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OCCUPATIONAL STRUCTURE AND LEVEL OF ECONOMIC DEVELOPMENT IN INDIA A REGIONAL ANALYSIS

by

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:

PREFACE

This study based on a year's field work in India in 1958-59 and on an analysis of the occupational data of the Indian Census of 1951, is a slightly abridged and revised version of my doctoral dissertation in Geography, submitted in 1960 under the same title to the Graduate School of the University of Wisconsin. Although I have greatly extended my field work since that date and have, or will soon have, available a considerable additional body of data from the Census of 1961, it is felt both by the Registrar General and myself that presentation of the work now, essentially in its original form, will serve a useful purpose.* To hold off publication until my more recent field work is thoroughly processed and digested and until the voluminous 1961 Census data are made available and similarly treated, would be to delay for several years the presentation of the findings of this work to an Indian audience. Where it felt that the findings would be greatly altered by a delayed and more extensively revised edition, it would, of course, be advisable. But such is not the case.

My debts as an author are many and gladly acknowledged. From a financial point of view, the study would not have been possible without the generous support of the Social Science Research Council, both during the year of field work and during the subsequent year at the University of Wisconsin. (It will not be amiss here to thank also the American Institute of Indian Studies which permitted the continuation of my field work in 1962-63.

The number of individuals to whom I am indebted is legion. Thanks are due to my respondents in some two hundred Indian villages who answered my questions with patience and dignity; to the government servants in the Community Development Blocks and other agencies serving rural India, who shared with me their knowledge of the Indian countryside; to all those individuals whose unstinting hospitality eased the physical and mental strain of field work; to Asok Mitra, Registrar General and *ex-officio* Census Commissioner for India, who guided and encouraged me in the preparation of this work in its present form; to the Staff of the Delhi School of Economics, University of Delhi, and, in particular, to Drs. B. N. Ganguli (the Director, and my official advisor) and Ashish Bose (my unofficial advisor); to a host of additional scholars and government workers, both Indian and American, scattered throughout India, who, personally and as representatives of various organizations, rendered a variety of counsel and aid; and, finally, to my two interpreters, Chaman Singh Tonwer and Subramanyam Mahadevan, who shared with me the joys and rigors of field work—to Chaman, in particular, who taught me so much about village life and suffered so much, for what he considered "our work", I owe a debt of gratitude.

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For whatever errors may remain in the present work, I alone take full responsibility.

Joseph E. Schwartzberg
Philadelphia, Pennsylvania
October, 1963.

*Copies of the study as originally presented may be ordered from University Microfilms, Inc., Ann Arbor, Michigan, U.S.A. A microfilm copy is available for $9.15; a xerox copy (page size 6¾" × 9¼") for $32.50 Payment in rupee equivalents is accepted.

CONTENTS

	Pages
PREFACE	i
LIST OF TABLES	v
LIST OF GRAPHS	vi
LIST OF MAPS	vii—viii
CHAPTERS	
I. INTRODUCTION	1—2
Nature and Scope	1
Organization	1
II. REGIONAL VARIATIONS IN THE LEVEL OF ECONOMIC DEVELOPMENT	3—14
General	3
The Development Index Approach	3
The Subjective Integration Approach	10
Comparison and Evaluation of the two Approaches	14
III. AN ANALYSIS OF THE OFFICIAL OCCUPATIONAL STATISTICS, ALL-INDIA OVERVIEW	15—27
General	15
The Occupational Structure of India in 1951	15
The Present All-India Occupational Structure in relation to those of Other Countries and of the Past within India itself	21
IV. AN ANALYSIS OF THE OFFICIAL OCCUPATIONAL STATISTICS : REGIONAL ANALYSIS	29—96
General	29
Reliability and Comparability of the Statistics	29
The Agricultural *versus* the Non-Agricultural Population	42
Sub-divisions by Tenure Status within the Agricultural Population	48
Occupational Sub-divisions within the Non-Agricultural Population	59
The Three Main Economic Sectors	79
Relationships between Level of Economic Development and Occupational Structure	87
V. LOCAL ANALYSES OF OCCUPATIONAL STRUCTURES	97—189
Introduction	97
Northern Bihar	103
Eastern Chota Nagpur	110
Central Uttar Pradesh	121
Telangana	133
Tamil Nad	135
Deccan Lava Plateau	145
Ajmer	150

PAGES

Kerala 157
Central Saurashtra 165
North Punjab Plain 171
Environs of Delhi. 184
Environs of Calcutta. 188

VI. A COMPARATIVE ANALYSIS OF THE FIELD STUDY AREAS . . . 191—218
Introduction 191
Factors Affecting Occupational Structure, Part One: Organic Factors. 192
The Ethnic composition of the Population 196
Factors Affecting Occupational Structure, Part Two: Dynamic Factors. . . . 199
Factors Affecting Occupational Structure, Part Three: Summary 207
Occupational Structure and Level of Economic Development 207
A Critical Comparison of the Field Results and the Census Occupational Data . . 215

VII. A DYNAMIC, REGIONAL SYNTHESIS . . . . . 219—225
General: Factors Mapped and Mapping Method 219
The Regional Pattern of the Map of Occupational Structure and Trends . . . 222

VIII. CONCLUSIONS . . . . . 227—230

APPENDICES

APPENDIX A: Basic Census Statistics of Population, Dependency Status, and Occupational Structure . . . . . 231—240

TABLE:

1 Basic Population Data by Zones, States and Census Natural Divisions . . . . 232—234
2 Dependency Status of the Total Indian Population, Classified by Sex, Rural versus Urban Distribution and Agricultural versus Non-Agricultural Distribution 235
3 Detailed Occupational Structure of the Total, Rural and Urban Populations of India, 1951 . 236—239
4 Employment in Processing and Manufacture in 1901 and 1951 240

APPENDIX B: Standardised Scores of Selected Indices of Economic Development for Eighteen Regions of India. . . . . 241—248
I Structural Indices . . . . . 242—243
II Productivity Indices 244
III Consumption and Welfare Indices . . . . . 245—246
IV Overall Scores 247
Sources and Notes 248

BIBLIOGRAPHY . . . . . 249—267

U.N., GOVERNMENT AND QUASI-GOVERNMENT SOURCES (PUBLISHED) . . 250—252
Census Materials 250
Periodicals, Yearbooks, Directories and Purely Statistical Works 250
Reports of Special Commissions 251
Other Textual Works 251
Atlases and Maps 252

OTHER PUBLISHED WORKS, EXCEPT FOR ARTICLES . . . . . 253—259
Dealing with Economic Development in General 253
General Background Works on India 254
Primarily Economic Works on India 255
Primarily Cultural and/or Anthropological Works on India 258
Other Works on India 259
Miscellaneous 259

PUBLISHED ARTICLES . . . . . 260—265
Not Specifically Relating to India 260
Specifically Relating to India 262

UNPUBLISHED MATERIALS . . . . . 265—267

LIST OF TABLES

TABLE		PAGES
1	Selected Indicators of Economic Development	5—6
2	Co-efficients of Correlation of Selected Variables Relating to Economic Development in India	7
3	Allocation of Male Workers by Economic Sector in India and Selected Other Countries	21
4	Employment Trends in Selected Occupations Affected by Technological Change During the Period 1901-1951	24
5	Occupational Structure of the Area of the Present Indian Union during the Period 1901-1951	25
6	Trends in Employment in Sub- Groups Included under "Services Not Elsewhere Specified" in the Period 1901-1951	26
7	Population Growth or Decline of Census Natural Divisions Classified by Proportion of Agricultural Laborers During the Period 1891-1921	55
8	Co-efficients of Correlation of Selected Variables Relating to Economic Development and Occupational Structure in India	88-89
9	Standardized Scores and Ranking of Regions According to Level of Economic Development and Selected Occupational Variables	92-93
10	Occupational Structure of Singhbhum, Purulia, and Dhanbad Districts of Bihar, 1951	116
11	The Relationship of Selected Variables to Level of Economic Development in Thirty-Four Sample Villages in the Eastern Chota Nagpur	120
12	Occupational Structure of Kanpur, Unnao, Lucknow, and Bara Banki Districts of Uttar Pradesh, 1951	127
13	The Relationship of Selected Variables to Level of Economic Development in Forty-Eight Sample Villages of Central Uttar Pradesh	132
14	Occupational Structure of North Arcot District, Selected Components Thereof, and Gingee Taluk of South Arcot District, Madras, 1951	140
15	Occupational Structure and Selected Other Variables in Two Sample Groups of Twelve Villages Each in North and South Arcot Districts of Tamil Nad	141
16	The Relationship of Selected Variables to Level of Economic Development in Twenty-Four Sample Villages of Tamil Nad	144
17	Occupational Structure of Amraoti District, Madhya Pradesh, 1951	148
18	Occupational Structure of Ajmer, 1951	153
19	Occupational Structure of Quilon and Kottayam Districts of Travancore-Cochin and Selected Sub-Divisions Thereof, 1951.	161
20	Occupational Structure of the District of Central Saurashtra, in the State of Saurashtra, 1951	168
21	Selected Variables for Ten Sample Villages in Central Saurashtra Arranged in Two Development Groups	171
22	Occupational Structure of the Districts of Ludhiana, Jullundur, and Amritsar, Punjab, 1951	178
23	Average Scores for Selected Occupational and Other Variables in Thirty-two Sample Villages in the North Punjab Plain	179
24	The Relationship of Selected Variables to Level of Economic Development in Thirty-two Sample Villages in Northern Punjab	183
25	Percentage of Self-Supporting Males Employed by Economic Sectors in Delhi State, Rohtak and Gurgaon Districts of Punjab and Meerut and Bulandshahr Districts of Uttar Pradesh, 1951	186
26	Areal Ranking with Regard to the Occupational Variables of Graphs 10—14 in Comparison with Ranking with Regard to Level of Economic Development, Based on a Sample of 175 Villages in Eight Study Areas of India	213

LIST OF GRAPHS

GRAPH		PAGES
1	Standardised Scores of Indian Regions according to Groupings of Selected Indices of Economic Development	9
2	Occupational Distribution of Self-Supporting Males, All-India, 1951	16
3	Subsidiary Occupations Among Self-Supporting Workers, 1951	20
4	Secular Trends in the Allocation of the Labour Force of India, the U.S.A., France and Japan	22
5	Employment of Self-Supporting Males by Economic Sector in India in 1951	84
6	Metropolitan Proximity in Relation to Occupational Structure and Selected Other Variables in a Sample of Forty-Eight Villages in Five Sub-Regions of Central Uttar Pradesh	128
7	Percentage of All Households Mainly Dependent on Non-Agricultural Occupations Pursued within the Village in Varying Village Size Categories in a Sample of 169 Villages in Eight Areas of India	193
8	Number of Castes Per Village in Varying Size Categories in a Sample of 169 Villages in Eight Areas of India	198
9	Schema for a Classification of Rural Economics in India	202
10	Degree of Primary Dependence of Non-Agricultural Occupations Pursued within the Village in relation to Relative Level of Economic Development in 175 Sample Villages in Eight Areas of India	208
11	Degree of Primary or Subsidiary Dependence on Non-Agricultural Occupations Pursued within the Village in Relation to Relative Level of Economic Development in 175 Sample Villages in Eight Areas of India	209
12	Degree of Primary Dependence on Non-Agricultural Occupations Pursued outside the Village by persons Living within the Village in Relation to Relative Level of Economic Development in 175 Villages in Eight Areas of India	210
13	Degree of Primary Dependence on Non-Agricultural Occupations Pursued outside the Village in Relation to Relative Level of Economic Development in 175 Sample Villages in Eight Areas of India	211
14	Degree of Primary Dependence on Non-Agricultural Occupations Pursued within and outside the Village by persons Living within the Village in Relation to Relative Level of Economic Development in 175 Sample Villages in Eight Areas of India	212

LIST OF MAPS

MAP		PAGES
1	Levels of Economic Development—By States	8
2	Levels of Economic Development—By Regions	11
3	Self-Supporting Males as a Percentage of the Total Agricultural Population	34
4	Self-Supporting Males as a Percentage of the Total Non-Agricultural Population	35
5	Percentage of Self-Supporting Males in the Non-Agricultural Population Minus the Percentage in the Agricultural Population	38
6	Percentage of Self-Supporting Males Primarily Engaged in "Services Otherwise Unclassified."	41
7	Agricultural Classes as a Percentage of All Self-Supporting Males	43
8	Agricultural Laborers as a Percentage of Total Rural Earners—Data by Census Natural Divisions, 1951	53
9	Percentage of Self-Supporting Males Primarily Dependent on Stockraising, Forestry and Collection, and Fishing for their Livelihood	60
10	Percentage of Rural Population Dependent on Non-Agricultural Occupations for a Livelihood	63
11	Percentage of Self-Supporting Males Primarily Engaged in Miscellaneous Classified Services	66
12	Percentage of Self-Supporting Males Primarily Dependent on Plantation Industries and Mining and Quarrying for their Livelihood	68
13	Factory Workers per Thousand of Total Population, 1951	71
14	Percentage of Self-Supporting Males Primarily Engaged in Commerce	73
15	Percentage of Self-Supporting Males Primarily Engaged in Transportation and Communication	74
16	Percentage of Self-Supporting Males Primarily Engaged in Health, Education, and Public Administration	76
17	Percentage of Self-Supporting Males Primarily Engaged in Construction and Maintenance	78
18	Percentage of Self-Supporting Males Working in the Primary Sector	80
19	Percentage of Self-Supporting Males Working in the Secondary Sector	81
20	Percentage of Self-Supporting Males Working in the Tertiary Sector	82
21	Secondary Versus Tertiary Orientation within the Non-Primary Sector	85
22	Areas in which Field Investigations of Occupational Structural were Carried out by the Author in 1958-59	98
	Master Legend Sheet for Maps 23 through 32	104
23	Area of Field Work in Northern Bihar	105
24	Area of Field Work in the Chota Nagpur	111
25	Area of Field Work in Central [Uttar Pradesh	123
26	Area of Field Work in Tamil Nad	136
27	Area of Field Work in The Deccan Lava Plateau	146
28	Area of Field Work in Ajmer	151
29	Area of Field Work in Kerala	158
30	Area of Field Work in Saurashtra	166

104 R.G.—2

MAP		PAGES
31	Area of Field Work in Punjab	173
32	Area of Field Work in Delhi and Environs	185
33	Occupational Structure and Trends	220
END PLATES		
1	District Names and Internal Boundaries. 1951 (Inset : State Names and Census Natural Divisions)	269
2	Population Reference Map, Showing Density per Square Mile, Percentage Urbanization and All Urban Places with Over 20,000 Population	271

CHAPTER I

INTRODUCTION

Nature and Scope

Much has already been written about the occupational structure of India. Yet our knowledge of that subject remains far from adequate. There are several reasons for this. First, because the available studies are based primarily on the Census, which, despite its monumental worth, embodies—at least until 1951—various shortcomings in the economic sphere and because those shortcomings, especially those relating to the regional comparability of the results, are imperfectly apprehended by Census users. Second, because, for reasons of public and social policy, the relationship between caste and occupation, still a fundamental one in modern India, can no longer be a subject for general Census investigation. Third, because the pattern of relationship between occupational structure and level of economic development at both the regional and the village level has not been fully or systematically explored. Fourth, because the basic data of the Census were not supplemented by and checked against a body of detailed, comparative, uniformly executed field studies carried on by competent social scientists in a variety of regions and socio-economic contexts.

It is felt, in light of these remarks, that the present study, based both on a detailed cartographic analysis of the occupational data of the 1951 Census and on the author's field investigations in 1958-59 in 198 villages in twelve widely scattered and widely differing regions, makes a fundamental contribution to our knowledge of India's occupational structure. It deals more exhaustively than any other document with the nature and probable magnitude of regional bias in the reporting of occupational data. It treats occupation in the context of caste and the Hindu *jajmani* system of village socio-economic organization, the regional variations in which have still received all too little study. Finally, and most important, it considers occupational structure as a function of economic development at the state level, at the regional level, and at the village level within a particular region. Incidentally, it throws much empirical light on the theoretical arguments of Colin Clark, Simon Kuzentz and others concerning the relationship of the size of the several occupational sectors to the level of economic development of a particular region and even questions the applicability of the classical primary-secondary-tertiary method of sectoral analysis to the Indian economy.

Organization

The organization of the work is briefly as follows:

In Chapter II are discussed the regional variations in the level of economic development within India, against the background of which the occupational structure will subsequently be viewed. Two maps showing levels of economic development are provided, one plotted quantitatively by states, the second non-quantitatively, but more realistically, it is felt, on an *ad hoc* regional basis. Chapters III and IV provide a deailed analysis of the Indian statistics dealing with occupational structure. Chapter III, rather briefly, considers India as whole, analytically comparing the 1951 occupational structure with those of previous decades and with the patterns found in selected other countries. Chapter IV is regional in approach. It commences with a lengthy discussion of the reliability and suitability of the 1951 Census for inter-regional comparisons, particularly for the population of "self-supporting male workers". Subsequently, various occupational sectors are individually analyzed and

the ratio between the broad secondary and tertiary sectors is discussed. Finally, the chapter examines such correlations as appear to exist between the occupational data and the data on level of economic development brought out in Chapter II.

The principal findings of the field work are presented in Chapter V. The types of information obtainable only from the field are indicated and the methodology guiding the field work and the ordering and presentation of the results is outlined. Each of the field areas is then examined, commencing with the regions lowest in general level of development and advancing up the development ladder to the highest. For each area the problem which prompted its selection for investigation is stated and the salient cultural and physical characteristics are briefly described. The bulk of the discussion relates, of course, to the occupational structure, with due regard to such intra-regional differences as may exist. The concluding paragraphs of each regional discussion deal with the relationships of occupational structure to level of economic development on an intra-regional basis.

Chapter VI offers a comparative analysis of the areas studies in the field and a series of general conclusions based thereon, discussing first what are termed the organic factors, *i.e.*, the considerations arising from the relatively stable aspects of the local situation, especially matters of spatial distribution and the composition of the population, and secondly, the dynamic factors, *i.e.*, the changes stemming from and factors making for economic growth. The intra- and inter-regional relationships between occupational structure and overall level of economic development are then examined. Finally, the author's field data and those of the Census for the same areas are critically compared.

The main object of Chapter VII is to present and explain a map which provides an original, dynamic, regional synthesis of the occupational structure and trends of India. A summary description of the regional pattern forms the bulk of the chapter.

Chapter VIII presents a brief resume of the principal conclusions of the study and considers the implications thereof.

Two appendices follow the text. The first of these is a summary, for the nation as a whole and by states and natural census divisions, of some of the more important population and occupational statistics of the 1951 Census. The second is a tabulation of data for thirty-two selected indicators of economic development.

CHAPTER II

REGIONAL VARIATIONS IN THE LEVEL OF ECONOMIC DEVELOPMENT

General

Since economic development is a complex phenomenon, it follows that no single yardstick can be used to measure it. Some yardsticks, to be sure, may be better than others, *per capita* income, for example; but it is obvious—to the author at any rate—that, for areas of the world as large as India, any attempt at making meaningful inter-regional comparisons of levels of economic development calls for an approach which entails consideration of a wide range of relevant variables. In this chapter two maps of levels of economic development in India are presented, each of which is a synthesis of any factors. But the methods of synthesis and hence, the results are quite different, though complementary. The first map combines thirty-one indices of economic development for which state data were available into a series of composite development scores by states. The second, more or less subjectively and non-quantitatively, integrates for a set of regions, divided more finely than at the state level, the most relevant state and district data available. Each map has its advantages and its drawbacks. But both are essential in providing a background for the regional analysis of India's occupational structure, which is the principal concern of this study.

