*

(*c*) Remember the four contractions to be used for agricultural work. 1 for person who cultivates his own land himself or with the help of his labourers, 2 for a person who cultivates land as above but belonging to another person, 3 for an agricultural labourer and 4 for a person who lets out his own land to another person.

(*d*) Contraction 3 is used in question No. 10 for agricultural labourer only, and for any other labourer, you must give full details of the nature of work he does and particulars of the factory or other place where he actually works.

(*e*) In the case of dependants, whether earning or non-earning, you must write in question No. 10 the principal means of livelihood of the person who supports them. (The idea is that we want to know the number of persons who are supported from the income derived from the particular principal means of livelihood).

(*f*) *In question No. 10 if you fail to write proper contraction for agricultural classes or if you fail to give full details for others the entire Census will fail as it will be impossible to classify people according to their principal means of livelihood.*

(vi) Question No. 11, about secondary means of livelihood is to be dealt with equally carefully. It is to be remembered that in the case of an earning dependant you have to write against this question the nature of work from which he derives the small income himself. In the case of a non-earning dependant , you have to write "O". Similarly, if a person has no secondary means of livelihood, you have to write 'O'."

8. It is proposed to conclude this discussion on the Economic Questions after pointing out instances of difficulties and experience of District Officers in different parts of the State with regard to the Census economic questions.

9. The Deputy Commissioner, Amravati, says—

"As regards the economic questions Nos. 9, 10 and 11, it was observed that an Enumerator of average intellect found it difficult to comprehend their implications. It was only after persistent instructions that the correct implications of the questions could be understood. It was not on account of want of clarity in the explanations to the questions that the collection of information was difficult but it was due to the low intellectual standard of the Enumerators and at times of the persons enumerated."

10. The Deputy Commissioner, Chhindwara, has to make the following observations :—

"It was rather difficult for a person to understand the term 'self-supporting'. Instead of putting the long question as it was, it would have been better if it had been divided into two or three simpler forms in colloquial language. Due to the joint family system, when a person was asked if he was self-supporting he would usually understand that he was being asked about himself and his family dependant upon him. It is, therefore, necessary to word this question more directly so as to make him realise at once that he alone was concerned in the reply. Similarly, there was some confusion about earning and non-earning dependants in the case of members of a joint family having share in the property. It is, therefore, necessary to make it absolutely clear as to which of the members could be taken up in one or the other category."

11. The Deputy Commissioner, Bilaspur, observes as follows :—

"From the very beginning, special attention and particular emphasis was laid on questions Nos. 9, 10 and 11, and the Enumerators were personally explained by the District Census Officer how to write the entries of these questions. In spite of our best efforts, however, it was noticed that some Enumerators committed mistakes. All possible attempts were made to give as much details as possible of question No. 10. In spite of all this, in some cases, the Enumerators made technical mistakes. The distinction between the head of the family and earning member was explained time after time to the Enumerators by the Supervisors, but still for want of sufficient intellectual development, mistakes were committed, but they were corrected as far as possible, at the time of checking."

12. The Deputy Commissioner, Wardha, remarks—

"These were the most important questions for obtaining the Census economic data of the country. Undoubtedly, these were extremely difficult and were not within the easy grasp of the Enumerators and even the Supervisors and Charge Superintendents in many cases. Several intelligent persons had their own interpretations. The elucidation of these questions contained in Superintendent of Census Operations' Memorandum No. 246-SCO/50, dated the 12th July 1950, and pages 8 to 12 of the booklet *Duties of Citizens*, however, made it easy for the Census Officers to understand these questions. Constant training and practice in asking these questions to the people, obtaining their replies and recording the same in sample enumeration slip brought home to the Census Officers a thorough understanding of these questions and it can be said with authority that the answers to these questions have been recorded with considerable accuracy."

13. The Deputy Commissioner, Hoshangabad, says—

"It may be mentioned that very great attention was paid to questions Nos. 9, 10 and 11 by all the Census workers, and special training and practice were given at the training classes about these questions. I have already mentioned above about the existence of some confusion in the minds of some Enumerators about question No. 1 and question No. 9 (i). In the beginning, a number of cases were detected where only the head of the household was classified as self-supporting, and the mark '1' was put against question No. 9 (i), and all members of the household, whether self-supporting or not, were given the figure '2' or '3'. The mistakes were corrected in time and the point was explained in detail in various training classes. The ignorance of the common people made the task of the Census workers more difficult in respect of questions Nos. 9, 10 and 11."