The Development Index Approach

For purposes of analysis the level of economic development of a given area may be considered as having two fundamental aspects. On the one hand it entails the way in which a society is organized to produce—in order ultimately to consume—and on the other it involves the efficiency of that organization, as measured by the volume of goods and services produced—and ultimately consumed. Both these aspects of development are, in turn, susceptible of further analysis.

The organization of society refers not only to the accumulated economic infrastructure: railroad nets, school systems, stock exchanges, rural credit co-operatives and the like, but also to a set of beliefs and attitudes on the part of its members. Beliefs and attitudes that seem to go with economic development include the notion that one's lot in this world is largely what he makes it rather than the result of one's merit or misdeeds in previous existences (*Karma*, in the Indian view) or some other form of predetermination, the desire to work beyond the level required for the mere satisfaction of essential physical needs, the willingness to take economic risks or to put money in long-term capital investments rather than engage in speculative commodity transactions, the commitment to an industrial way of life and so forth. In short, the pattern of socio-economic organization itself has two aspects, one of which we shall call structural and the other of which we shall designate as attitudinal.

With regard to the efficiency of organization we are again confronted with a dichotomy: production forms one half of our concern, consumption or general welfare the other.

For three of the four sub-aspects of development, the structural sub-aspect, the sub-aspect of production, and the sub-aspect of consumption and general welfare, the writer was able to gather state-wise data for a

wide-ranging group of variables, thirty-one in all, each of which might be considered as a partial indicator or index of development. These indices are shown in table 1[1].

Only one variable, *per capita* income, was included under two rubrics, as an indicator both of production and of consumption and general welfare, because of the equality, by definition, of national income and national product. For the fourth sub-aspect, the attitudinal, the current state of knowledge is not sufficient to permit the formulation of comparable, quantitative state-wise data. Its inclusion in the above discussion is therefore, purely of academic interest. But the fact that it cannot be quantified in no way diminishes its importance or the need to recognize its logical place in the schema outlined. Having amassed the data, the problem which confronted the author was how to combine them to form a set of overall state-wise development scores, *i.e.*, how to combine such diverse statistical series as *per capita* income, degree of urbanization, density of transport network, etc.

In the solution offered below two operations were required. The first was that of standardization, *i.e.*, scaling the data according to some common standard, to arrive at comparable sets of scores or index numbers for each variable considered. The second operation was that of combining the scores for each state of India either by simple or by weighted averaging of all the index numbers available for that state. In standardizing the data tabulated, a score of zero was assigned to the least favored region with respect to each variable and a score of one hundred to the most favored.[2] Intermediate scores were given to each of the remaining regions according to the arithmetic distance of its non-standardized score from the two extremes. Assume, for example, that states A and B, with *per capita* incomes of 500 and 200 rupees respectively, were the most and the least favored in India and that a third state, C, had an average *per capita* income of 275 rupees. Scoring 100 for state A and zero for state B and noting the difference of 300 rupees between the two, one would then assign a score of 25 to state C, the difference of 75 rupees between its income and that of state B being 25 per cent of 300. The mean values were not used in the standardization of the scores. They are inserted in Table 1 for purposes of general information only.[3]

Although each of the three major headings of Table I was assumed to be of equal importance to the other two, the individual indices were not assumed to be on a par with one another. Accordingly, they were subjectively weighted, as shown in column 6. The assigned weights varied from 1 to 3 in every case but one—*per*

[1] In practice it was not always easy to decide the heading under which a particular variable best fits. Thus the number of electricity consumers per thousand of total population was considered an indicator of consumption and welfare, while the *per capita* consumption of electricity expressed in kwh. was considered an indicator of productivity, the reason being that the great majority of electric consumption in India is for industrial and irrigation purposes. Similarly, the *number* of joint stock companies per million people was considered a structural indicator, while the *amount* of corporate capital invested per thousand of total population was conaidered an indicatbr of productivity. As a final illustration the average annual food production *per capita* of agricultural population could not be considered a state wise indicator of consumption as well as of production because of the existence of inter-state food shipments or shipments into or out of the nation as a whole.

[2] For the complete array of data *see* Appendix B. Normally the maximum score is the most favored and *vice versa*; but in the case of variables I.6, "agriculture laborers as percentage of rural population" and III.13, "concentration ratio of landholding," the opposite if true.

[3] One drawback of the above method of standardization is that it marks the ratio properties of the original data. But the original data, it must be remembered are only ameans to an end and in the present context have little value in themselves. Moreover a system of standardization maintaining the ratio properties of the original data may be quite misleading insofar as the marginal utility of specific proportional increments varies so greatly from one index to another. Compare for example a daily *per capita* caloric intake of 1,500 with one of 2,500 and an annual *per capita* income of $1,500 with one of $ 2,500. The ratio properties in each case are indentical, the significance of the differences are vastly different. What is important to deal with, in the case of India, are the variations upward from the minimum possible base for a variable economy which is almost always closely approached in the most backward states.

TABLE 1

SELECTED INDICATORS OF ECONOMIC DEVELOPMENT

(For explanation of all terms used and for complete regional tabulation, See Appendix B)

	Date	Regions Covered.	Mean	Maximum	Minimum	Weight Assigned
	1	2	3	4	5	6
I. Structural Indicators						
1 Urban Population as Percentage of Total Population . . .	1951	18	17·3	31·7	4·1	2
2 % of Total Population in Cities of over 100,000 Population . .	1951	18	6·6	14·6	0·0	1·5
3 Non-Agricultural Population as % of Total Population .	1951	18	30·3	52·3	9·0	1·5
4 Non-Agricultural Population as % of Rural Population . .	1951	18	18·4	39·4	4·6	1·5
5 Factory Workers per Thousand of Total Population . .	1950	18	8·2	26·4	0·66	1·5
6 Agricultural Laborers as % of Rural Population . . .	1951	18	19·4	33·1	4·8	1·5
7 Employees as Percentage of Self-Supporting Non-Agricultural Workers	1951	18	45·7	67·6	28·7	1
8 Trade Union Members per Thousand of Total Population .	1951—2	15	5·7	19·5	1·1	1
9 Members of Co-operatives per Thousand of Total Population .	1950—1	18	37·8	78·0	9·0	1
10 Members of Agricultural Credit Societies per Million of Agricultural Population . . .	1953—4	18	61·0	121·6	15·7	1
11 Registered Banks per Million of Total Population (Offices) .	1954	18	11·4	69·2	1·1	1·5
12 Joint Stock Companies per Million of Total Population . .	1952—3	18	81·9	452·4	5·0	1·5
13 Miles of Surfaced Road Equivalents per Million of Total Population	1950	17	581·0	1627·0	273·0	1·5
14 Miles of Surfaced Road Equivalents per Thousand Square Miles	1950	17	118·0	776·0	59·0	1·5
II. Productivity Indicators						
1 Average Annual Income Per Capita (Rupees) . . .	1950—1	18	255·0	376·0	149·0	7

TABLE 1—contd.

	Date	Regions Covered	Mean	Maximum	Minimum	Weight Assigned
	1	2	3	4	5	6
2 Average Annual Food Production Per Capita of Agricultural Population (Lbs.)	N.A.	18	415·0	620·0	177·0	2
3 Yield of Major Food Grain as Percentage of National Yield (per Acre)	1954—5	18	100·0	152·0	54·0	2
4 Value Added by Factory Manufacture Per Capita of Total Population (Rupees)	1949	12	9·4	31·6	0·22	3
5 Consumption of Electricity per Thousand of Total Population (KWH)	1955	16	19·7	62·1	0·73	3
6 Corporate Capita Per Capita of Total Population (Rupees)	1952—3	18	32·6	131·2	0·25	3
III. Consumption and Welfare Indicators						
1 Average Annual Income Per Capita (Rupees).	1950—1	18	255·0	376·0	149·0	5
2 Average Annual Wages per Factory Workers (Rupees)	1949	13	1052·0	1330·0	344·0	1
3 Average Annual Wage per Agricultural Labor Family (Rupees)	1951	15	447·0	913·0	340·0	1
4 Bank Deposits Per Capita (Rupees)	1951	18	23·3	78·4	0·7	1·5
5 State Revenues Per Capita (Rupees)	1950—1	16	11·3	19·2	6·6	2
6 Rural Education Expenditures Per Capita of Rural Population	1948—9	18	1·3	2·8	0·64	1
7 Male Literates as % of Total Male Population	1951	18	24·9	54·8	10·9	1·5
8 Matriculations or Equivalent Granted per Million of Total Population	1948—9	18	858·0	2088·0	150·0	1
9 Newspapers and Periodicals per Million of Total Population	1952—3	18	18·2	46·3	2·5	1
10 Electric Consumers per thousand of Total Population	1956	16	7·0	19·6	0·8	1
11 Motor Vehicles per Million of Total Population	1953	18	938·0	1861·0	116·0	1
12 Government Hospital Beds per Million of Total Population	1951	13	356·0	650·0	174·0	1
13 Concentration Ratio of Landholding	1951	16	N.A.	0·66	0·37	2

capita income.[4] Indices thought to be of weak diagnostic significance in the context of the Indian economy were given low scores, as were indices thought to be largely subsumed in other indices. The total weight of each group of indicators was 20.

For purposes of comparison, both weighted and non-weighted averages for each group of variables and for all three groups taken together were derived.[5] As shown in column 2 of Table 1, however, for certain variables data were not complete for all regions. In order to arrive at average scores, whether weighted or not, allowance had to be made for missing data. If a region was scored for all thirty-two indicators, the average, or overall, score was obtained by dividing the total of all the scores by thirty-two in the non-weighted case or by sixty in the weighted. If, however, data for a single indicator with a weight of two was lacking—to choose an arbitrary example—the total score was divided by thirty-one in the non-weighted case and fifty-eight in the weighted. Similar averaging procedures were employed for determining weighted and non-weighted scores for each of the major groups of development indices, in addition to the averages for the three groups combined.

Graph 1 shows the four pairs of weighted and unweighted standardized regional scores derived in the manner just described. The regions thereon are ordered according to the weighted overall score, with the least developed state, Vindhya Pradesh, at the left and the most developed, West Bengal, at the right.[6] The graph shows a remarkably high degree of correlation among the several aspects of development and between each of those and the overall results, whichever set of figures one employs.

Table 2 shows the actual co-efficients of correlation of the overall development ratings (both weighted and unweighted), the weighted structural indices, the weighted

TABLE 2

*CO-EFFICIENTS OF CORRELATION OF SELECTED VARIABLES RELATING TO ECONOMIC DEVELOPMENT IN INDIA**

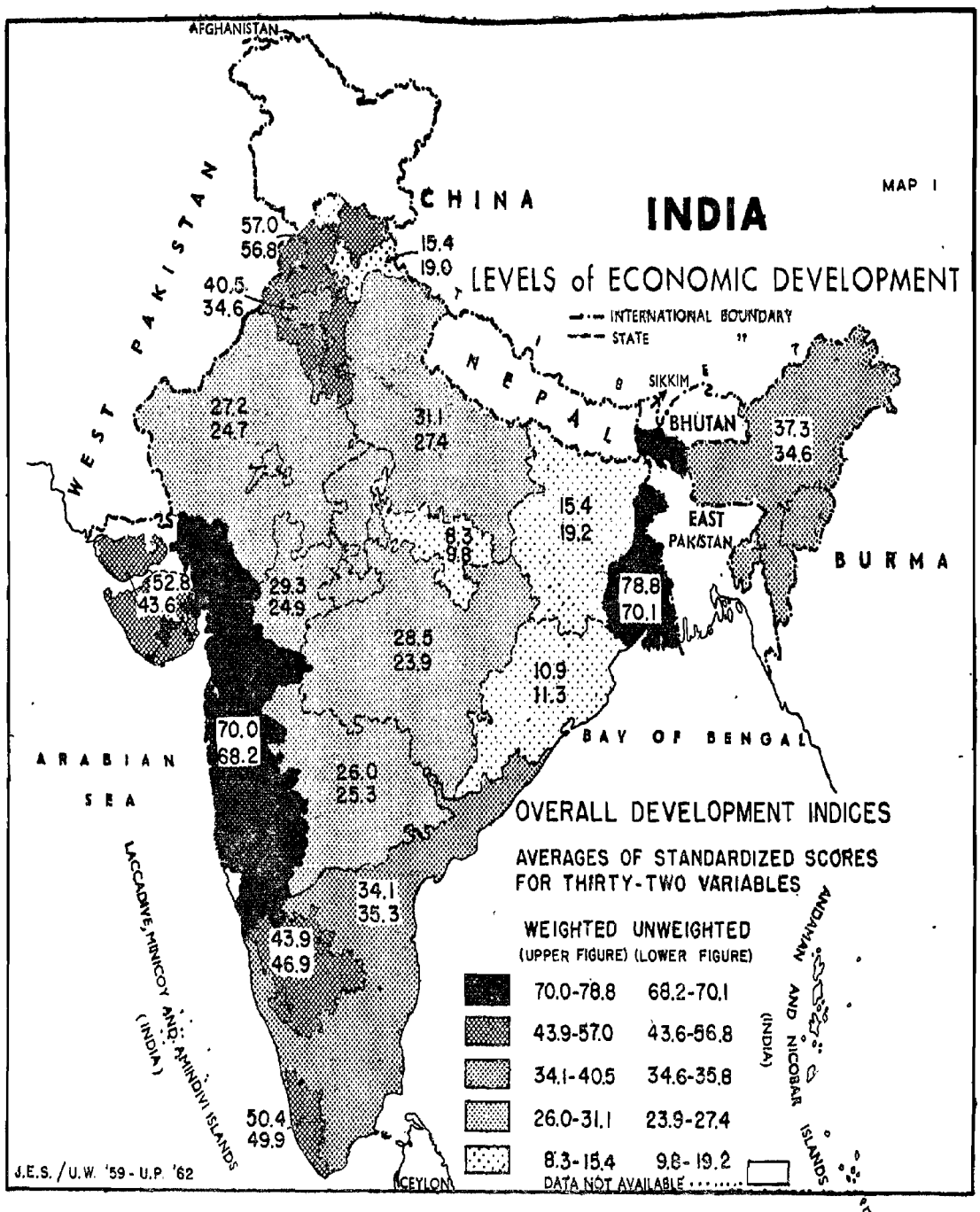
		Overall Development Rating (Weighted)	Overall Development Rating (Unweighted)	Structural Indices (Weighted)	Productivity Indices (Weighted)	Consumption and Welfare Indices (Weighted)	Annual Income Per Capita
		1	2	3	4	5	6
1	Overall Development Rating (Weighted)	..	·986	·975	·981	·974	·890
2	Overall Development Rating (Unweighted)	·986	..	·971	·959	·964	·814
3	Structural Indices (Weighted)	·975	·971	..	·936	·931	·842
4	Productivity Indices (Weighted)	·981	·959	·936	..	·929	·883
5	Consumption and Welfare Indices (Weighted)	·974	·964	·931	·929	..	·876
6	Annual Income Per Capita	·890	·814	·842	·883	·876	..

*Derived utilizing the formula of Arthur H. Robinson in "The Necessity of Weighting Values in Correlation Analysis of Areal Data," in *Annals of the Association of American Geographers*, Vol. XLVI, June, 1956, pp. 232—236. (Weighting in this instance was by population rather than by area.)

[4] Per capita income, it will be noted, has a weight of 7 as an index of productivity and a weight of 5 as an index of consumption. Lest these weights be thought excessive, it should be noted that certain economists consider *per capita* income as *the* yardstick of development whereas here, with a total weight of 12, it accounts for but a fifth of the total score.

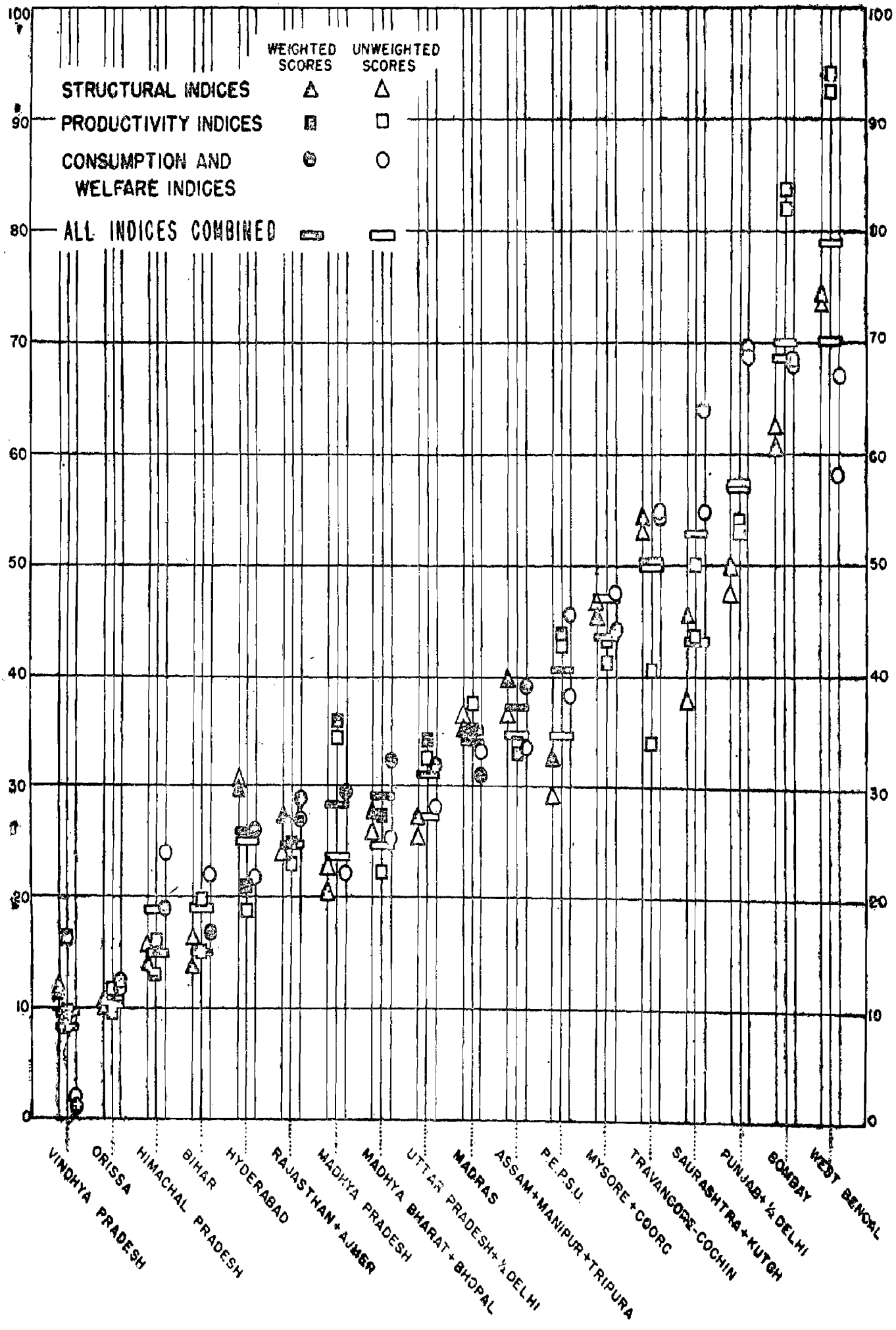
[5] Strictly speaking, it is logically incorrect to speak of a "non-weighted average," since what is really done in deriving such a figure is to count each component thereof as being of equal weight, *e.g.*, to state that the number of hospital beds per million people is just as important an indicator of development as *per capita* income a supposition with which, presumably, no one would agree.