14. The Deputy Commissioner, Raipur, makes the following observations :—

"Question Nos. 9, 10 and 11 were really most important questions, and the success of the Census depended upon the accuracy of the replies elicited and recorded for them. Much emphasis was invariably laid on the correct recording of the answers to these questions, and the instructions and clarifications received from time to time were explained at length to all Census staff in the district. It was felt that errors in the use of contractions for these questions could result in misleading statistics which might upset the important economic tables proposed to be prepared from these answers. Much difficulty and doubt were felt by the Enumerators in classifying the labourers and others, as employees, employers and independent persons. It would have been better, if some more specific divisions of these classes could have been provided in the column. It was felt very difficult to decide the principal means of livelihood in question No. 10 of persons having more than one means of livelihood. The persons concerned were reluctant to disclose the means which provided largest income to them. Use of contractions in question No. 10 in rural areas for cultivators was also very complicated, and there was every likelihood of using wrong contractions by Enumerators for cultivators. The Enumerators were, however, thoroughly drilled in the subject, and strict supervision was exercised by checking officers in verifying and rectifying, where necessary, the answers recorded on the slip."

15. The Deputy Commissioner, Yeotmal, mentions in his report—

" The distinction between an 'employee' and an 'independent worker' was too subtle or difficult for practical application in some cases of daily labourers, sometimes working on daily wages and sometimes on contract basis also. Constant practice and repeated tests and countertests of Enumerators were adopted for achieving accuracy in this respect, but in spite of that a few errors on the part of some Enumerators are not improbable."

16. The Deputy Commissioner, Jabalpur, observes—

" Government and Local Body employees seldom disclosed their secondary means of livelihood, when the same are prohibited departmentally, *e.g.*, moneylending, running a flour mill or Insurance business in the name of wife or children. Teachers invariably take up private tution without the required sanction and as such they do not disclose it as their secondary means of livelihood. I came across a typical case of such concealment of secondary means of livelihood. A fourth grade employee of Central Telegraphs Works, Jabalpur, was found plying on hire a rented rickshaw at night to supplement his earnings for supporting a trail of dependants. During day time, he worked in the factory. He frankly admitted that he did not disclose this information to the Census Enumerator lest it should lead to his dismissal from service."

17. District officers also made local arrangements for publicity and tried to educate the people and their workers in all possible ways. The Deputy Commissioner, Jabalpur, reported that publicity to Census matters was given "with the help of cinema slides, loud-speakers, posters, the local press, public speeches by prominent people and by Samaj Shiksha publicity vans, the radio broadcasts, " etc. Propaganda was made in all districts amongst the people to convince them that the replies to be given by them to the Census questions in general and the economic questions in particular were to be treated as strictly confidential under the Census Act and that the information could not be used even in law courts.

ANNEXURE I TO APPENDIX U

Population Census—1951

NOTE.—Distributed at the Press Conference held by the Honourable Pandit Dwarka Prashad Mishra, Home Minister to the Government of Madhya Pradesh, on the 12th December 1950.

IMPORTANCE OF THE CENSUS ECONOMIC ENQUIRY

Preparations for the forthcoming Census to be held from the 9th February to the 1st of March 1951 have almost been completed throughout Madhya Pradesh, and the work of writing the National Registers of Citizens has also commenced everywhere. The latest figures indicate that there are 48,683 Enumerators, who will enumerate estimated population of over two crores and eleven lakhs in this State and who will collect vital and important statistics in respect of residents of Madhya Pradesh under the supervision of 7,753 Supervisors and 595 Charge Superintendents. Training of this vast Census organization has been completed in almost every district under the supervision of the Deputy Commissioners and their Assistants with the guidance of the Superintendent of Census Operations, Madhya Pradesh. Except in a few places, the standard of training given is reported to be satisfactory, and it is hoped that the data collected by the Census staff with the co-operation of the people would be accurate and reliable everywhere. It is encouraging to find that at many places non-officials are taking very keen interest in the Census work as they have appreciated its national importance in free India. It need hardly be stated that if the information collected is not accurate, the planning work based on the unreliable figures would give a very serious set-back to the country.