[6] Of the twenty-six variables for which data were available for Vindhya Pradesh it scored lowest of all eighteen regions (*i.e.*, zero) on thirteen; of the thirty variables for which data were available for West Bengal, it scored highest (*i.e.*, 100) on seven and second on nine others.


MAP I
INDIA
LEVELS of ECONOMIC DEVELOPMENT
INTERNATIONAL BOUNDARY
STATE
AFGHANISTAN
CHINA
WEST PAKISTAN
NEPAL
SIKKIM
BHUTAN
EAST PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
57.0
56.8
15.4
19.0
40.5
34.6
27.2
24.7
31.1
27.4
37.3
34.6
15.4
19.2
8.3
9.8
52.8
43.6
29.3
24.9
78.8
70.1
28.5
23.9
10.9
11.3
70.0
68.2
26.0
25.3
34.1
35.3
43.9
46.9
50.4
49.9
OVERALL DEVELOPMENT INDICES
AVERAGES OF STANDARDIZED SCORES
FOR THIRTY-TWO VARIABLES
WEIGHTED (UPPER FIGURE)
UNWEIGHTED (LOWER FIGURE)
70.0-78.8 68.2-70.1
43.9-57.0 43.6-56.8
34.1-40.5 34.6-35.8
26.0-31.1 23.9-27.4
8.3-15.4 9.8-19.2
DATA NOT AVAILABLE
J.E.S. / U.W. '59 - U.P. '62

GRAPH I

STANDARDIZED SCORES OF INDIAN REGIONS ACCORDING TO GROUPINGS OF SELECTED INDICES OF ECONOMIC DEVELOPMENT



productivity indices, the weighted consumption and welfare indices, and annual *per capita* income, taking these six variables two at a time. The "r" values though open to some question due to the dubious accuracy of many of the data range from a low of .814 to a phenomenal high of .986.

The regions shown in Graph 1 may be grouped in five classes, which would be identical regardless of which set of scores, weighted or unweighted, were considered. These five classes form the map categories of Map 1 which shows the regionalization of levels of economic development of India, essentially on a state-unit basis. The range of scores within each class is indicated in the map legend; and the individual regional scores are shown on the map proper.

The Subjective Integration Approach

The subjective integration approach to the mapping of levels of economic development seeks to provide a realistic regionalization of the country, irrespective of the boundaries of the states or other internal administrative divisions for which data happen to be available. The method makes no pretense of assigning developmental scores to the regions mapped; rather it recognizes in its map categories, as do many economists, several successive stages of economic growth. For India, these stages are definable largely in terms of the degree of commercialization in the predominant rural sector of the economy, though this can hardly be the sole criterion. These successive stages are usually strongly correlated, as the data of the previously discussed development index approach bear out, with mounting levels of consumption and general welfare.

Although the subjective integration approach draws heavily on such pertinent and reliable statistical data as may exist, often down to the district level, it does not seek to combine these data according to any set formula or within any given or preconceived set of regions. The data themselves and inferences from them ultimately determine the regions, but the decisions as to the location of the regional boundaries, once the major categories to be mapped have been decided upon, involve a great number of subjective decisions as to the relative importance of the several variables in each area under consideration. Hundreds of such decisions went into the making of the map of India shown in Map 2.[7]

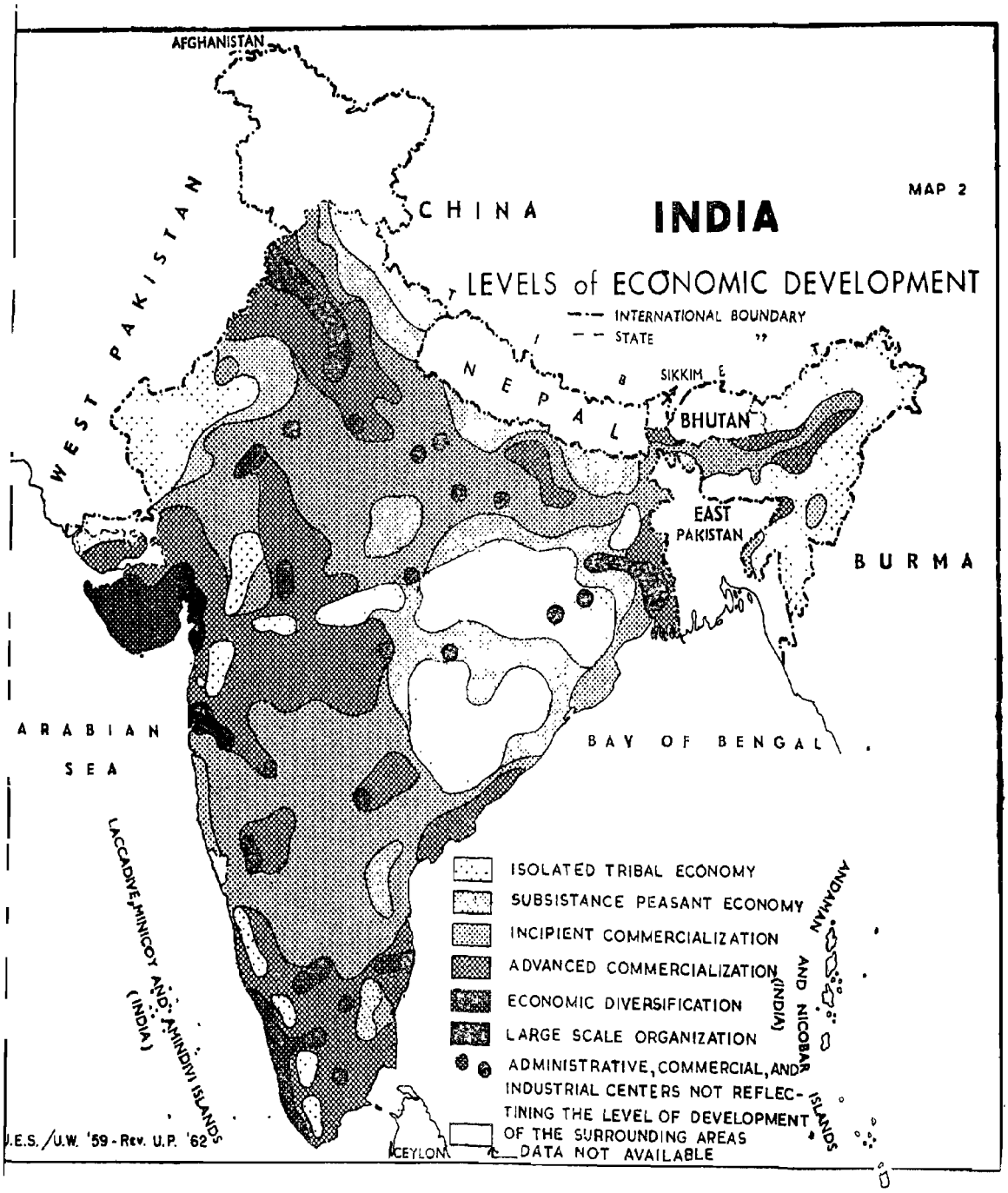
At the outset it seemed essential to differentiate those areas of India which are essentially tribal, that is, those areas the economy of which is, for all practical purposes, essentially independent of the economy of the nation at large and in which economic decisions are made within the context of a relatively small tribal organization.

It makes rather little sense to attempt to differentiate varying levels of economic development in the tribal areas of India since the lack of development is, by and large, not even sensed as a problem by the local population, who possess but the most meager knowledge of ways of life or

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[7] As in all subjective work, the value of the result depends on who performs the task. The method in question would seem to demand at least the following : extensive personal familiarity with the region being mapped the assemblage of the widest possible range of data, and good judgement in evaluating the meaning of the data available.

The writer's familiarity with India at the time the map under discussion was made stemmed from two sojourns in the country totalling nearly a year and a year and a half in duration. Most of the time on both trips was spent in travelling over thousands of miles through every major state of the country. On the second trip lasting one year, the writer did field work in a dozen different areas in which he conducted (with the aid of paid interpreters travelling with him) lengthy interviews in 198 different villages. One of the principal purposes of this field work was specifically that of determining the level of economic development of the individual villages and regions visited. These levels ranged all the way from the tribal to the highest to be found in the country In short, through the entire range of categories of Map. 2. The writer returned to India for ten months in 1962-63 and continued his field work in another 121 villages in 17 districts of the Northern Plain from Bengal to Punjab and Rajasthan. Within that area, his additional experience gives him no reason to change either the categories or the boundaries of the map.


MAP 2
INDIA
LEVELS of ECONOMIC DEVELOPMENT
INTERNATIONAL BOUNDARY
STATE "
AFGHANISTAN
CHINA
WEST PAKISTAN
NEPAL
SIKKIM
BHUTAN
EAST PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON
ISOLATED TRIBAL ECONOMY
SUBSISTANCE PEASANT ECONOMY
INCIPIENT COMMERCIALIZATION
ADVANCED COMMERCIALIZATION
ECONOMIC DIVERSIFICATION
LARGE SCALE ORGANIZATION
ADMINISTRATIVE, COMMERCIAL, AND INDUSTRIAL CENTERS NOT REFLECTING THE LEVEL OF DEVELOPMENT OF THE SURROUNDING AREAS
DATA NOT AVAILABLE
U.E.S./U.W. '59 - Rev. U.P. '62

of a technology different from their own. It is not suggested, however, that all tribal areas are essentially alike in their economy or even that there exists a "type" of economy that can be well understood by the appellation "tribal". What is suggested is that the following analysis is not altogether applicable to the tribal areas of India.

The non-tribal areas of India were differentiated primarily on the basis of their presumed degree of commercialization, though towards the upper extreme of development other factors were considered as well. The principal data used related to: (a) the proportion of land in various types of each crops *i.e.*, non-staples[8] (b) the proportion of total cropland under irrigation, the assumption being made that irrigated tracts are more likely to be surplus food-crop areas than those which are not[9]; (c) distance from urban markets and the local degree of urbanization, since urban areas can only exist when there is an accessible agricultural surplus area to feed them;[10] (d) the density of population, rural and total[11]; and (c) the distribution of establishments such as oil mills, cotton ginneries, *etc.*, for the initial local processing of agricultural produce.[12],[13].

Using the criteria cited above, it was possible to recognize a number of non-tribal areas which clearly could be characterized as regions of subsistence peasant economy, that is, areas in which commercial activity is negligible. To a large degree these areas border the tribal areas, though a few significant pockets are found surrounded entirely by areas of greater commercialization, as in the Bundelkhand.

It is hardly surprising in comparing Maps 1 and 2, to find so much of the states of Vindhya Pradesh (now merged with Madhya Pradesh), Orissa, Bihar, and Himachal Pradesh classified either as areas of isolated tribal economy or of subsistence peasant economy, since these states are the least developed according to the method of rating employed in the preceding section. It may be seen, however, that considerable areas of other states, most notably Rajasthan, Madhya Pradesh, and Assam also are classified according to the two lowest categories of Map 2; but, as the population of those areas is relatively small, relative to the total populations of the states in which they fall, they do not depress the overall state scores sufficiently to put them in the lowest category of Map 1. Assam, in fact, is in the middle category.

At a developmental level above the subsistence economy are rather extensive transitional zones of incipient commercialization. These are, for the most part, areas of modest urbanization and slight development of cash cropping, judged by the criteria outlined above. Broadly speaking, the area characterized by incipient commercialization occupies two distinct territorial blocs, one in the northern interior and one stretching across the centre of peninsular India, the two being separated by the abutting of the more highly commercialized cotton-growing areas of the Deccan against the areas

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[8] *Atlas of India*, plate 14. Four choropleth maps show, by district, the proportion of cultivated land in all cash crops of any significance. The value of the crop was taken into consideration in estimating the degree of commercialization.

[9] *Ibid.*, plate 12.

[10] *Census of India*, q 1951.

[11] *Ibid.*

[12] Bureau of Commercial Intelligence and Statistics, "Basic Statistical Analysis of India" (Bombay, C, 1955, mimeographed). Data compiled for each district [from the government publication, *Large Scale Industrial Establishments* (1951), Delhi: Mgr. of Publications, n.d.] included the number of factories and workers in each specific industry with a total of fifty or more workers.

[13] The state data used in deriving Fig. 2 were of value only as general guides.

of peasant subsistence and tribal economy of the northeast peninsula. It is difficult to correlate the extent of these areas with that of any of the state areas shown in Map 1; but no special significance need be attached to that fact.

The areas of advanced commercialization can usually be associated with large marketable surpluses of a single major crop, tea in Assam, jute in Bengal, sugar in a small part of western Bihar and northeastern and western Uttar Pradesh, wheat in Punjab and a small, irrigated part of Rajasthan, cotton in the Deccan lava tracts, part of Malwa and parts of South India, oilseeds in Telangana, rice in the Kistna-Godavari Delta and part of Tamil Nad, and coffee in the Mysore Malnad. (Many of these areas, however, are far from having one-crop economies.) Over much of South India, on the other hand, the high degree of urbanization proved to be the main deciding factor for an area's inclusion in this development category; and, generally, a fairly high degree of urbanization is characteristic of the regions under discussion. Although the areas mentioned are not lacking in industry, much of the industry which exists is of the basic processing variety and oriented towards the local commercial crops.

The remaining areas of India are widely scattered, largely peripheral in location, and, for the most part, relatively small in size. They comprise two categories, the first characterized by economic diversification, but not especially by large-scale industrial and commercial enterprise, and the second in which diversification and large-scale organization go hand in hand. Together, areas in these two categories show a remarkable, but not surprising, correspondence to the areas in the two highest development categories of Map 1, namely West Bengal, Bombay, Punjab, Saurashtra, Travancore-Cochin, and Mysore. In all of the areas of "economic diversification" a relatively large part of the total population, often approaching and occasionally exceeding half is engaged in non-agricultural pursuits. In the three principal regions so classified, Punjab-Delhi-westernmost Uttar Pradesh, Saurashtra, and the Malabar Coast, commerce and various other services are very important activities; and in the latter two and parts of the former cottage and small-scale industries are also well developed. Surprisingly, however, urbanization is not especially pronounced in the Malabar area. A noteworthy locational feature of a number of the areas of economic diversification is their apparent core, or focal, positions with respect to surrounding, or merely neighbouring, areas of advanced commercialization.

Only three small regions of India—as opposed to isolated centres, which will be discussed shortly—have been recognized as areas of large-scale organization. These centre on Calcutta, Bombay, and Ahmedabad, but extend out from those metropolises to well up the Damodar Valley, to Poona, and to Surat respectively. All three areas are highly urbanized, highly industrialized, and characterized by large factory development and a heavy volume of trade, including the bulk of India's foreign trade, passing through Calcutta and Bombay.

A peculiar feature of Indian economic geography appears to be the existence of scattered, important manufacturing, commercial, or administrative centres whose level of growth does not reflect that of their surrounding areas. In some cases, as in the case of the iron-and-steel centres, this is because they depend on raw materials which only a relatively small part of the nearby population can take part in supplying and may, additionally, reflect government decision concerning the location of industry, partially on political grounds. In others, as with the manufacturing city of Kanpur, it is because their location is fixed not in terms of nearby raw materials, but because of

transportational advantages, the raw materials actually coming from distant areas. Finally, as with such state capitals as Lucknow or Jaipur, this is because the chief services they render are spread over so large an area. In essence, these centres are tiny islands of relatively high development in lesser developed seas; but because of their overall importance in India's economy, they were depicted in Map 2 in exaggerated scale either in the pattern of economic diversification or in that of large-scale organization, whichever seemed more appropriate.

Comparison and Evaluation of the Two Approaches

Each of the two maps presented in this chapter has its advantages and its drawbacks.

The development index map is certainly the more objective of the two; but it cannot be called completely objective, either in the assigning of weights for the several indices used or in the decisions by which certain indices were used and other rejected. In retrospect, it appears that greater accuracy would have been achieved, and with less effort, had certain indices of dubious accuracy or slight diagnostic significance not been used (e.g., members of agricultural credit societies per million of agricultural population", or "Government hospital beds per million of total population"). While, for generalizations at the state level, its findings are, without doubt, rather trustworthy, it must be remembered that the size and heterogeneity of states in India is normally such that state-wise generalizations are commonly not reliable for much of the area concerned. At worst they may be meaningless averages. A state like Uttar Pradesh, for example, includes within its borders the great central, but isolated, industrial centre of Kanpur, large and relatively prosperous areas in the west with a high degree of commercialization of agriculture, other large areas in the east where cultivation is at the barest subsistence level and areas of essentially tribal economy in the high Himalayas of Kumaon.

By contrast with the above, the subjective integration approach strives towards the greatest approximation of local reality, subject only to the limits imposed by the scale of cartographic generalization. While it is admittedly non-quantitative and based largely on inference, it is here suggested that one good inference may be worth many bad statistics. Moreover, the categories of the regions established have meaning in themselves, which index numbers, however they may be derived, do not. And yet, inescapably, the map begs such questions as "How commercial is 'commercial' ?" and "How diversified must 'diversified production' be before it is recognized and mapped as such?" No simple answer can be given. The decisions reached were invariably *ad hoc* with different considerations involved in virtually every case. But they were not arrived at lightly and they were based on the writer's wide field experience, as well as on such statistics as were available.

In view of the above discussion, it would appear that one would be well advised in using the two maps presented in this chapter jointly in following the exposition and arguments set forth in the remainder of this work.

CHAPTER III

AN ANALYSIS OF THE OFFICIAL OCCUPATIONAL STATISTICS

All-India Overview

General

This chapter and the next analyse the occupational statistics provided by the Indian Census. Whereas the following chapter focuses on the regional variations in the occupational structure, the present one is concerned to analyse in greater detail the occupational structure of India as a whole and to compare it with those of other countries and of India at past periods. The general analytical framework employed is that provided by the economic sectoral approach.

The Occupational Structure of India in 1951

Graph 2, on the following page, depicts the all-India occupational pattern of 1951 based on the Census figures for self-supporting males. The graph is first divided into the three broad economic sectors of Colin Clark, secondarily into land tenure status categories for the agricultural part of the population and major industrial categories for the remainder and finally into significant subheadings for the larger categories.[1] The graph is intentionally limited to "self-supporting males" because of the author's conviction (based on evidence which will be detailed later in this work) that the enumeration of female workers and male earning dependents is so unpredictably biased that the true extent of their participation in various types of work cannot be closely gaged from the census. Consequently, analyses of occupational distribution limited to male self-supporting workers will yield a closer picture of reality than one which alleges to consider all workers of both sexes, or simply all male or all self-supporting workers.[2] Just how close a picture graph two represents will be briefly discussed in the following paragraphs.