The Census Economic Enquiry.—Amongst the numerous enquiries contemplated by the Census questionnaire, the most important is the one connected with the economic condition of the people and as it relates to the question of prosperity of the country it is of the utmost importance that all Enumerators and as large a population of citizens, as can possibly be reached with the co-operation of the press and the educated people should be made to clearly and uniformly understand the significance and meaning of economic Questions Nos. 9, 10 and 11 of the Census questionnaire and the terms used therein so that the people might give full and accurate replies and the Enumerators might correctly take them down.

The three questions mentioned above are inter-connected and directed to two topics, namely, "means of livelihood" and "economic status". The former is broken into two parts, "principal means of livelihood" and "secondary means of livelihood" and these are put as two separate Question Nos. 10 and 11. The latter is also broken into two parts, "dependency" and "employment" and are put as two separate parts of the same Question No. 9. It is to be remembered that the three questions mentioned above have to be put exactly as they stand to seven crores of households throughout India and they have to be understood in an identical sense and the replies have to be recorded correctly by the Enumerators.

There is no real difficulty in understanding Questions Nos. 10 and 11, regarding "principal means of livelihood" and "secondary means of livelihood". "Means of livelihood" of any individual ordinarily means the gainful occupation, which forms the source from which that income which is utilised for his maintenance is normally derived; but it is more comprehensive, in as much as in exceptional cases income may be secured without gainful occupation. "Principal means of livelihood" means the same thing as "means of livelihood" for every person who has only one means of livelihood. Where a person has more than one, that which gives him the greater part of his income is the "principal means of livelihood". In the sense thus defined, every human being without any exception has a "principal means of livelihood" whether or not he is a "self-supporting person". Every "non-earning dependant" is maintained exclusively by the income of some "self-supporting person" on whom he is dependent. Consequently, the "principal means of livelihood" of the latter is required to be recorded as the "principal means of livelihood" of the former. The same rule applies to "earning dependants" also.

The meaning of "secondary means of livelihood" should also be clearly understood. A "self-supporting person" may or may not have more than one "means of livelihood". If he has more than one, that which provides the greatest income is the "principal means of livelihood" and the next is "secondary means of livelihood". It is to be noted that for the forthcoming Census enquiry, it has been laid down that no note should be taken of more than two such "means of livelihood" in any case.

The first part of Question No. 9 deals with "self-supporting persons", "earning dependants" and "non-earning dependants", while the second part of that question aims at ascertaining the "employers", "employees" and "independent workers". It is of the utmost importance to remember that the above terms used in Question No. 9 are of a non-technical nature, although the enquiry to be made is a technical one. The non-technical terms have to be used in order to be intelligible to our Enumerators, as well as the citizens. It is also to be noted that the average Enumerator employed in the Census is not an

economist and is himself a very average citizen, who has to do the Census work in his spare time. It is, therefore, all the more important that the meaning of the non-technical terms used in Question No. 9, as fixed by the framers of the questions (the technical experts), must be taken by every citizen to be the meaning of these terms for purposes of the specific enquiry. It is conceivable that the terms used in Question No. 9 might be given meaning other than the meaning intended to be given by the framers of the question, but the Census would be completely spoilt, if the exact meaning contemplated by the questionnaire itself is not given to these terms and if different people were to give them different meanings and to give replies in different ways. It might be very specifically made clear that in the Final Census Reports great care would be taken to explain the correct significance of the statistics collected by asking Question No. 9 with the particular meaning of the terms used therein, so that there would be no possibility of misinterpreting the figures by giving different meanings to the terms used in the question.

We will now proceed to consider the definitions of and the meaning to be attached to the non-technical terms "self-supporting person", "earning dependant" and "non-earning dependant". With a view that the average Enumerators and the average citizens might understand the definitions in a simple way, they were told that where a person was in receipt of an income and that income was sufficient at least for his own maintenance, then that person was to be regarded as a "self-supporting person". Anyone, who was not a "self-supporting person" was a "dependant". The "dependant" might be either an "earning dependant" or a "non-earning dependant"; the test was whether or not he secured a regular income even though it might be small. Where the income which he secured was not sufficient to support him, that person was an "earning dependant". A person who did not secure any income was a "non-earning dependant".

In some places, it is argued that under the definition as given above, a semi-starving human being would be classed as a "self-supporting person". The misunderstanding is really due to the use of the non-technical terms in a technical context. The following explanation would make it clear what exactly is contemplated by the enquiry in Part I of Question No. 9 and what particular restricted meaning has to be given to the popular terms for purposes of technical economic enquiry :—

(i) It is perfectly true that there are a great many persons with too low incomes to support life at the minimum that can be regarded as a human standard ; and that these would be classed as "self-supporting persons", if it so happens that their small income at least proves sufficient for their maintenance at the *de facto* standard (sub-human as it might be). The first part of Question No. 9 does not seek to classify people according to income or standard of living, but according to their actual status in relation to national economy as well as the economy of the household :

(*a*) Within every household, there are bread-winners and others who are not bread-winners. It is this distinction which is sought to be brought out by the terms "self-supporting persons" and "non-earning dependant". The "earning dependant" is an intermediate category which, it is believed, has greater significance in India than elsewhere, and is accordingly provided. This is the person who gets some income, but not enough even to meet the cost of his own maintenance at whatever standard he happens to live.

(*b*) The distinctive economic status, as visualised in the first part of Question No. 9, is significant not merely in relation to the economy of the household but also in relation to the national economy. In fact, the particular distinctions mentioned in the first part of Question No. 9 and explained above, would be made use of in the detailed classification which is to be adopted in the various economic tables which would be prepared from the Census data. The people would in the first place, be broadly classified under two "livelihood categories", namely, the agricultural classes and the non-agricultural classes. Each of these categories would next be subdivided into four "livelihood classes" as follows :—

Agricultural classes

(i) Cultivators of land, wholly or mainly owned by them, and their dependants,

(ii) Cultivators of land, wholly or mainly unowned by them, and their dependants,

(iii) Cultivating labourers, and their dependants, and

(iv) Non-cultivating owners of land, agricultural rent receivers, and their dependants.

Non-Agricultural Classes

(i) Production (other than cultivation),

(ii) Commerce,

(iii) Transport, and

(iv) Other services and miscellaneous sources.

Now in each of the above branch of national economy, you might derive your "principal means of livelihood" in one or two ways. You may be an "active" worker, an "earner", a member of the "labour force" (many such expressions are in use to signify much the same thing) in that branch of the national economy ; or you may be a wife, a child, or other dependant of such person (in which case your existence is dependent on that branch, but you are not an "active" member of it). There is (as already explained) an intermediate category which might be termed the "semi-active" worker. Thus, the three economic status mentioned in the first part of Question No. 9, namely, "self-supporting persons", "earning dependant" and "non-earning dependant" correspond to "active", "semi-active" and "passive" members of the particular branch of the national economy and these three economic status would be made use of to further divide each of the "livelihood classes" mentioned above, into sub-classes under the heads "self-supporting persons", "earning dependants" and "non-earning dependants". After completing this sub-division of the "livelihood classes", the analysis will proceed further in respect of "active workers", or the "labour force", or the first economic status, namely, the "self-supporting persons". This detailed analysis of the "self-supporting persons" or the "labour force" or the "active workers" of the particular branch of economy will be undertaken to further classify them under the heads "employers", "employees" and "independent workers" in industries and services by divisions and sub-divisions on the basis of the information obtained in the second part of Question No. 9.

Thus, it will be seen how Part I of Question No. 9 is a very vital link in the chain of the questions relating to the economic condition of the country and the importance of understanding the question in the sense in which it is to be understood can hardly be overemphasised.