The most glaring fact revealed by the graph, the overwhelming importance of the primary sector, is, of course, common knowledge. Within this sector agricultural classes I through IV comprise all but a very small share of the total. These four classes relate to that part of the population deriving its livelihood primarily from cultivation of non-plantation (but not necessarily non-cash) crops. Plantation agriculture and stock-raising are listed separately, and, along with forestry and collecting, hunting and fishing, and mining and quarrying, make up the remainder of the sector. Agricultural Class I relates to cultivators of land wholly or mainly owned by themselves; Class II to cultivators of land wholly or mainly owned by others; Class III to cultivating laborers; and Class IV to non-cultivating owners of land. These headings are roughly synonymous with owner-cultivators, tenant-cultivators, agricultural-laborers, and landlords respectively.

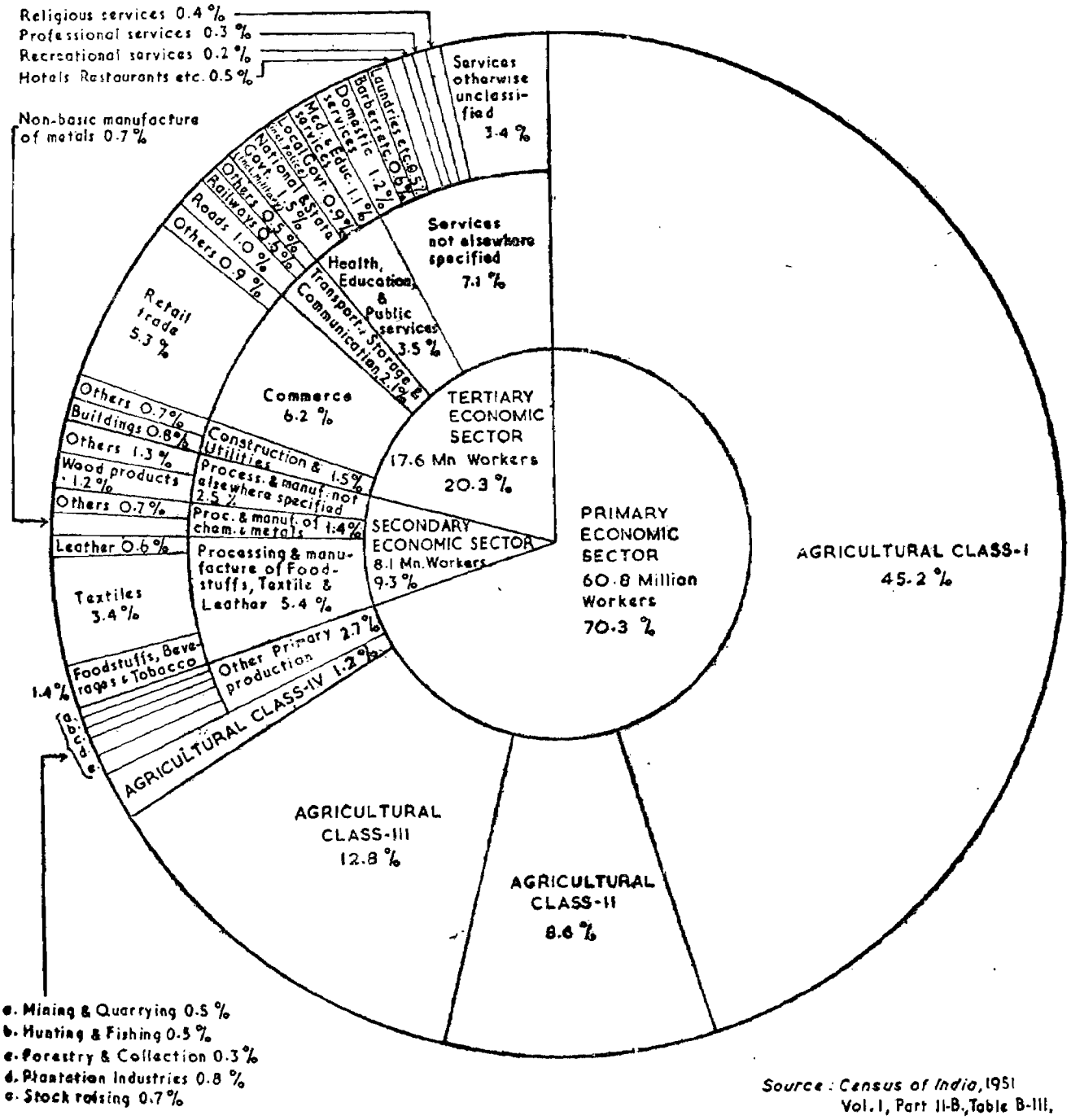
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[1] A more detailed breakdown is presented in Appendix A Table 3.

[2] Ideally, the analysis should be of *adult* male workers (*i.e.*, age 15 and over), but this is not possible for 1951.

GRAPH 2

OCCUPATIONAL DISTRIBUTION OF SELF-SUPPORTING MALES, ALL-INDIA, 1951



Source : Census of India, 1951
Vol. I, Part II-B, Table B-III.

While the number of persons classified by the census as mainly employed in agriculture is probably reasonably reliable, one cannot place great faith in the returns by individual agricultural classes. Not only are the returns more inconsistent with those of previous censuses than the state of land reform in 1951 would lead one to suppose; but they are also greatly at variance with the findings of the All-India Agricultural Labour Enquiry conducted in over eight hundered villages in the same year. Finally, as Chapter IV will show, the degree of internal regional variation within India is, not infrequently, more than one can credit as being real (notwithstanding the very great variety of land tenure systems known to exist.)[3]

As to the direction of the census errors, it is safe to assert that agricultural class III is considerably underestimated (The Agricultural Labor Enquiry sample, if expanded, would yield a total of around 35 million agricultural laborers, counting both sexes, as opposed to under 27 million in the Census count), and that classes I and II, especially the former, are correspondingly inflated.

The errors imputed to the Census are largely attributed to a phenomenon which might be called "category-climbing," *i.e.*, the reporting of the more desirable of two possible statuses wherever there is any doubt about the matter. Hence, if an agricultural laborer also owned and worked a plot of land, however, negligible, he might incorrectly report himself as being in agricultural class I, despite the fact that the major share of his earnings were derived from work done for others. Another cause of the over-enumeration of owner-cultivators (in this instance with the concomitant under-enumeration of tenants) was the Census ruling that rent-paying tenants with permanent, inheritable rights in land were to be counted as owners. Class IV, non-cultivating owners of land, is probably considerably under-enumerated, since in view of impending land reforms, landlords would naturally have been loath to admit to the fact that they did not personally cultivate their own land.

Apart from the four agricultural classes several comments are necessary, relative to the remainder of the primary sector. With respect to plantation industries and, to a lesser degree, mining and quarrying, it should be noted that the restriction in the coverage of graph 2 to self-supporting males exercises a downward bias in their representation, since the proportion of self-supporting females in those occupations (especially as tea-pickers, and in surface mine-work) is unusually high (See Appendix A). The true importance of the raising and tending of livestock in India is, similarly, poorly indicated by graph 2 as that is almost always a subsidiary, rather than a main, occupation and largely conducted by children, who, in any case, would not be classified as self-supporting Collection, too—of wild grasses and herbs and forest produce (for fuel, human food, fodder, and the making of leaf plates and various woven reed objects) is also a widespread and important subsidiary occupation which is inadequately reflected in the returns on forestry and collection. The same sort of generalization holds true of hunting and fishing, which, among tribal peoples, in particular, and certain low-caste Hindus, are important seasonal occupations of a subsidiary nature.

With regard to both the secondary and tertiary sectors our observations will be restricted to those of a more or less general nature. Most important is the fact that it is impossible to determine from the statistics the allocation of labor according to the scale of enterprise (household, small scale,

[3] For some excellent criticisms of the 1951 Census treatment of agriculturists see the following two articles by Daniel Thorner: "India's Agrarian Reform by Census Redefinition", *Indian Economic Review*, Vol. III, No. 2 August, 1956, pp. 1-21; and "Agricultural Manpower in India: Laborers" *Economic Weekly Vol. IX* November 9, 1957, pp. 1443-9. A number of articles in the wide-ranging volume *Rationale of Regional Variations in the Agrarian Structure of India*, (Bombay, n.d., ca. 1956), a symposium published by the Indian Society of Agricultural Economics, bear on the same theme.

or large-scale, a particularly important question in the secondary sector). A village blacksmith and a worker in one of India's giant steel mills are alike grouped under "processing and manufacture of chemicals and metals." The size of the *factory* labor force cannot be determined. No one can distinguish those workers following traditional callings, normally on a caste basis and quite frequently for partial or total payment in kind, from those who are more rationally employed on a commercial, rather than customary, basis in occupations the relative need for which is primarily based on the play of the market. Quantitative answers to these questions are of vital importance for a correct structural analysis of the Indian economy; and it is a great step forward on the part of the 1961 Census, that it is framed with far greater realization of this need than was the case in 1951.

For reasons of social policy, however, neither the Census of 1951 nor of 1961 has considered the question of occupation on a caste by caste basis, save for certain exceptions with regard to Scheduled Castes. For purposes of analysis, this is to be regretted. There is still, the writer feels, a tendency to report caste occupation as actual occupation, even when it is not followed or when it is followed only on a subsidiary basis, which is very often the case among rural artisans and members of service castes. To this extent the figures, allegedly of *principal* occupation; are biased upward. In some areas, as shall be demonstrated later in this work, the bias is quite strong.

On the other hand, to the extent that workers in fact do follow occupations in the secondary and tertiary sectors on a subsidiary basis, whether by caste or otherwise, the data relating only to principal occupation fail to portray an adequate picture of the overall importance of those occupations in the economy. We shall return to this important question shortly.

In the tertiary sector there are a number of rather vague occupational categories for which the returns must be interpreted with extreme caution. Among these the fairly large category "construction and utilities" (including maintenance and sanitation workers, *i.e.*, sweepers) is particularly noteworthy, since so much of Indian construction work, probably the great majority, is sporadic in nature and performed on a seasonal or part-time basis by persons with some other occupation, usually agricultural labor. Since construction work, especially earthwork, is demeaning, there is, moreover, apt to be considerable under-enumeration due to the reporting of more favored occupations. Also to be interpreted with great caution is the category "commerce", engaging over six per cent of the labor force. The class omits all artisans who also sell the product they manufacture, even though they may spend more time in the commercial than in the manufactural part of their work, as is commonly the case with artisans who hawk their wares. Similarly, market gardeners are enumerated only under cultivation. Also almost certainly under-enumerated are the ubiquitous, if not numerous, village money-lenders Under "domestic service" more than a million males were enumerated; but many of these were undoubtedly primarily agricultural laborers in menial service castes (*e.g.*, Kahar, Dhimar) performing a customary modicum of domestic service as well, while, on the other hand, a great many persons returned as agricultural laborers undoubtedly performed certain domestic services. Moreover, as graph two relates only to self-supporting males, it does not adequately reflect the strong contribution to the total of all domestic work performed made by women and children. Most vague of all occupational categories is the catch-all "services otherwise unclassified," employing 3·4% of the total self-supporting male labor force, nearly 3,000,000 persons. While a few of these must render services too uncommon or too specialized to be placed in the national scheme of classification, it is probable that the vast majority are workers who drift from one type of day labor or seasonal job to another, accepting

almost any manner of work that becomes available. Many of these may work as agricultural laborers when they can, while some agricultural laborers and many others, variously classified, would, on the other hand, perhaps have been more accurately reported in this group.

One cannot close this discussion without a consideration of the census treatment of subsidiary occupations, which have been repeatedly referred to above. To the extent that a given type of work is carried on, on a subsidiary basis, data on primary occupations only fail to reflect its true importance in the Indian economy. If, therefore, the data on subsidiary occupations are sufficiently reliable, it behooves the scholar to put them to such use as he can. Graph 3 depicts the all-India census findings on subsidiary occupations for the agricultural and non-agricultural populations. If we are to credit the figures on which this graph is based, under fifteen per cent of the total number of male self-supporting workers have subsidiary occupations, and scarcely more than ten per cent if we exclude those who derive income from two livelihood classes within the broad field of agriculture. For a number of reasons it is extremely doubtful if these figures are in any way realistic.

First there is the evidence of the census itself. On four maps made from the special census state-wise tabulation dealing with subsidiary occupations[4] (one map for each of the four types of subsidiary employment depicted on graph 3 for the nation as a whole) no meaningful regional pattern emerged. Quite the contrary; the patterns of the maps appear to be almost completely random and many of the state figures were so low that they could be dismissed out of hand. (*e.g.*, only 2·2% of the agriculturists of Mysore were reported to have more than one source of agricultural income, while a mere 3·1% of the non-agriculturists of Punjab were returned as deriving subsidiary income from agriculture.)

Second, all the weight of the literature (which is too abundant for individual citation) points to the importance of subsidiary occupations to a degree not approximated by the Census returns. And, parenthetically, nowhere in the literature—and this includes the reports of the various State Census Superintendents—has the author encountered a significant, detailed study of the Census returns on subsidiary occupations.

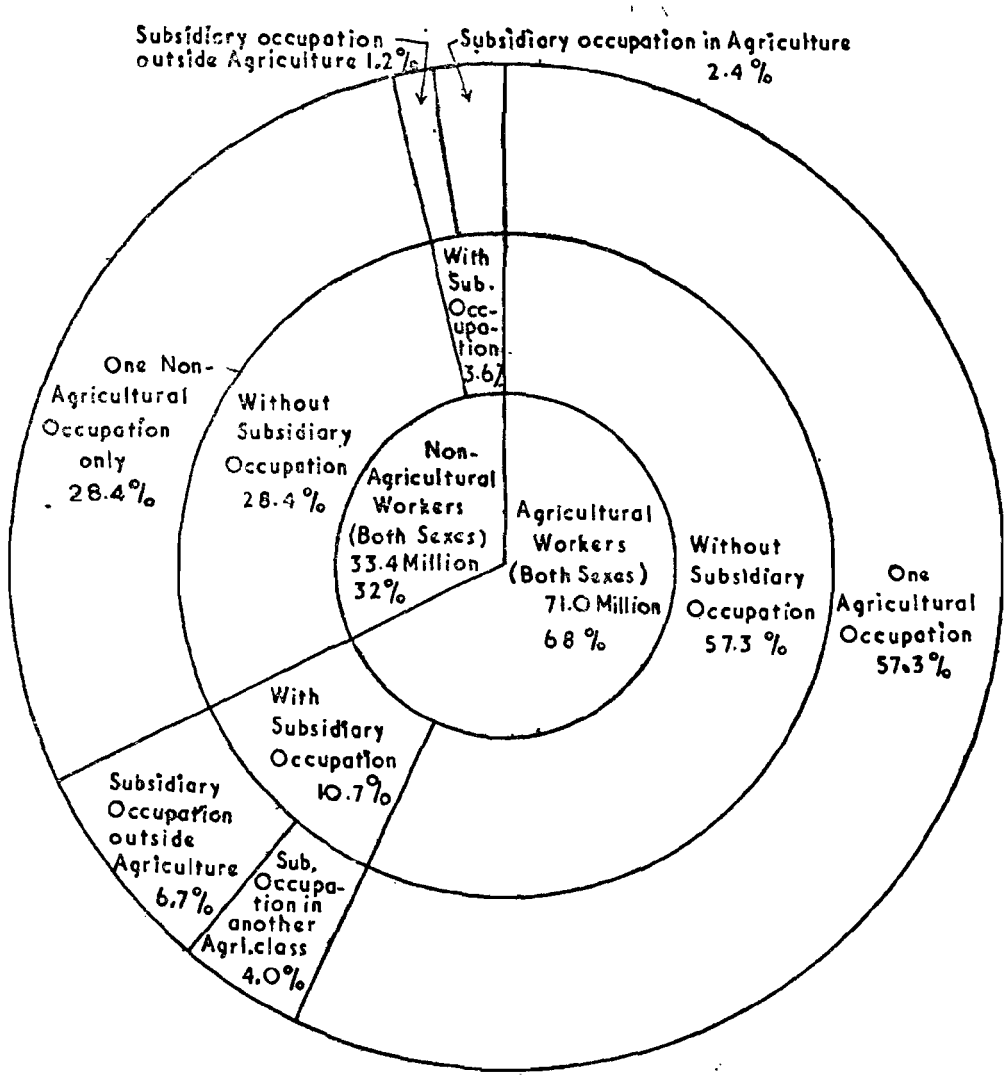
Third, as Chapter V will demonstrate, the author's field investigations of 1958-59 revealed that the extent of subsidiary occupations is up to several times as great as that reported by the Census. This was reconfirmed by his field work in 1962-63, the final results of which, however, will not be ready in time for inclusion in this monograph.

How, one may ask, could an error of such magnitude find its way into the Census? The explanation which appears most likely is that the enumerators, who, it will be recalled, were but little trained for their work, simply neglected in many, if not the majority, of instances to pose the question on subsidiary occupations, or, if they did, treated it in so perfunctory a manner as to failed often to elicit answers from their respondents. (The Indian villager, normally quite laconic to begin with, is especially so in matters where the government is concerned.) The census instructions were to ask the informant, who was generally the household head, the means of livelihood for himself and his family. (Census Question 10). *If* more than one means of livelihood were *reported,* the enumerator was to ascertain which was the principal and which the subsidiary means of support. (Question 11). The enumerator's instructions stress the importance of asking Question 10; but nowhere do they enjoin him specifically to *ask* whether subsidiary occupations also exist, when only a single occupation is initially reported.

[4]The data were compiled from the 1951 *Census of India*, Vol.-I, Part I -B, Annexure I, pp. 228-233.

GRAPH 3

SUBSIDIARY OCCUPATIONS AMONG SELF-SUPPORTING WORKERS, 1951



Source: Census of India, 1951 Vol. I, Part I-B, Appendix III Annexure I, pp. 227-233.

Two conclusions to be drawn from the above discussion appear inescapable. First, there is no way to ascertain for the whole of India the true extent of involvement in any field of economic endeavour. One may, as a rule, determine fairly accurately the number of people *primarily* engaged in a particular occupation, but not the *total* number of people engaged, including those engaged on a subsidiary basis. Second, there would be no point in attempting any regional study of subsidiary occupations using the data of the 1951 Census, however important the information may be for understanding the regional variations in the Indian economy.

The Present All-India Occupational Structure in Relation to Those of Other Countries and of the Past within India Itself

A comparison of the all-India occupational structure with those of other countries and with the past structures in India itself will serve not only for general orientation purposes, but also to see how India as a whole appears to fit Colin Clark's hypothesis that as the level of economic development rises, the allocation of the labor force veers increasingly away from the primary sector and increasingly to the secondary and tertiary.

Table 3 compares the data for India and a number of other countries, arranged in the order of ascending importance of the primary sector.

TABLE 3
*ALLOCATION OF MALE WORKERS BY ECONOMIC SECTOR IN INDIA AND SELECTED OTHER COUNTRIES**

Country	Year	%Primary	%Secondary	%Tertiary
U.K. . . .	1951	11·5	46	42·5
U.S.A. . . .	1950	18	36	46
Australia . . .	1947	23	36·5	40·5
France . . .	1946	37·5	32·5	30
Japan . . .	1950	42·5	25	32·5
Cuba . . .	1953	47·5	20	32·5
Greece . . .	1951	53·5	18·5	28
Mexico . . .	1950	62	15	23
INDIA . . .	1951	70·3	9·3	20·3
Philippine Is. . .	1948	70·5	9·5	20
Nicaragua . . .	1950	78	12·5	9·5
Algeria . . .	1948	79·5	8	12·5

*Source : *U.N. Statistical Yearbook*, 1956 and *Census of India*, 1951.

Broadly speaking, Clark's views would seem to be borne out by the data, though India is not quite so far down in the tabulation as one might expect, largely because of its share of workers in the tertiary sector. In fact, among fifty-nine countries for which roughly comparable data could be computed, ten had proportionally larger shares of the male labor force in the primary sector, the largest being that of Haiti, 88.5%. In the secondary sector, however, only three countries rated lower than India, while fifteen had smaller shares in the tertiary sector. Thus, it would seem, on cursory preliminary investigation, that while India does have the broad occupational structure of a poor country it does not have it to quite the degree that one might expect considering its own wretched poverty. With regard to the tertiary sector in particular it does not appear clearly to vindicate the Clarkian hypothesis. In view, however, of the importance of services rendered under the unique Hindu *jajmani* system, this may come to some as no great surprise.

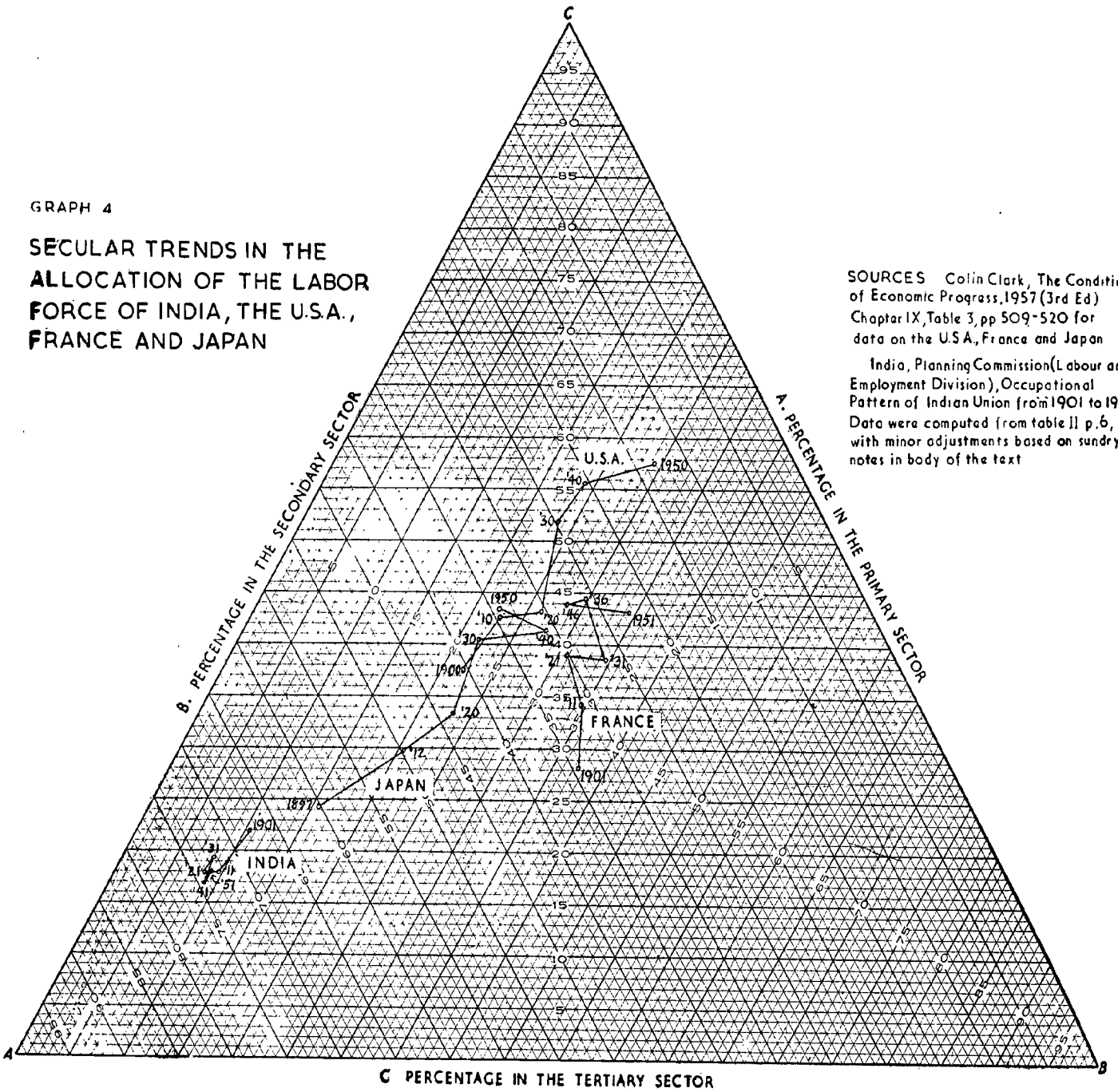
Turning to the thorny problem of the temporal variations in the occupational structure of India, some international comparisons again prove to be elucidating. These are provided by graph 4 which shows the long-term occupational trends for India, the United States, France, and Japan for roughly comparable time spans falling within the period 1897 to 1951. The data for India from 1901 to 1941 have been aggregated for only those parts of the country included within the present boundaries.[5]

The picture which emerges from the graph is one of pronounced change for both the United States and Japan and considerable, though more erratic, change for France as well, contrasted with virtual stagnation for India. Examining the net sectoral changes for each of these countries

[5]For the United States, France, and Japan women engaged in agriculture have been excluded from the labor force, whereas they have been included in the figures for India. The bias introduced thereby does not significantly alter the overall contrast between India and the remaining countries.

GRAPH 4

SECULAR TRENDS IN THE ALLOCATION OF THE LABOR FORCE OF INDIA, THE U.S.A., FRANCE AND JAPAN



SOURCES Colin Clark, The Conditions of Economic Progress, 1957 (3rd Ed) Chapter IX, Table 3, pp 509-520 for data on the U.S.A., France and Japan

India, Planning Commission (Labour and Employment Division), Occupational Pattern of Indian Union from 1901 to 1951 Data were computed from table II p.6, with minor adjustments based on sundry notes in body of the text

one finds decreases in the size of the primary sector ranging (in absolute terms) from 27.5% for the United States down to 12% for France, as contrasted with a 5.5% increase for India; and increases in the size of the tertiary sector ranging from 20% for the United States down to 15% for Japan, as contrasted with a decrease of 4% for India. Owing largely to the effects of war and depression the trend in the secondary sector has been most variable, especially for France. France, like India, registered a net decline in the percentage of the labor force engaged in manufacture, about 3% for the former country as compared to half that amount for the latter, while the United States and Japan each registered absolute gains of about 7%. In relative terms (*i.e.* with percentages of sectoral loss or gain computed with respect to the base figure for the sector itself rather than with respect to the total labor force) the contrasts between India and the more highly developed nations would appear to be much greater.

The apparent correlation between economic growth and occupational change which graph 4 demonstrates is quite striking, at least so far as the United States. Japan and France are concerned. The former two of these three nations witnessed great economic surges during the period under review (with a temporary setback for Japan after World War II) and correspondingly great changes in occupational structure, while France experienced a slower, more halting economic growth and suffered from a retrograde movement in manufacturing during the depression of the thirties and a further regression not only in manufacturing but also in the tertiary or service sector through World War II.

In the case of India, however, it is difficult to believe that the decline in the tertiary and secondary sectors indicated that the nation was not only failing to develop in the half century from 1901 to 1951 but actually regressing in an economic sense.[6] In the international comparisons made above India's total non-agricultural sector appears even today to be larger than one would expect, in view of the nation's poverty and technological backwardness. The major cause of this, the socio-economic institution known as the *jajmani* system, is generally on the decline, owing to the gradual replacement of customary economic ties by market transactions. Hence, the initial market involvement phases of development in India appear to be accompanied by occupational trends contrary, if not opposite, to those delineated by Clark.

How long it will take before continued development brings about a pronounced net rise in the size of the non-agricultural sector cannot be predicted. The minute rise from 1941 to 1951 may not be at all significant, though one might perhaps conclude from the stagnant situation lasting from 1911 to 1951 that the long-term downward trend (dating from well before 1901) has at last been arrested.

In the period 1901—1951 the net loss in the tertiary sector appears to be somewhat over five times as great as that in the secondary. One should, however, not accept this appearance at face value, since, in spite of the efforts of the Planning Commission to achieve inter-censal comparability in preparing the data incorporated in graph 4, it may well be that many individuals classified under the miscellaneous services rubric of the earlier censuses should have been designated as agricultural laborers instead.[7]

[6] Such a view, however, once seemed to be a recurrent theme in the writings of anti-British polemicists (*e.g.*, Balkrishna in his work. *Industrial Decline in India*, Allahabad, 1917). A rejoinder to the critics of British economic policy who cited the growing mal distribution of the labour force is available in B. Gs Ghates tract *Changes in the occupational Distribution of the Population*, New Delhi, 1940 issued by the Office of the Economic Advisor to the Government of India as Paper No. 1 of the Second Series of "Studies in Indian Economic Growth". The data of this study are not cited because it is out-dated by more recent work by the Planning Commission.

[7] India, Planning Commission (Labour and Employment Division), Occupational Pattern of Indian Union from 1901 to 1951, New Delhi, 1956 (mimeographed ms.) pp. 11-12.

But, even if we do assume a much greater decline in the tertiary than in the secondary sector during the twentieth century, we would not be justified in an extrapolation of that trend into the century before. Rather, the evidence, some of which was cited in Chapter II, points to a much greater decline in the secondary sector. The principal cause of this, of course, was the inexorable competition of factory goods with those produced by artisans. At around the turn of the century factory manufacture began to spring up in India itself so that some gain in manufacturing labor then began to be registered as a partial offset to the decline in the number of independent artisans. Yet, the spread of improved technology to the villages themselves continued to result in the displacement of numerous workers in the so-called manufacturing industries, and, judging by the trends indicated in Table 4 below, the process is still underway.

TABLE 4

EMPLOYMENT TRENDS IN SELECTED OCCUPATIONS AFFECTED BY TECHNOLOGICAL CHANGE DURING THE PERIOD 1901—1951

(Thousands of workers, both sexes included)

	1901	1911	1921	1931	1951
1 Hand pounding of rice, manual dehusking, flour grinding and milling of cereals and pulses	1,245	1,232	873	685	526
2 Vegetable oil pressing and refining	483	528	471	503	250
3 Leather, leather products and footwear	1,143	1,066	1,002	868	760
4 Cotton textiles	3,243	3,018	2,639	2,718	3,034

Source : India, Planning Commission (Labour and Employment Division), *Occupational Pattern of Indian Union from* 1901 *to* 1951 (mimeographed ms.) p. 9.

The contrast in Table 4 between line 4 and lines 1—3, for the period 1921—1951, should alert us to an ever-present danger in employing the sectoral approach in economic analysis, namely that, since the sectors are not homogeneous, they may contain sub-groups manifesting changes in opposite directions for any given period of study. Thus, a small net change for the sector as a whole may mask large but divergent, intra-sectoral variations. Bauer and Yamey state the problem without equivocation:

> "... (economic) activity becomes no more amenable to analysis by being labelled primary, secondary or tertiary; and particularly if called tertiary, the activity merely becomes obscured when it is treated as one of a collection of heterogeneous activities, being united only because they possess a characteristic (being services) which is of no analytical value to the economist. Moreover, while aggregation may be necessary and useful in some branches of economics, aggregation of economic activities and their division into three broad categories seems to be wholly misplaced in that branch of economics which is concerned with the structure of an economy and changes in the structure."[8]

Bauer's and Yamey's point is well taken. Yet economists *do* persist in the sectoral analysis of economies. Their reason for doing so is quite simple: it provides a convenient, if imperfect, means for comparison in arriving at first approximations of reality. Certainly the initial use of aggregation does not in any way preclude further and more detailed examination.

Table 5, on the following page, is presented as a step toward this more detailed examination. Therein the occupational structure of India is given for the six censuses from 1901 to 1951, counting both male and female labor. As with the data of graph 4, the figures tabulated for the period from 1901 to 1941 refer only to the area correspoding to the present Indian Union.

[8] P.T. Bauer and B. S. Yamey, "Further Notes on Economics Progress and Occupational Distributions" *The Economic Journal.*, Vol. 64, March, 1954, p. 99.

Of the breakdown within the primary sector, so completely dominated by the agricultural classes, little need be said. The stable or slightly rising proportion of agriculturists is the most noteworthy aspect of the data. The still small, but steadily increasing, share of mining and quarrying is significant out of all proportion to the number of workers involved. "Other primary industries", have fluctuated markedly in importance registering a sharp decline between 1941 and 1951. This may be attributed mainly to a downward bias in reporting the tending of livestock in 1951, that job being largely the concern of children who were, presumably, much more commonly excluded in the latter census figures.

TABLE 5

OCCUPATIONAL STRUCTURE OF THE AREA OF THE PRESENT INDIAN UNION DURING THE PERIOD 1901—1951

(All figures are percentages except for "Total Labour Force")

	1901	1911	1921	1931	1941	1951
I. Primary Sector.						
A. All Agricultural Classes (*i.e.*, cultivators) .	63·7	68·2	69·2	67·6	70·0	70·4
B. Other Primary Industries (other than mining and quarrying)	3·7	4·1	3·8	4·4	4 0	2·4
C. Mining and Quarrying	0·1	0·2	0·3	0·2	0.4	0·5
TOTAL	**67.7**	**72.5**	**73.4**	**72·2**	**74·3**	**73·3**
II. Secondary Sector.						
(Processing and Manufacture) . . .	10·3	9·6	8·7	8·5	8·9	8·8
III. Tertiary Sector.						
A. Construction	1·3	1·4	1·3	1·2	1·7	1·4
B. Commerce	5·4	5·4	5·7	5·6	5·7	5·2
C. Transport and Communication . . .	0·9	1·1	1·0	1·1	1·4	1·5
D. Medical and Health Services . .	0·1	0·2	0·2	0·2	0·3	0·3
E. Educational Services and Research . .	0·1	0·2	0·2	0·3	0·6	0·6
F. Public Force and Public Administration .	1.7	1.4	1.4	1.2	1.5	2.0
G. Services Not Elsewhere Specified . .	12.5	8·2	8.1	9·7	5·6	6·9
TOTAL	**22.0**	**17.9**	**17.9**	**19.3**	**16.8**	**17.9**
Total Labour Force (millions) . .	**115**	**122**	**120**	**124**	**121**	**140**

Source: India, Planning Commission, (Labour and Employment Division) *Occupational Pattern of Indian Union from 1901 to 1951*, table II. p. 6. Percentages were computed from absolute figures, excluding persons in "non-productive services", and making adjustments in the data for 1931 necessitated by the erroneous reporting of large numbers of females as domestic labourers over large protions of India. The absolute data presentaed by the Planning Commission were Compiled from several censuses for the area of the Indian Union as covered by the 1951 Census (excluding Kashmir), recasting the occupational data of the censuses from 1901 to 1941, to the extent possible, according to the scheme of the occupational classification of 1951. A full statement of the adjustments required and assumptions made in tabulating the Planning Commission data is presented on pages 2 and 3 of their report.

The pronounced decline of certain components of the secondary sector has already been noted in Table 3, from which it follows, in view of the small net shrinkage of the sector, that other components must have registered increases in the half century under view. The net changes for twenty-three subheads under the rubric "processing and manufacture" are shown in Appendix A, Table 4. Considering only those industries which experienced gains in excess of 100.000 workers tobacco increased from 14.000 to 464.000 workers, wearing apparel, from 556,000 to 850.000; textile industries otherwise unclassified (jute wool, silk, hemp, and flax) from 615.000 to 983.000; metal product from 648.000; to 943.000; transport equipment from 29.000 to 272.000; machinery (including engineering workshops), from 19.000 to 154.000; bricks, tiels and other structural clay products, from 70.000 to 231.000; and printing and allied industries from 33.000 to 153.000[9]. While the total figures for 1951 may still not be very impressive, the gains are notable, all the more so when figured in percentage terms since 1901.

Within the tertiary sector several small sub-groups have registered steady rises: transport and communication at a slow rate, medical and health services considerably faster, and educational services and research fastest of all. Three other sub-groups, construction, commerce, and public force and public administration, have fluctuated slightly in importance, showing little net gain or loss from 1901 to 1951. The stagnation of the general field of commerce comes somewhat as a surprise in view of the greater market involvement of recent times. It may be due to an offsetting of the increase in shopkeepers by a decrease in the number of itinerant hawkers. Category III. G. "Services not elsewhere specified," exhibits wide fluctuations and, in view of its own heterogeneity, warratns closer scrutiny. Accordingly, its principal components are listed in Table 6, showing the change in actual numbers of workers at the various censuses from 1901 to 1951.

The picture presented by Table 6 contains no great surprises. Categories 1 and 2, "hotels, restaurants and recreational services," and "legal and business services, arts, letters, and journalism." show appreciable long-term increases. Categories 3, 4 and 5, "barbers and beauty shops" (of the latter of which scarcely any exist), "laundry services,"

TABLE 6

TRENDS IN EMPLOYMENT IN SUB-GROUPS INCLUDED UNDER "SERVICES NOT ELSEWHERE SPECIFIED" IN THE PERIOD 1901—1951

(Thousands of workers, both sexes included)

	1901	1911	1921	1931	1941	1951
1 Hotels, restaurants and recreational services .	275	350	284	332	531	818
2 Legal and business services, arts, letters, and Journalism.	159	144	144	135	235	380
3 Barbers and beauty shops	906	827	722	761	722	627
4 Laundry services	1,038	1,103	1,016	1,017	940	750
5 Religious, charitable and welfare services .	837	930	775	751	614	468
6 Domestic services (excluding familly members)	2,581	2,626	2,271	8,835	3 790	1,746
7 Services otherwise unclassified . . .	8,567	4.029	4,551			4,800
TOTAL	**14,364**	**10,010**	**9,764**	**11,831**	**6,832**	**9,589**

Source : India, Planning Commission (Labour and Employment Division) *Occupational Pattern of Indian Union* from 1901 to 1951. Table. IV, P. 11, with adjustments made for 1931 (See note for table 5.)

[9]India, Planning Commission, *op. cit.*, Annexure I.

and "religious, charitable, and welfare services" respectively, all of which figure prominently in the *jajmani* system, have, on the other hand, shown reasonably steady downward trends, which, considering the national population increase from 1901 to 1951, are rather appreciable. One can attach little significance to the pronounced fluctuations of Categories 6 and 7, "domestic services" and "services otherwise unclassified", especially the latter, as these are exceedingly nebulous headings and apt to vary widely in the statistics due merely to the difference in their treatment at successive enumerations.

In view of the many discrepancies among the six censuses of the period 1901 to 1951, the Planning Commission had to go to extraordinary pains to establish a series of comparable all India data. The Commission has no illusions about the accuracy of these data. It is not as sanguine about their worth as some Census officials; but neither is it as despairing as the National Income Committee. It admits the possibility that certain of its final results may be "far out", not only distorting the sequential picture for given categories (*e.g.*, domestic services"), but also disturbing the figures for other occupational categories for a given year[10]. But it evidently feels that it has arrived at a meaningful general picture of the occupational trends of the period from 1901 to 1951. The author is in agreement with this view.