(ii) It might be asked why no effort is made directly to ascertain the income level and standard of living of the people, so that the occasion for any misunderstanding may be removed and positive information of the value might be provided. The answer is—

(*a*) Government would have been very glad to do this if there was even a sporting chance of success ; but according to their best information and advice, it would be far too difficult to secure this information in an enquiry addressed to seven crores of households and carried out by unpaid staff in spare time. There was also the risk of suspicion and hostility being aroused amongst some sections of the people that this was an attempt to increase the tax burden.

(*b*) The Central Government do intend to collect such data by more specialised enquiries on a sample basis. They have already taken steps to this end. Further, the answer to Questions Nos. 9, 10 and 11 (if correctly ascertained and recorded in the National Register of Citizens) will prove to be of great value in determining suitable sampling frame-work for such enquiries in future years.

Need of co-operation from the public and the press.—The public and the press have been giving their full co-operation in Madhya Pradesh in making the forthcoming Census a real success in this State. It is to the press that we look forward to educate the people about the important economic enquiry contemplated by Questions Nos. 9, 10 and 11 of the Census questionnaire and to bring home to them the importance of these questions and their duties in giving full and accurate replies so that basic economic data of very high value for the economic and social planning of the country might be made available to the nation.

ANNEXURE II TO APPENDIX U

[Copy of the article published in the "Nagpur Times", dated the 29th November 1950.]

CENSUS ECONOMIC ENQUIRY AND ITS SIGNIFICANCE

SHRI KERAWALLA'S TALK AT RAIPUR

Raipur, Nov. 26.

A largely-attended public meeting was held at Kamal Talkies, Raipur, on the 25th November under the Presidentship of the Deputy Commissioner Shri S. K. Shrivastav, I.A.S., at which Shri J. D. Kerawalla, I.A.S., Superintendent of Census Operations, Madhya Pradesh, stressed the importance of the forthcoming Census and pointed out how basic data of very high value for social, economic and educational planning would be made available to the nation after the 1951 Census.

Amongst those who were present, were Mahant Laxminarayan Das, M.L.A., Seth Sheodas Daga, M.L.A. (Central), Shri Sharada Charan Tiwary, President, Municipal Committee, the Heads of Departments of the State Government and a number of prominent citizens and Census workers.

Shri Kerawalla laid particular stress on the Economic Enquiry to be conducted during the Census and said that Questions Nos. 9, 10 and 11 of the Census Questionnaire were most important of all. According to Shri Kerawalla, these three questions were interconnected and directed to two topics, namely, "means of livelihood" and "economic status". The former was broken up into two parts—"principal means of livelihood" and "secondary means of livelihood"—and these were put as two separate Questions Nos. 10 and 11. The latter was also broken up into two parts, the first dealing with "self-supporting persons", "earning dependants" and "non-earning dependants", and the second dealing with "employers", "employees" and "independent workers".

Proceeding further, Shri Kerawalla urged that it was extremely important that all Enumerators throughout Madhya Pradesh and as large a population of the State as possible should understand and appreciate the three questions fully and thoroughly in the same sense, so that correct replies might be secured and recorded throughout Madhya Pradesh uniformly.

With regard to Question No. 9, Shri Kerawalla particularly mentioned that the terms "self-supporting persons", "earning dependants" and "non-earning dependants" used in this question must be understood in the sense in which they have been specifically used to obtain a specific type of economic information from the people. "As a matter of fact", said Shri Kerawalla, "there was a certain amount of risk involved in using these non-technical terms in a technical and scientific context". But, he pointed out, non-technical terms had to be used in order to be intelligible to the Enumerators, as well as to the citizens, and that in the Census Reports, great care would be taken to explain the terms used and the correct significance of statistics collected during the enquiry by the use of those terms.

Self-supporting

Proceeding further, Shri Kerawalla explained the restricted meaning of the term "self-supporting" as used in Question No. 9 and pointed out that this term did not necessarily mean that the person had at least an income, which could be regarded as minimum for a normal human standard but that it merely meant that the person, in respect of whom it was used, belonged to an economic status and had such income (howsoever small it might be), which was at least sufficient for his maintenance at the *de facto* standard, though that standard might even be adjudged sub-human.