On the other hand, it does not appear possisble to use the data to measure change on a regional basis. Numerous assumptions that had to be made for the nation as a whole could not safely be applied to specific areas. The regional analysis in the following chapter, therefore, must be limited to the data for 1951.[11]

Two conclusions to be drawn from the above discussion appear inescapable. First, there is no way to ascertain for the whole of India, the true extent of involvement in any field of economic endeavour. One may, as a rule, determine fairly accurately the number of people primarily engaged in a particular occupation, but not the total number of people engaged, including those engaged on a subsidiary basis. Second, there would be no point in attempting any regional study of subsidiary occupations using the data of the 1951 Census, however important the information may be for understanding the regional variations in the Indian economy.

[10]Ibid., p. 2.

[11]In spite of Daniel Thorner's personal warning that it couldn't be done, the author did attempt a state-wise study of change in the period 1931 to 1951. Though he constructed a series of ten maps purporting to show change for five occupational groups (agriculture p'us four non-agricultural groups) using the comparative data of *Census of India*, Vol. I, Part I. B. Annexure II, pp. 234-257, he was forced to conclude that the resultant patterns were meaningless. (Hyderabad, for example was shown to register a 40% increase in the share of the agricultural sector in the twenty years under consideration).

CHAPTER IV

AN ANALYSIS OF THE OFFICIAL OCCUPATIONAL STATISTICS

Regional Analysis

General

The principal purpose of this chapter is to determine the broad regional occupational patterns of India as revealed by maps of the areal variations in the major occupational categories of the Indian Census of 1951 checked against and supplemented by such other official data as exist. Since the work depends so largely on the Census data, it is necessary, initially, also to consider in some detail the degree of consistency and reliability of those data for inter-regional comparisons.

In the subsequent regional discussion the areal variations in the proportions of the cultivating and non-cultivating populations are considered first and the major subgroups under each heading analyzed. In doing this the traditional three-fold sectoral approach used in international comparisons is largely abandoned in favour of an approach involving the use of a larger number of categories which appear more correctly to reflect the meaningful occupational components of the Indian economy. The relationships between the secondary and tertiary sectors, taken as a whole will, nevertheless, to be discussed in the following section of this chapter.

The concluding section presents a comparison of the regional variations in the occupational data and the regional variations in level of economic development as reflected in the data presented in Chapter II. This comparison demonstrates significant general correlations together with an explanation, wherever possible, of numerous cases of notable regional departures from expectations based on those correlations.

Reliability and Comparability of the Statistics

Many times in the course of this work it will be necessary to cast doubt on the reliability of certain statistics. This is hardly without precedent, despite the not uncommon naive acceptance of those statistics on the part of administrators and scholars who ought to know better. P. K. Mukherjee relates the following anecdote bearing on this point:

> Harold Cox tells a story of his life as a young man in India. He quoted some statistics to a judge, an Englishman and his friend. His friend said "Cox, when you are a bit older, you will not quote Indian statistics with that assurance. The Government is very keen on amassing statistics, they collect them, raise them to the *n*th power, take the cube root and prepare wonderful diagrams. What you must never forget is that every one of those figures comes in the first instance from the *"chowkidar'* (village watchman), who just puts down what he damn well pleases"[1].

[1] *Economic Surveys in Under Developed Countries—A Study in Methodology*, Bombay, 1959, p.3. Mukherjee himself of quotes the story from S R. Bose, "A Plea *for Statistics"*, *in the Indian Journal of Economics*, January, 1950.

The main point of this hyperbole is to impress the reader with the problem of uncertainty which, of necessity, beclouds speculation on the Indian economy and society. Actually, in so far as the census is concerned, the situation is not early so bad as the anecdote would have us believe: the briefly-trained census taker (who is more often the village headman or a petty revenue official than the chowkidar) may not understand his job very well; but he is not apt, as a rule, to put down "what he damn well pleases." Let us, therefore, count our blessings.

It is worth-considering for a moment the nature of the census operation in India. In the few years preceding the enumeration, the main purpose of the enquiry, the plan of operation, and the detailed schedules and instructions for the field staff are drawn up. This is done by a staff of professional civil servants many of whom in the past were English and many, if not most, of whom, even today, are urban-breed individuals who know the Indian countryside second-hand only, or, commonly, scarecely at all. The planning operation is carried on entirely in the English language and the set of instructions and all necessary forms are promulgated in that same tongue. Somewhat down the chain of command these instructions and forms must be translated into all the major Indian languages so that the field enumerators can be taught to carry out their own part of the operation.[2] This they in turn must execute in the hundreds of local dialects and tribal languages spoken in the Indian sub-continent. But, added to the linguistic difficulty (which, to the best of the author's knowledge, has never been systematically studied in respect to the census) is the difficulty occasioned by the formidable array of cultural contexts in which a single standard set of questions formulated at some central headquarters has to be put. Finally, once the data is collected the entire gamut of authority must be run again, this time in reverse, in compiling the results for the whole nation. Considering the magnitude of the task and the fact that the actual enumerators are, for the most part, petty village functionaries executing their jobs with but little training, no matter how good their performance, it would be little short of amazing; if no serious blunders were committed in the entire census operation.

Admitting the above, it might be argued that, although many errors will be unavoidable in the enumeration, they are likely to cancel one another out for any large population (*i.e.*, the amount of under-enumeration of a particular phenomenon is apt to approximate the amount of over-enumeration). One might also imagine that the errors introduced, even if uni-directional (*i.e.* consistently too high or consistently too low) are apt to be more or less uniformly distributed over the country so as not greatly to affect inter-regional comparisons. There are, unfortunately, no convincing arguments in support of either of these two views, and ample evidence, in fact, to the contrary. First, biases are to be expected because of varying personal interpretations of the census schedules on the part of the local staff and because of the linguistic situation. Second, and more important, biases are to be expected because of regional variations in cultural attitudes on the part of the respondent population with regard to the reporting of such items as extent of female labor, degree of dependency of various household members; and occupations and tenure statuses with especially high or low prestige value.

The most thorough-going criticism the economic aspects of the Indian census operation is, without a doubt, that presented by Dr. Daniel and Mrs. Alice Thorner, an American couple attached for years to the Indian Statistical Institute.

[2]Nearly 600,000 enumerators were used in carrying out the 1951 Census.

With regard to the prospects for inter-regional comparisons they state:

> There were no doubt genuine economic and social differences among the states of India in 1951; but we can have no confidence that these have been accurately reflected in the census returns....the economic categories used in the Census of 1951 were ill-suited to India. It is perhaps not altogether surprising, therefore, that these categories were understood and administered differently in the various 1951 census jurisdictions. We may sum up by stating that the basic economic data obtained in 1951 do not pass the elementary test of internal consistency.[3]

To this condemnation they added: "....there was not one census of India in 1951, but, insofar as concerns certain economic questions, a number of distinctly different and non-comparable State-wise censuses."[4]

It is necessary, then, to ascertain which aspects of the census one may trust, which one may accept with reservations, and which are, in the words of the Thorners, "thoroughly unreliable." In this context it is unfortunate that in only one respect, that of verifying the actual head-count, was a post-enumeration check run to determine the accuracy of the 1951 Census.[5] This check, carried out in approximately one household in a thousand, in areas covering 81% of the total Indian population, resulted in an estimate of under-enumeration which "reasonably....could not have exceeded 12 or fallen short of 10" per thousand of total population (p.2)---results which were claimed to be of the same order of accuracy as those determined by the verification of the U.S. Census of 1950, Whether or not this conclusion is sound, it may lead one erroneously to accept the 1951 Census as a much more reliable instrument than in fact it was. In reading or scanning many of the state Census reports one may observe, in many instances, that the authorities who wrote them were among those led to an unwarranted belief in the accuracy of those parts of the Census data with which they were dealing.

What is commonly overlooked is the fact that a census which is quite accurate in counting heads may be grossly inaccurate in many other respects. It is one thing to ask an illiterate farmer how many children he has living in his household and quite another thing to ascertain which of those children is self-supporting, which an earning dependent, and which a non-earning dependent. In the former case one is dealing with something which is rather discrete (though not entirely so), in the latter with a matter which, even in America, would cause considerable uncertainty. (This will become more obvious when the matter of dependency is discussed at greater length.)

The single most important guide, to an *a priori* estimate as to the probable reliability of a particular set of census data, lies in assessing how discrete the data in question are apt to be in the context of Indian life. The more discrete the data, the more likelihood of accurate returns and *vice versa*. This must be kept in mind in evaluating the criticisms of the Census previously quoted, because those criticisms were derived from an examination of data tabulated for questions for

[3] Daniel and Alice Thorner, *Comparability of Census Economic Data*, 1881-1951. (Mimeographed, preliminary edition presented to the First Indian Conference on Research in National Income, Calcutta, 2-5 July 1958) pp. 11-12.

[4] *Op. cit.*, p. 33.

[5] *Sample Verification of the* 1951 *Census Count* (Census of India, Paper No. 1, 1953) *See* esp. pp. 1-2.

which the categories of responses were perhaps the least discrete of any dealt with in the entire Census schedule, namely, the data relating to the size of the working force (self-supporting persons plus earning dependents) and the size and tenure status of that part of the working force engaged in agricultural pursuits. The strongly critical conclusions of the Thorners were based largely on an analysis of what may well be the *least* reliable parts of the Census while the relatively uncritical acceptance of the Census data on the part of others may stem from the official check of the *most* reliable of the tabulations. *Nowhere was the question raised as to the reliability of the data specifically relating to occupational distribution.* In attempting to formulate a judgment on this essential matter it is necessary first, for reasons which will presently become clear, to examine the reliability of the labor force data at greater length.

In the absence of an official check on any economic data, whatever criticisms may be made necessarily rest on certain assumptions about what results one may logically expect; the greater the departure from one's expectations, the less faith he will have in the tabulations. In working with the size of the labor force the assumption of the Thorners was stated as follows:

> Throughout the predominantly rural areas of India one would expect to find a fairly constant relation between the size of the working force and the size of the total population. As the Deputy Registrar-General observed in 1956: 'On the whole there should not be any large differences in the pattern of the labour force in the various states of India'. Particularly in the case of males, one would anticipate a consistent percentage of occupied persons representing practically all men of working age.[6]

It was by checking the widely varying percentage of total workers (male and female, both separately and together) against the relatively slightly varying percentages of males and females in the working-age bracket (ages fifteen to sixty-four), as indicated by a small sample of the population, that the Thorners were led to the conclusion that the total working force figures could not be credited, either for the total population or for those engaged in agricultural pursuits.[7] Up to this point the author takes no issue with the Thorners. Their work appears to be thorough and their reasoning sound.

The point on which one should question the Thorners, however, is that of their failure to discuss the possibility of meaningful inter-state comparability of the data on *self-supporting male workers only*, as opposed to *total male workers, including earning dependents*. The distinction between earning and non-earning dependents, and not that between workers and non-workers, was the one which caused by far the greater difficulty in the 1951 enumeration. While, admittedly, the entire dependency question was framed in a manner inappropriate to the realities of Indian life, it is this author's view that *generally* fairly reliable inter-regional occupational comparisons can be derived by utilizing the data for the self-supporting male population only. Examination of the data for all three dependency categories for both sexes showed that those for self-supporting males varied less than for any other category or combination of categories, such as total self-supporting workers (male plus female), total male

[6] Thorner, *op. cit.*, p. 3.

[7] The sample age tabulations were published in a series of special Census papers and in Census Volume I, Part II-A, Table C III. The data were compiled therefrom and presented in *op. cit.*, pp. 1-3, tables.

workers (self-supporting plus earning dependents), or total workers.[8] If we are to use any set of occupational data at all, it must be with respect to this most reliably-enumerated group.

In order to permit the reader to see just how consistent the computed percentages relating to self-supporting males actually are, so that he may come to his own conclusions about the correctness of the assertions expressed in the preceding paragraph, maps 3 and 4 are presented, showing those percentages (witnin class intervals framed with respect to the Indian mean) for the agricultural and non-agricultural populations respectively.

On map 3 it may be seen that the great majority of districts—207 out of the 302 for which data are available—fall within the modal class interval, varying by only 3.5% from the all-India mean of 23.5%. Virtually all of the area with greater positive-deviation from the mean is concentrated in a bloc in the Northwest of India, especially in the states of Uttar Pradesh, Rajasthan, P.E.P.S.U., and Himachal Pradesh, while the negative deviations are quite scattered, mainly in the South and Northeast, and only rarely are very pronounced (*i.e.*, with percentages below 17%). One can only speculate as to the degree to which the map represents the real state of affairs in India rather than meaningless biases in the census enumerations.

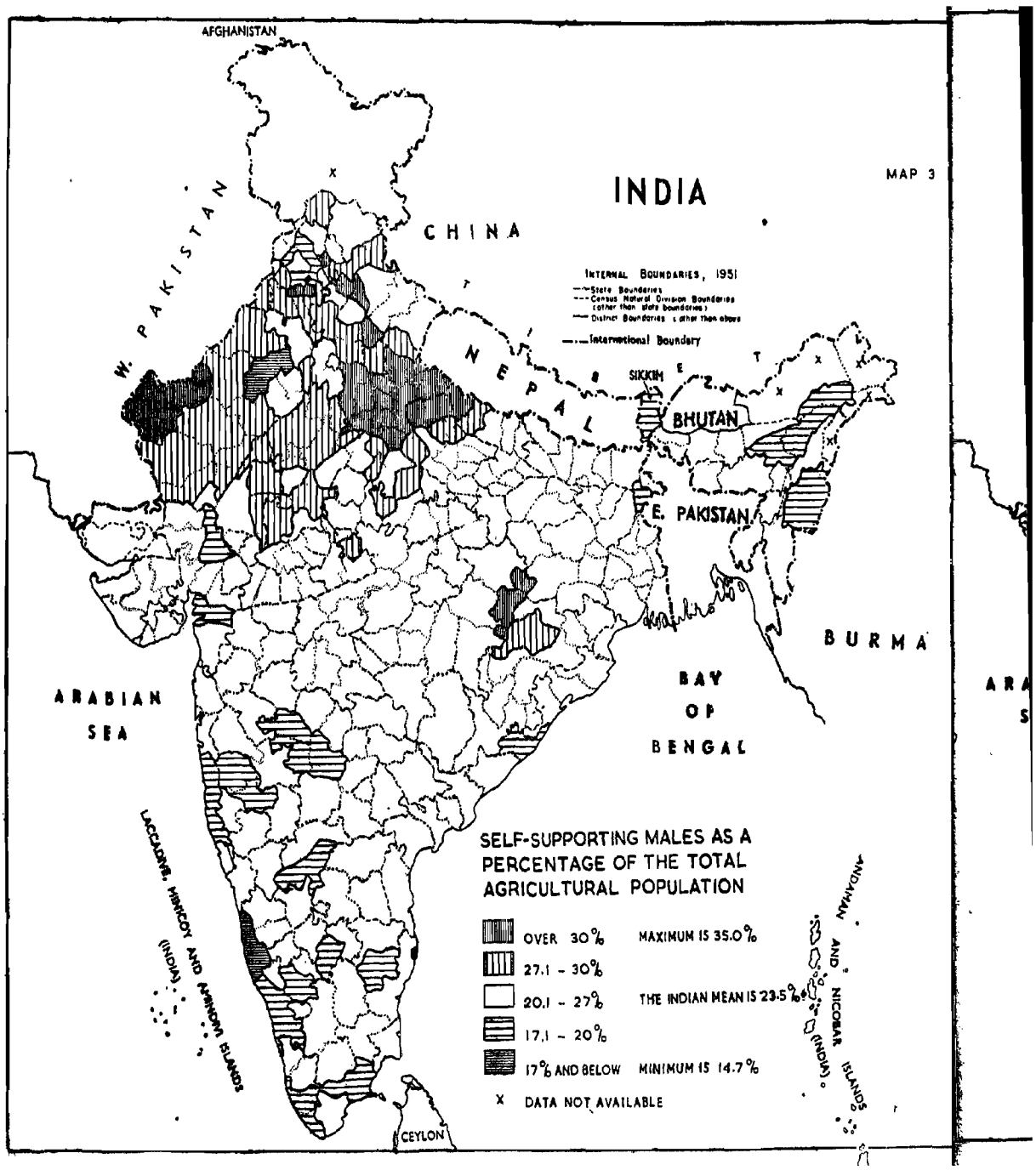
In Western Uttar Pradesh and P.E.P.S.U. in view of the extent of irrigation and the disinclination in this area of strong Moslem cultural influence to let women do field labor, it does seem probable that a genuinely high percentage of self-supporting male labor exists in agriculture. But a disinclination to let women work may be coupled with a disinclination to admit that women do work when that is the case and an inclination to over-estimate the degree of self-supporting labor among males. This might well explain the monolithic bloc of territory in Western Uttar Pradesh where over 30% of the agricultural population are counted as self-supporting males. Significantly, the area of India which shows by far the lowest share of self-supporting females is Western Uttar Pradesh, Punjab, and P.E.P.S.U.

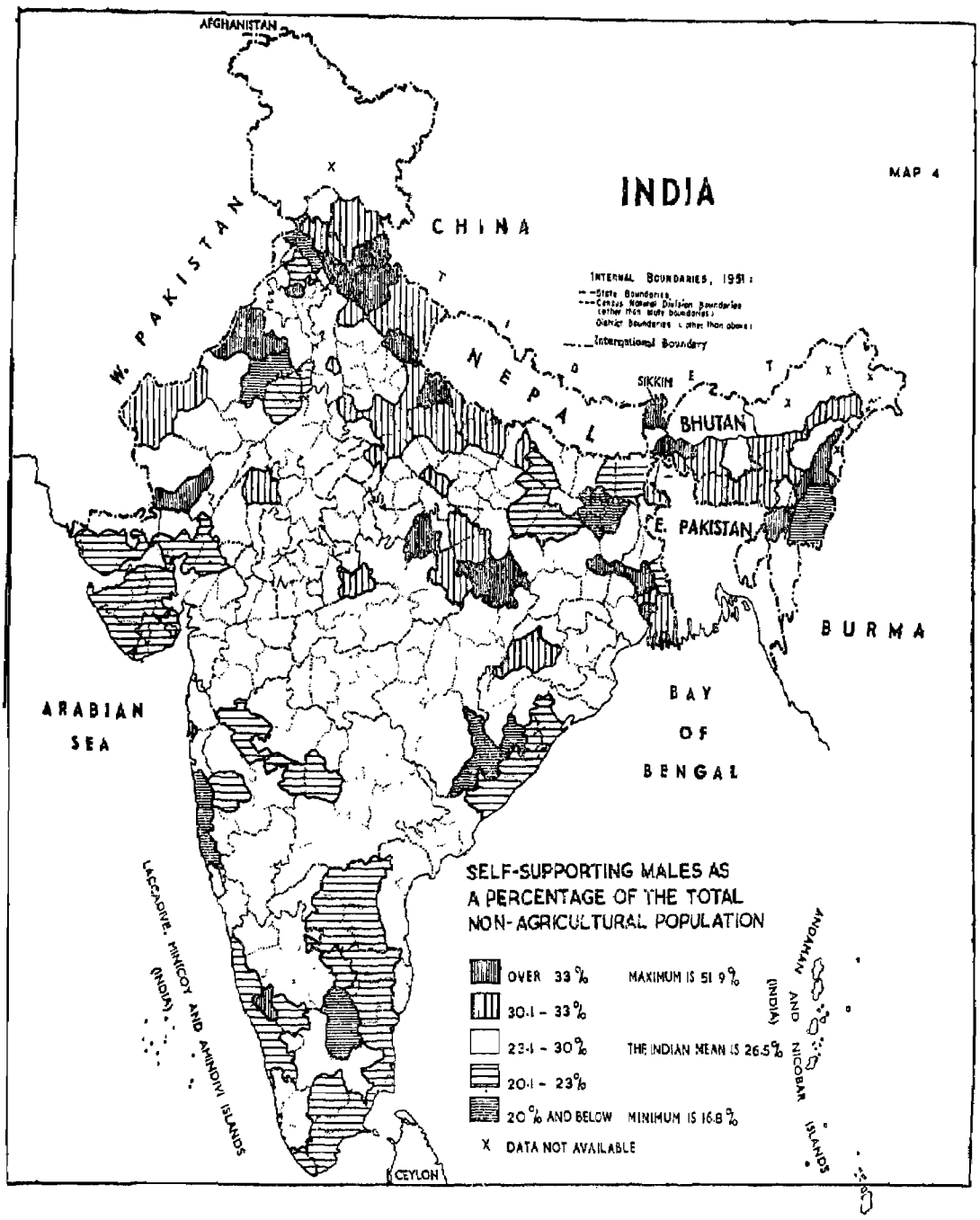
But these arguments do not apply so much to Rajasthan, long a center of resistance to Muslim influence, and still an area where the attitude toward women doing field work is not nearly so strict as in the areas just discussed. Here, it is suggested, owing to the evenness of the high percentage extending over practically the entire state, that there was somehow an administratively induced bias toward over-enumeration within agriculture. In marked contrast to the area previously discussed, Rajasthan has the *highest* share of self-supporting females in agriculture in the whole of India. Yet, the *lowest* district percentage of self-supporting males in India, 11.1%, is also found in Rajasthan in the District of Churu. This would appear to be one of a number of scattered anomalies in the published data which can only be explained by a strong *local* bias in enumeration—in this case a bias counter to that presumably introduced at the state level. (The district, not surprisingly, turns up as unusually low on map 4 also.)