It had to be clearly understood he said, that this part of question No. 9, did not seek to classify people according to income or standard of living, but according to their actual status in relation to the existing national economy, as well as the economy of the particular household. Within every household, there were "breadwinners" and others who were "not breadwinners". It was this distinction which was sought to be brought out by the terms "self-supporting persons" and "non-earning dependants".

Earning Dependants

The "earning dependents" was an intermediate category, which, it was believed, had greater significance in India than elsewhere and was, accordingly, provided in the question. This was the persor who got some income, but not enough to meet the cost of his own maintenance whatever standard h happended to live. In other words, remarked Shri Kerawalla, the economic classification contemplated by the first part of the 9th question referred to the economically "active", "semi-active" and "passive" members of the population. The "self-supporting persons" mentioned in the question might be indentified with the "active workers", or the "labour force" of the country.

Shri Kerawalla proceeded further and said that the terms used in the first part of the 9th question were to be understood in the sense explained above and not in any other sense and that if this were done, there would be no misconception that the Census enquiry would be misleading and by pointing to the large number of "self-supporting persons" would deny the existence of widespread proverty in the country. There was no one in the Census organisation, stressed Shri Kerawalla, who was interested in concealing the prevalence of poverty among the masses, or furnishing any misleading information.

Referring to the question why no effort was made directly to ascertain the income level and standard of living of the people, so that the occasion for any misunderstanding would have been removed and positive information of value would have been provided, Shri Kerawalla said that this would have certainly been done if there had been even a sporting chance of success. According to the best information and advice available to Government, it was found that it would be far too difficult to secure this information in an enquiry addressed to seven crores of households and carried out by unpaid staff in spare time.

There was also the risk of suspicion and hostillity being aroused amongst some section of the people that this was an attempt to increase the tax burden. Shri Kerawalla added that Government intended to collect such data by more specialised enquiries on a sample basis and further that the answers to questions Nos. 9, 10 and 11, if correctly ascertained and recorded in the National Register of Citizens, would prove to be of great value in determining suitable sampling frame-work for such enquiries in future years.

Principal Means of Livelihood

After explaining the second part of the 9th question dealing with "employers", "employees" and "independent workers", Shri Kerawalla dealt at length on the importance of question No. 10 and giving full and accurate replies about the "principal means of livelihood". He appealed to the audience to explain the significance of the question to their friends and to create amongst them such interest as would lead them to seek the right answer for question No. 10 as well for questions Nos. 9 and 11 almost in the same spirit as while solving a crossword puzzle.

Shri Kerawalla also dealt with the questions dealing with the social and educational enquiry to be conducted during the Census and pointed out how the sociological and educational data would be of very great value to the social reformers and to the Government in ascertaining the educated man-power of the country.

Shri Kerawalla has been touring in the Chhattisgarh Division after completing his tour of the Western districts of Madhya Pradesh. He felt that the standard of work in Berar was, on the whole, very satisfactory and that there was much scope for improvement in the districts of Bhandara and Durg recently visited by him.

He appealed to the officials as well as the non-officials of Chhattisgarh to make a sincere effort in raising the standard of training of the Enumerators and in educating the public, so that accurate and reliable Census data might be secured from these districts.

ANNEXURE III TO APPENDIX U

CENSUS ECONOMIC DATA—ELUCIDATION OF CENSUS QUESTIONS NOS. 9 (1), 9 (2) AND 10

Copy of letter No. 621-50-R.G., dated the 28th June 1950, from Government of India, Ministry of Home Affairs, New Delhi-2, to the Superintendent of Census Operations, Madhya Pradesh, Nagpur

I enclose herewith (in the form of question and answer) a further elucidation of Census questions Nos. 9 (1), 9 (2) and 10.

The answers to these questions will be the Census economic data for all-India ; and rigid uniformity of interpretation of instructions is essential. Enquiries from one State indicated the incipient growth of heresy, notwithstanding prolonged debate at the Census Conference. Hence this letter.

I.—Census Question No 9 (1)

Question No. 1 : In the instructions the words are "the test is whether he secures a regular income, even though it may be small". Does the use of word "regular" rule out persons who earn an income by seasonal employment ?