There may well be an administrative, upward statewide bias in the enumeration within P.E.P.S.U., as well as in Rajasthan, since every district therein scores high, and two districts out of eleven and low in Punjab, by contrast, scores high in only two districts out of eleven and low in another two. Alternatively, there may be a downward bias in reporting in Punjab.

The areas of India with percentages of self-supporting male labor below that of the modal class fall largely into two categories: areas of high rates of male emigration, primarily in peninsular India; and

[8] The all-India percentages according to dependency status are given in Appendix A, Table 2, wherein they are broken down by sex, agricultural *vs.* non-agricultural populations, and rural *vs.* urban populations. The various dependency status types are defined in the footnotes.


MAP 3
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
SELF-SUPPORTING MALES AS A PERCENTAGE OF THE TOTAL AGRICULTURAL POPULATION
OVER 30%
27.1 - 30%
20.1 - 27%
17.1 - 20%
17% AND BELOW
MAXIMUM IS 35.0%
THE INDIAN MEAN IS 23.5%
MINIMUM IS 14.7%
X DATA NOT AVAILABLE


MAP 4
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
INTERNAL BOUNDARIES, 1951:
State Boundaries
Census Natural Division boundaries (other than state boundaries)
District boundaries (other than above)
International Boundary
SELF-SUPPORTING MALES AS A PERCENTAGE OF THE TOTAL NON-AGRICULTURAL POPULATION
OVER 33 %
30.1 - 33 %
23.1 - 30 %
20.1 - 23 %
20 % AND BELOW
MAXIMUM IS 51.9 %
THE INDIAN MEAN IS 26.5 %
MINIMUM IS 16.8 %
X DATA NOT AVAILABLE
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON

areas of plantation agriculture in North-eastern India, the Malabar Coast, and highland Mysore. In the latter case a low percentage of male workers in agriculture proper seems to be correlated with a high percentage of workers in non-agricultural occupations under which employment on plantations is enumerated. Only three districts appear in the lowest class of all, that with under 17% of male self-supporting workers: Churu, which was previously noted; Madras, where many males may be diverted to non-agricultural occupations; and South Kanara, where there is a limited development of plantation agriculture and possibly also some influence carried over from the matriarchical system prevailing in the not-quite-so-low-scoring district of Malabar immediately to the South. But here again we may simply be confronted with a biased enumeration.

Of some interest is the fact that the two class intervals below the modal class are represented by less than half as many districts as the two above. Partly this is due to the fact that they are generally more populous districts. Partly too this may be attributed to the fact that the distribution of scores departs somewhat from that of the normal curve. There is a swelling in the representation of districts in the highest class interval, represented primarily by the already discussed, presumably biased returns for West Central Uttar Pradesh, and a compensating departure of the mode to a position below the mean yet still within the modal class.

A final and important word about bias. No reference has been made to any biases in regions shown within the modal class, *i.e.*, those left blank on the map, except for the possible case of under-enumeration in Punjab. Such biases may indeed exist in India; but cannot be recognized in any systematic way. Their existence is most probable, however, in those areas appearing on the map as islands or peninsulas of "normality" (*i.e.*, blankness) in a surrounding sea of departure from same. Kottayam and Trichur Districts of the Malabar Coast area, for example, may be over-enumerated districts in which the true percentage of self-supporting male workers is really well below the Indian mean.

On map 4 we find a somewhat more erratic distribution of areas, departing significantly from the Indian mean of 26·5%. Yet, even here 191 out of 302 districts classified fall within the modal class; and the map as a whole contains few great surprises. That the all-India non-agricultural mean is 3% higher than the agricultural mean may be explained quite simply by the fact that larger numbers of under-employed dependents are maintained in farming households than can be kept in non-agricultural households.

There is a fairly common tendency for the regions which score high on map 3 to do so also on map 4 and *vice versa*, though the extent of the areas and the degree of departure from the mean vary. Thus, we see that the area of West Central Uttar Pradesh, which stood out as the highest scoring large region on map 3, is classified on map 4 primarily within the second highest, class interval, while large areas along the West Coast, in the Deccan Lavas and in Tamil Nad score low on both maps.

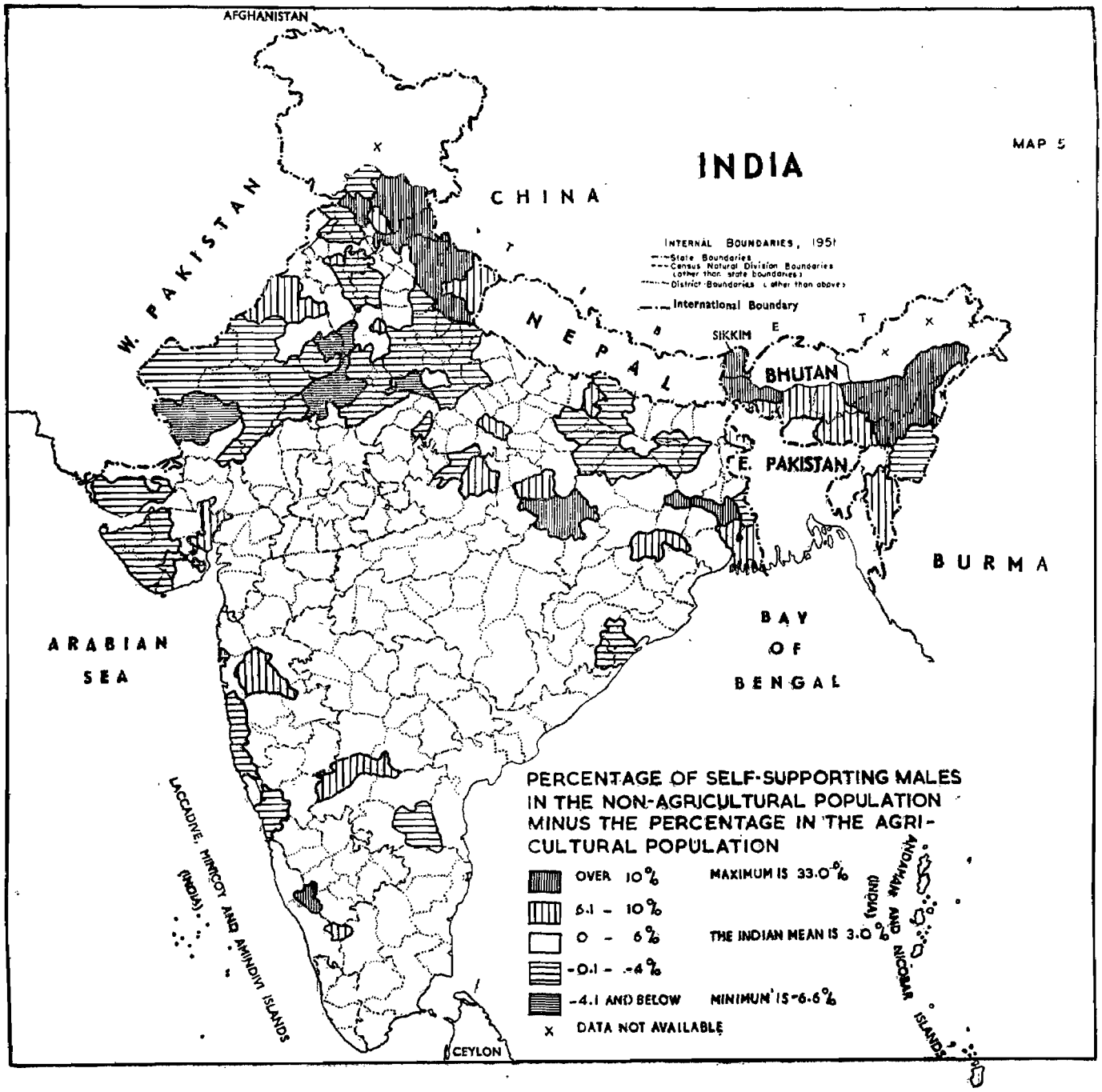
But there are also numerous areas in which maps 3 and 4 are quite different. It has already been noted that areas of plantation agriculture tend to score significantly higher on map 4 than on map 3. So too do certain areas of developed industrialization where there are large numbers of immigrant male laborers, as in the West Bengal-Bihar industrial region and Bombay. (But why not also Ahmedabad and other relatively industrialized regions?) A third category of area tending to score noticeably higher on map 4 are the sparsely populated mountain districts along India's northern frontier. This may be explained by the fact that a relatively large proportion of the small total number of non-agricultural workers are

self-supporting males in military and other government service or workers catering to their needs, whose families are located in other parts of India. (Thus, Sikkim, technically outside of India, reported the phenomenally high percentage of 51·9% of self-supporting males among the total non-agricultural population, male plus female, of 11,600, while out of a total of 17,800 non-agriculturists in Mahasu District of Himachal Pradesh, 51:1% were returned as self-supporting males).

Two large areas stand out for their low scores on map 4 as contrasted with scores within the modal class on map 3, namely the Gujarati-speaking bloc, comprising all of Saurashtra and Kutch and several adjoining districts and the majority of Northern Bihar, while the area of Madras state scoring low on map 4 is much larger than on map 3. Very likely, since the low scores are rarely especially pronounced, the difference may be real and attributable to selective emigration of non-agriculturists. This is especially likely in the case of the Gujarat area from which commercial classes have long moved out to many other parts of India. For the hard-pressed populace of the Northern Bihar Plain, a natural magnet is provided by Calcutta and the adjoining or nearby industrial areas including the Jharia coalfields and the steel centre of Jamshedpur. Similarly, the city of Madras and the plantations of the Western Ghats may have funneled off some of the males from the low-scoring areas of Madras. Districts with high or low shares of self-supporting males in non-agricultural pursuits, other than those already mentioned are, in all likelihood, anomalous cases which may be explained by faulty enumeration procedures.

The reader will recall that our interest in maps 3 and 4 did not stem so much from a desire to know (for its own sake) how large a share of the population was made up of self-supporting workers, but rather to see if that share was enumerated with sufficient consistency to permit reasonably reliable inter-regional comparisons. If the data of one map appear to reveal marked over-enumeration for a particular area, while the other map reveals apparent under enumeration or even normal results, then there is obviously going to be a corresponding bias in the resultant occupational structure in favor of that portion of the total population (agricultural plus non-agricultural) for which the over-enumeration took place. If, however, both the agricultural and non-agricultural enumerations were equally over or under-enumerated, in percentage terms, then no bias will appear in the resultant occupational structure, at least so far as those two major sectors are concerned.

As an approach to determining the localization of apparent bias in the census enumeration of a type likely to affect our view of the regional variations in the occupational structure, map 5 was constructed in order to show by districts, the percentage of self-supporting males in the non-agricultural population minus the percentage in the agricultural population. From map 5 we note that of 302 districts for which data were available, 202 scored within the model class varying within but 3% of the mean Indian difference of 3·0% (26:5%-23:5%), while only 23 districts scored in the extreme classes; of these, eighteen had differences of over 10% and only five differences of under-4%. As one would expect, map 5 appears to be largely a composite of maps 3 and 4, though a few areas do show up on it which do not appear on either of the previous maps. In general, the areas in the northern half of the country, where the greatest degrees of bias were surmised from maps 3 and 4 continue to be shown on map 5 (while very few areas appear on map 5 for Southern India where we assumed that the consistently low deviations from the Indian means were generally real in nature, rather than apparent. Even in the North, however, some, if not most, of the industrial, plantation and frontier districts enumerated with


MAP 5
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES IN THE NON-AGRICULTURAL POPULATION MINUS THE PERCENTAGE IN THE AGRICULTURAL POPULATION
OVER 10%
6.1 - 10%
0 - 6%
-0.1 - -4%
-4.1 AND BELOW
DATA NOT AVAILABLE
MAXIMUM IS 33.0%
THE INDIAN MEAN IS 3.0%
MINIMUM IS -6.6%

especially high proportions of self-supporting males in the non-agricultural population are presumed really to have a distribution of laborers approximating that indicated by the census.

Admitting that biases are bound to affect the regional comparisons, the question remains of determining to what degree are they apt to alter the occupational structure derivable from the statistics. By way of illustration, let us suppose that a district is enumerated as having 33·5% of its agricultural population as self-supporting males (equal to the Indian mean) and 37·1% of its non-agricultural population (10·6% absolutely, and 40% relatively, above the Indian mean of 26·5%, which is enough to place it in the extremely high category of map 5). Let us make the additional, but rather unlikely, assumption that the latter high enumeration is due wholly to bias. Finally, let us suppose that, in our hypothetical district, 65% of those enumerated as self-supporting males are in agriculture and 35% in all other occupations, which is not far from the Indian average. What, then, should the *correct* percentages be? The figure for non-agriculturists is inflated by 40% due to bias and should be reduced to ten-fourteenths (or 5/7) of its enumerated size, that is to 25%. The figure for agriculturists should then be 75% instead of 65%. Thus, we see that it was deflated due to bias by ten-seventy-fifths or 13·3%.

The errors indicated in the preceding paragraph are, of course, not insignificant. On the basis of numerous comparisons, however, it appears extremely improbable that errors of such magnitude, due to the causes here discussed, occur in more than one case out of say fifteen, or possibly even twenty. The conclusion drawn therefore is that, *by and large, so far as agricultural versus non-agricultural workers are concerned, the local variations in occupational structure using the figures for self-supporting males generally represent approximations to the true state of affairs which are close enough for meaningful regional analysis.* Nevertheless, in the remaining parts of this chapter occasional references will be made to map 5 when it is felt that the regional comparisons tend to be vitiated by bias.

Going beyond the above analysis, there are a number of ways to test for probable bias among the sub-groups within both the agricultural and the non-agricultural populations. For the agricultural population, which is sub-divided by tenure status into four categories (*See* graph 1 and text relating thereto) one can compare the Census results with those of the rather disparate findings of the presumably more carefully executed Agricultural Labour Enquiry. This will be done in the following section of this chapter. For the non-agricultural population one can hypothesize the existence of bias for a particular occupational category when its proportion of the total non-primary sector deviates very markedly from the national average, and when no fairly obvious reason for such deviation can be found. Such cases are far from rare, as shall be seen, though their importance in the total scheme of things is not especially great.

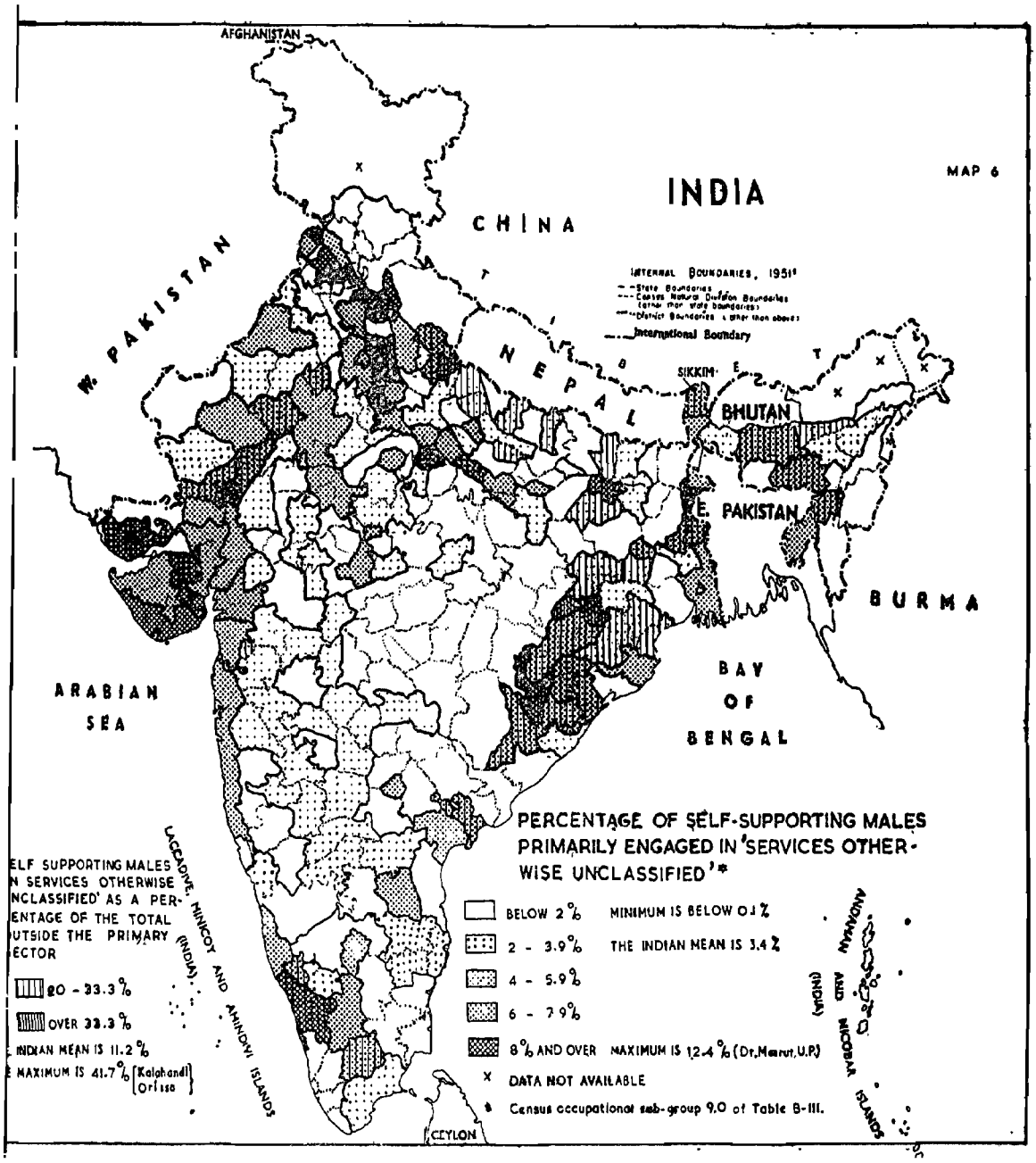
Where an unusual degree of bias within the non-agricultural sector is supposed to exist, a probable explanation is that for the area in question responses to the occupational query of the Census were given not in terms of *de facto occupation*, but rather in terms of *caste occupation*, whether or not the latter were actually pursued on a primary basis or at all. There is evidently a very widespread tendancy in India for non-agricultural caste members, especially those working within the *jajmani* system, to report their caste work as their principal means of livelihood even when most of their working time is expended in, and most of their income is derived from, agriculture. Landless agricultural laborers and casual menial laborers outside of agriculture may be expected to be particularly loath to report those occupations if there is any other of equal or higher prestige to which they may make some claim.