Answer : No. The word "regular" is used in the sense of "non-casual". It is not intended to be confined only to income derived from continuous employment. It also includes income derived from seasonal employment. What it does exclude is individual income accruing casually and not constituting a source of income which is regularly depended upon.

Question No. 2 : The word "self-supporting" as defined in the instructions, means any person whose income is sufficient at least for his own maintenance. Does this mean that an income sufficient for one man is self-supporting income ? What about his direct dependants—wife, children, etc. ?

Answer : Yes. The instructions mean what they say. A person must be deemed to be self-supporting if his income (such as it is) is sufficient to support him individually at his present level of living (such as it is). He does not cease to be self-supporting merely for the reason that he, his wife and children taken together are not maintained by his own income.

If the wife and children have no income of their own, they are non-earning dependants. The instructions provide that their principal means of livelihood should be deemed in every case to be the same as that of the person on whom they are dependent. This would in most cases be the husband or father who will also be the head of the household. In those exceptional cases where the husband or father is *not* the head of the household, and is also not able to support anyone but himself, then the head of the household in which the non-earning dependant is living is the person on whom he (or she) is dependent.

Remember—every "family household" is (collectively) self-supporting ; otherwise it would not exist. The surplus of self-supporting persons within a family household is in every case sufficient to meet the deficit on the earning and non-earning dependants in that family household.

Question No. 3 : In the instructions it is recorded that if two or more members of the family household jointly cultivate land they would be classed as self-supporting or earning dependant "according to the share of income attributable to him or her". How are those share to be assigned ? What about females who, in some cases, take an active part in agricultural operations ?

Answer : The share of the income attributable to a person is what the head of the household (or whoever is the managing member) deems it to be. No attempt should be made to make a detailed calculation of this share. All that has to be ascertained is whether (in the opinion of the head of the household or managing member) the member concerned is entitled to a share which would be sufficient to cover the cost of his own maintenance.

If the answer is "yes", he is "self-supporting" ; if the answer is "no", he is an "earning dependant".

The considerations are exactly the same whether the individual is a male or a female, an adult or a non-adult.

II.—Census Question No. 9 (2)

Question No. 4 : Are doctors and lawyers, who employ compounders and clerks independent workers or employers ?

Answer: They are employers. A doctor employs a compounder in order to relieve him of part of the work connected with the business on which he is engaged and by which he secures his livelihood. A lawyer employs a clerk for a like purpose.

Question No. 5: A moneylender employs four persons to realise interest. Is he an employer or independent worker?

Answer: He is an employer. He would be an employer even if he employed only one person, provided that person was regularly employed and derived his principal means of livelihood by such employment. Casual employment or part-time employment which does not provide the principal means of livelihood of the person employed, should not be taken into account.

Question No. 6: What is the status of tenants or zamindars who do not cultivate themselves but employ labourers?

Answer: If they employ others they are "employers" provided the purpose of the employer and the nature of the employment are as stated in the answers to the two preceding questions.

Question No. 7: What is the status of beggars; orphans in orphanages; convicts in jails?

Answer: They fall in none of the three categories. Record "O" for them.

III.—Census Question No. 10

Question No. 8: What is the category of a minor, a blind person or a lady who has land in his or her name but gets it cultivated by labourers? Category 1 or category 4?

Answer: Learn to distinguish between "cultivation of the land" and "performance of labour necessary for cultivating the land". There are, of course, millions of persons who perform both functions—but the functions are distinguishable and should be distinguished. The man who takes the responsible decisions which constitute the direction of the process of cultivation (*e.g.*, when and where to plough, when and what to sow, where and when to reap and so on); it is this person who should be referred to as the cultivator, even though he does not perform any manual labour whatever. The man who ploughs, or sows, or reaps, under the directions of some one else is not the cultivator—but a cultivating labourer, a different thing altogether.

The cultivator may be the owner of the land cultivated. In that case he is category 1, whether or not he also combines in himself the functions of a cultivating labourer.

Alternatively, the cultivator may be a lessee, an agent or manager (paid or unpaid). Even in this case it is immaterial whether this lessee or agent or manager also combines in himself the functions of a cultivating labourer; he (the cultivator) is category 2, and the other person (the owner) is category 4.

Applying these principles, the answer to the question put depends on whether the minor, blind person or lady does or does not actually direct the process of cultivation. If the person does this, the answer is category 1; otherwise, the answer is category 4.

APPENDIX V

A NOTE ON FERTILITY STATISTICS IN MADHYA PRADESH

Question No. 13 of the census questionnaire was left blank by the Government of India in order to accommodate any special requirements of the various State Governments. 'Infirmity', 'unemployment' and 'fertility' were the subjects suggested at the Census Conference held at New Delhi in February 1950, but question on any other subject was also admissible provided it did not relate to caste. The decision of the Madhya Pradesh Government to collect statistics on 'fertility' at the 1951-Census was conveyed to the late Shri Kerawalla by the Additional Secretary to the Government of Madhya Pradesh, General Administration Department, in his D. O. No. 1573-1294-II, dated the 30th March 1950.

Reference to Statistics

2. The statistics on fertility are contained in Table F-I (Size of family and present age of mothers), F-II (Size of family according to age at birth of first child), F-III (Age at birth of first child and number of children born), F-IV (Age at birth of first child and number of children surviving) and F-V (Number of children born and surviving) and Tables M-I-A and M-I-B, showing present age and age at birth of first child, in respect of still married mothers and widowed or divorced mothers respectively, and Table M-II showing the distribution of fertile and infertile women amongst the still married women and widowed or divorced women, by various age groups, given in Part II-D of the Report. Tables F-I to F-V are based on the total count, while Tables M-I-A, M-I-B and M-II are compiled from the data contained in the 10 per cent sample extracted during the initial sorting as below :—

> " Break each pad and stack the slips of the pad ; and "cut" the stack as in a card game. Place the lower portion above the upper portion and then deal the slips into the pigeon-holes. You should deal the slips into the pigeon-holes in the order 1, 2, 3, 4, 5, S, 6, 7, 8 and 9, respectively. All the time you should watch the slips for the answer to question 6. If you come across any slip in which the answer to question 6 is different from '0' deal it into the pigeon-hole for 'displaced persons'."

Four Subsidiary Tables, 8·1, 8·2, 8·3 and 8·4, derived from the sample data, are given in Part I-B of the Report.

The inquiries made at the Census regarding fertility consisted in ascertaining in respect of each woman, the total number of children born to her, the number of children surviving out of them and her age at the birth of her first child. The instructions issued to the Enumerators on the subject were as follows :—

> " Number of children born to a woman and age at birth of the first child.—First write the total number of children including dead ones. Put a dash and write in brackets the number of surviving children. Again put a dash and write the age of the woman when she gave birth to the first child. Thus the three entries would be written as '7-(5)-20'. Put 0 if the slip refers to a woman,who has had no children, and also if the slip relates to a male."

The following supplementary instructions were also embodied in the Census Code :—

> " 13. Question 13 (Number of children born to a woman and age at birth of the first child).—The husband or father or other elderly person in the house should ordinarily be requested to give the information. First ask how many children she has had in all (including dead ones). Write down the figure and put a dash. Next ask how many children are surviving ; write the figure in brackets and again put a dash. Then ask how old she was when her first child was born and write the age. Thus an entry '7-(5)-20' on the line against question 13 on the enumeration slip will mean that the woman had given birth to 7 children of whom 5 are alive and that her age when the first child was born was 20 years. For a male or a woman who has had no children, write 0."

The procedure followed by the Enumerators for arriving at the correct age of the mother at the birth of her first child was, first to ascertain her present age and that of the first issue, provided he was alive and then to subtract the age of that issue from that of the mother. In case the first issue was dead, the Enumerator ascertained by various means, the age which that issue, but for his death, would have reached and then subtracted it from the present age of the mother.

Accuracy of Fertility Statistics

3. The answers to all the three components constituting the answer to question No. 13 were, in general, recorded accurately. This was rendered possible largely on account of the very wide publicity given to the importance of furnishing meticulously correct returns, particularly in respect of economic and fertility data, in the months preceding the Census. The Enumerators were also asked to make absolutely certain that all births including still births were covered while recording replies to question No. 13 in the enumeration slip.

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