But why should a bias operative throughout India emerge in the statistics as being particularly strong for a given occupation in a given area? Two explanations come to mind. The first stems from the fact that the caste occupational groups are themselves very unevenly distributed throughout India, such that a 30% upward bias in the enumeration of potters, for example, in an area where potters are few to begin with would scarcely be noticed, while in another area where potters are abundant the increment would be appreciable on an absolute basis. The second possibility is that, within a particular census jurisdiction, the officials interpreted (inadvertently or by choice) the *occupational* question of the census as being actually a veiled attempt to determine the *caste* structure of the area. It should be noted in this context that the 1951 Census substituted a basic classification of the population according to means of livelihood for the basic caste-wise classification of all previous censuses.

The reader will recall the emphasis placed on discreteness as a criterion making for accurate enumeration. On this basis alone certain occupations are much more susceptible of erroneous enumeration than others, especially in the ill-fitted adaptation of the International Standard Industrial Classification used in the 1951 Census. Some occupations, those of goldsmithing, teaching, plantation labor, or weaving, for example, are much more discrete and apt to be correctly counted than are certain others, such as agricultural labor, "domestic services", construction work, or "services otherwise unclassified". Similarly, certain aggregations of occupations (*e.g.*, "Processing and Manufacturing [of] Metals, Chemicals, and Products Thereof") are much more likely to be correctly counted than certain others (*e.g.*, "Services Not Elsewhere Specified").

Particularly troublesome is the census occupational sub-group 9.0, "Services otherwise unclassified," the largest component, by far, of group 9, "Services Not Elsewhere Specified." Map 6 depicts the distribution of workers so classified. The mean percentage of workers in category 9·0 is not especially high, only 3·4%, which is 11·2% of all workers outside the primary sector; and if they were distributed throughout India in the same proportions as other non-primary workers they would not be the cause of much concern. Unfortunately, this is not the case. In certain areas, most notably northern and western Uttar Pradesh, Orissa, parts of Rajasthan, Kutch, parts of Saurashtra, and Malabar District and some nearby areas, they appear to be particularly numerous relative to the total number in the non-primary sector, often exceeding a fifth and occasionally a third of those so classified. In Malabar District services otherwise unclassified actually includes nearly one out of every ten self-supporting males! Yet, in adjacent and economically similar Travancore-Cochin only one out of roughly two-hundred is reportedly so engaged! Similar incredibly large differences are encountered on crossing state boundaries elsewhere, *e.g.*, going from Punjab to P.E.P.S.U. or from Orissa to Madhya Bharat. Clearly then we are dealing with a distribution which has little or no intrinsic geographic significance, but which results rather from widely varying local decisions on how to classify those workers with the least clearly defined occupations.

To the extent that occupational sub-group 9·0 is swollen, other occupational groups are under-enumerated and *vice versa*. But just which groups are they? Probably the group most seriously affected is agricultural class III, agricultural laborers though this surmise may not be borne out in all areas. During slack seasons in agriculture many such workers who are not attached to a particular employer or set of *jajmans*, and even some who are theoretically attached, drift about in the towns and cities looking for any work they can find. If they are enumerated away from their customary employment they are especially likely to be classified in the 9·0 category, along with the not inconsiderable numbers


MAP 6
INDIA
AFGHANISTAN
CHINA
PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951*
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN 'SERVICES OTHERWISE UNCLASSIFIED'*
BELOW 2 %
2 - 3.9 %
4 - 5.9 %
6 - 7.9 %
8 % AND OVER
MINIMUM IS BELOW 0.1 %
THE INDIAN MEAN IS 3.4 %
MAXIMUM IS 12.4 % (Dr. Meerut, U.P.)
DATA NOT AVAILABLE
* Census occupational sub-group 9.0 of Table B-III.
ELF SUPPORTING MALES
N SERVICES OTHERWISE
NCLASSIFIED' AS A PER-
ENTAGE OF THE TOTAL
UTSIDE THE PRIMARY
ECTOR
20 - 33.3 %
OVER 33.3 %
INDIAN MEAN IS 11.2 %
MAXIMUM IS 41.7 % (Kalahandi Orissa)

of people who have no customary employment at all, but who shift from one type of labor to the next as odd jobs become available. (It is worth noting in this context that the share of workers in "services otherwise un-classified" is 7·3% of the total in urban areas of India as opposed to only 2·5% among the rural population.)

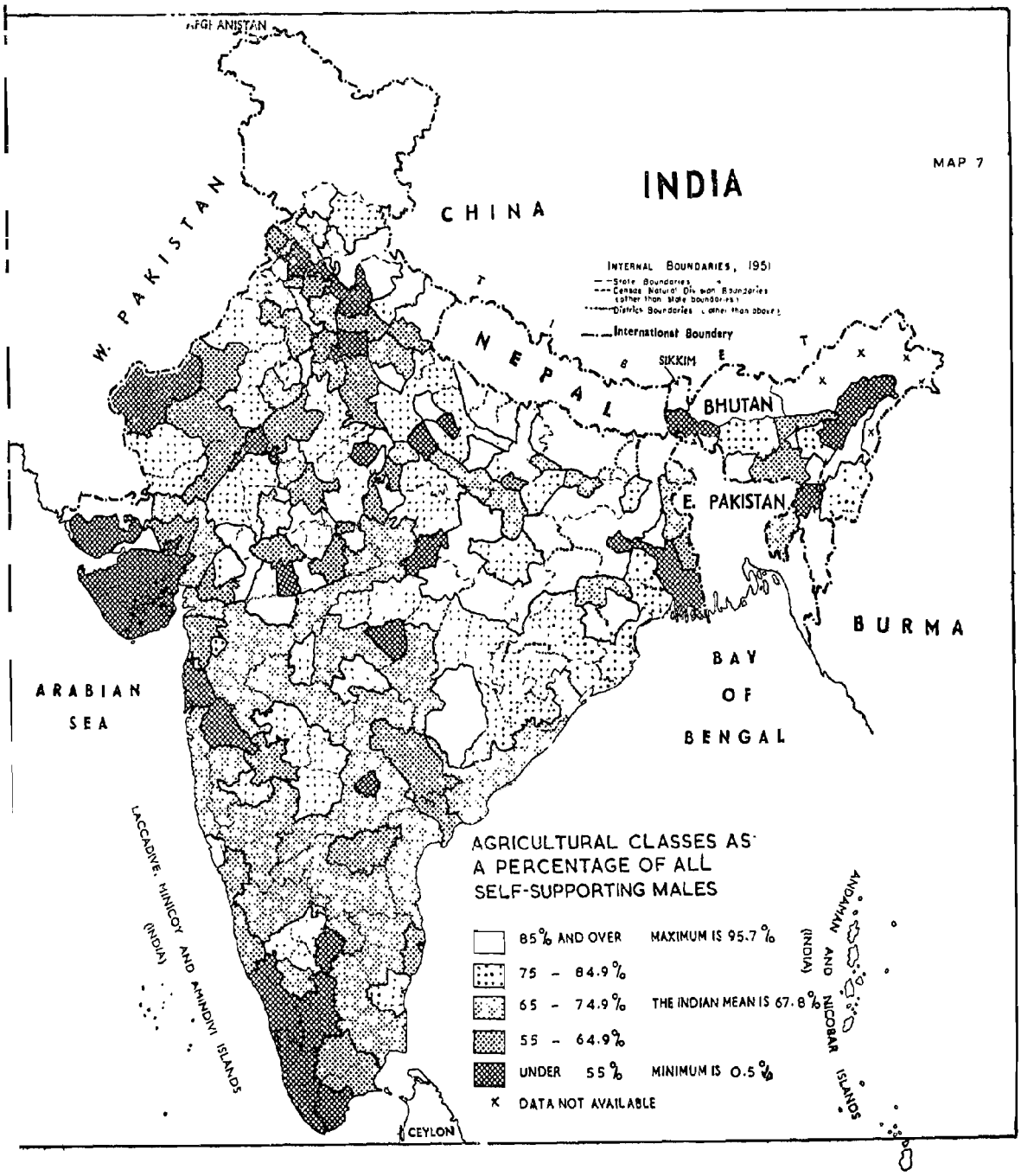
It would possibly have been advisable to have altogether excluded the workers in "services otherwise unclassified" from the population prior to determining any percentages of employment in given occupational groups. Certainly where the number of workers so classified is inordinately high it would seem to inflate the tertiary and deflate the primary sectors of the economy. Yet in a few areas, most notably Travancore-Cochin and P.E.P.S.U., the number of such workers seems inordinately low, and other categories may be slightly over-enumerated, introducing small bias in the opposite direction. In fact, however, it must be admitted that census sub-group 9·0 was included in this study primarily because its abberant distribution was discovered only after the rest of the occupational calculations had been completed.

In general, to summarize, *there is no sure or systematic method for recognizing bias in the Census data and, where bias is recognized, there is no objective way of determining its magnitude.* If one is unfamiliar with an area, it is even possible that he will accept at face value figures containing appreciable bias. This does not mean that a regional analysis of the census occupational statistics will serve no good purpose; rather it does point up the importance of field work as a supplement to whatever statistical analysis is undertaken.

The Agricultural Versus the Non-agricultural population

The term "agricultural population" as used in this study accords with the usage of Table B-I of the 1951 Census of India. Actually it is somewhat of a misnomer insofar as it relates to cultivators of field crops only and excludes persons dependent on stock-raising, the rearing of small animals and insects, and plantation work, all normally considered agricultural pursuits. These are excluded from the "agricultural population" of Table B-I and included instead, along with hunting, fishing, forestry and collecting, mining and quarrying, construction and all types of manufacturing and processing industries from handicrafts to factory production, under "production other than cultivation," a virtually meaningless rubric. Fortunately, each of these items can be singled out from Table B-III, which deals with the self-supporting workers in "all industries and services" (*i.e.*, other than "agriculturists", as designated by the Census); and it would be possible to add to the cultivators the other occupational categories necessary to arrive at a true picture of the total agricultural population of India. For relatively few districts, however, does the difference between the number of cultivators and the total number of agriculturists exceed two per cent, so that a map of the former reasonably well reflects the latter, which has not been separately mapped. Maps of the highly localized distributions of plantation workers and stock-raisers (in significant numbers) and the distribution of the total primary sector have, however, been included in subsequent sections of this chapter. For reasons of simplicity and convenience this section is devoted solely to the discussion of the agricultural population, as defined by the census, versus its complement, the population deriving its livelihood from "all industries and services," or, more precisely, to the self-supporting males in each group.

The regional variations in the percentage of cultivators among self-supporting males is shown on a district basis by map 7. On this map several areas and a number of scattered districts stand out as being well below the Indian mean of 67·8%, while several other areas stand out as being well


MAP 7
INDIA
CHINA
W. PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than State boundaries)
District Boundaries (other than above)
International Boundary
AGRICULTURAL CLASSES AS A PERCENTAGE OF ALL SELF-SUPPORTING MALES
85% AND OVER
75 - 84.9%
65 - 74.9%
55 - 64.9%
UNDER 55%
MAXIMUM IS 95.7%
THE INDIAN MEAN IS 67.8%
MINIMUM IS 0.5%
DATA NOT AVAILABLE

above the mean. The majority of the country, however, varies relatively little from the mean, positive deviations being considerably more numerous than negative. (The median proportion of cultivators is not quite 70%). The following regional analysis begins with the areas in which the greatest proportions of agriculturists are found and proceeds to those which are progressively more diversified. In following the discussion the reader is advised to utilize map 2, showing the regional variations in level of economic development, as well as map 7.

The principal areas in which more than 85% of the self-supporting males are engaged primarily in agriculture are: (1) much of the mountainous frontier areas of Himachal Pradesh, Uttar Pradesh, Assam and Manipur; (2) much of the northeastern part of the "plateau" region south of the east-central Gangetic Plain; (3) the large former native state of Bastar in southernmost Madhya Pradesh; (4) a block of three mountainous districts of southern Rajasthan and Madhya Bharat; and (5) a large part of the Gangetic Plain in Bihar and eastern Uttar Pradesh, especially in the area between the Ganges and its tributary, the Gogra, and the Nepali frontier.

The first four of the above-mentioned areas can be considered as a group since they are all parts of backward regions with an unusually high concentration of essentially tribal population. Here occupational specialization, as found under the Hindu *jajmani* system, is relatively rare, each cultivating family supplying many if not most of its own non-agricultural needs. While hunting, fishing, and gathering are common subsidiary occupations among tribal peoples, the individuals or tribes who subsist mainly from such endeavours is now numerically insignificant. Trade is often on an individual barter basis. In northeastern peninsular India, much of eastern Madhya Pradesh lies barely outside this most strongly agricultural category, while much of adjacent Orissa would presumably be so classified were it not for the fact that so many workers there were classified under "services otherwise unclassified", rather than under agriculture.

The Gangetic Plains area is quite another case. It occupies a region of highly intensive, peasant agriculture with very little salable surplus food and virtually no non-agricultural natural resources. It is, in fact, probably the most impoverished region of non-tribal North India and, except for the Ganges Delta, has the densest population living on the land. Flanked on the one hand by the modern manufacturing centres of West Bengal and on the other by the old established craft centres of Western Uttar Pradesh and accessible, for purposes of marketing, from each of those areas, the region offers few locational advantages to would-be manufacturers. The retarded development of the area on the north bank of the Ganges-Gogra may also be explained in part by its surprisingly high degree of physical isolation. The area is served only by an inadequate narrow-gauge rail system, linked by few bridges and poor ferry service to the main broad gauge lines to the south; and the considerable river traffic of the pre-railroad and early railroad eras is now greatly diminished. Cash crops are consequently at a competitive disadvantage on Indian markets, though in some areas commercial sugar cultivation has attained some importance. Indigo once was an important crop, but competition from chemical dyes has brought its cultivation to an end.

Such local artisans and workers in service occupations as exist, outside of those few working in commerce and for the Government, are presumably largely *kamins* still managing to work within the *jajmani* system for patrons sufficiently well off to maintain them. Probably, when the population pressure was less keenly felt than it is today, their number was much greater; and even

now, if those *subsidiarily* dependent on the callings of village artisans and servants were properly taken into account, the number of part or full time non-agriculturists might, in some districts, be several times that reported by the Census.

A few isolated districts, one each in southern P.E.P.S.U., northern Madhya Bharat, and Western Uttar Pradesh, with over 85% agriculturists need not detain us. In at least two and possibly all three of these cases over-enumeration of agriculturists (see maps 3—5) would have been sufficient to place these districts in the highest agricultural category.

The areas in the next class interval on map 7, *i.e.*, that with 75—84·9% agriculturists, are widely scattered, but for the most part are situated in close proximity to the areas discussed above, especially those with over 80%, in eastern Madhya Pradesh, Vindhya Pradesh, Orissa and Himalayan Punjab. A fair number of areas with substantial tribal minorities in the culturally very heterogeneous zone bounded by the Satpuras, the Aravallis, and the western part of the Gangetic Plain also fall into this class interval, as does the small isolated, tribal district of Dangs in the Western Ghats.

The high proportion of agriculturists in a block of districts in Western Uttar Pradesh may well be the result of bias in enumeration (see maps 3—5). To a lesser degree this may also be true of parts of the desert area of Rajasthan, in which region there is remarkably little consistency of pattern on map 7.

In the Deccan proper more than half a dozen districts, including one large group of four, register in the second highest class interval; but they are all barely within that range and can in no special way be regarded as essentially different from the surrounding areas in the modal class. Futher south, in the Mysore Plateau, are found three more districts, each with around 80% agriculturists, an unusually high figure for South India. A similar proportion is found in South Arcot District, on the east coast south of Madras. No single reason can be advanced to account for these cases, though a combination of factors: removal from main transport arteries, lack of a large urban center and a low degree of commercialization in agriculture, may provide an adequate explanation (If the district boundaries were drawn slightly differently rather different results might have been obtained).

The modal class of districts, those with between 65% and 74·9% agriculturists, occupy over a fourth of India and are much more widely and evenly distributed through the peninsular part of the country, than in the North. It is not certain whether much significance can be attached to this fact. Leaving aside the areas of unusually high proportions of agriculturists, the fairly common juxtaposition in the North of areas of high and low proportions of agriculturists would, in many instances, become a pattern more like that of the South if districts in the former area were as large on the average as those in the latter and *vice versa*. Hence, the real difference between the two broad zones is almost certainly less great than the apparent differences indicated by map 7. In general the areas within the modal class, along with the districts in the lower half of the class above them (*i.e.*, those with from 75—80% agriculturists), constitute what might be considered the "normal" group of districts in non-tribal India.

Districts with below 65% agriculturists (the two lowest classes on map 7) form just over a fourth of the Indian total. Such districts are widely scattered, though largely peripheral in location, and may occur either in moderately large continuous blocks or as isolated districts. The latter are, as a rule, fairly easily accounted for. In a few instances the proportion of agriculturists therein lies just below the class boundary

of 65%, and, for all practical purposes, they may be considered as essentially similar to the districts of the modal class. Otherwise, they almost invariably contain large urban centers serving, as a rule, not only the districts in question but much broader hinterlands, or even, as in the cases of such specialized centers as Kanpur and Banaras, the whole of India. To this extent the percentage of non-agriculturists therein need not be a particularly significant regional fact and hinges on the size of the population of the local key city relative to that of the district in which it happens to fall. Obviously, this, in turn, depends on how far out from the city the district administrative boundaries are situated. Kanpur, Lucknow, Banaras (Varanasi), Gird (containing the city of Gwalior), Indore, Jabalpur (Jubbulpur), Nagpur, Hyderabad and Madras are all examples of such isolated districts with a small proportion of agriculturists.

Of much greater concern are those regions in which there is a consistently low proportion of agriculturists. Seven such regions stand out on the map: (1) Western Uttar Pradesh, Delhi and the contiguous northern Punjab—P.E.P.S.U. plain; (2) the desert portion of Rajasthan and certain adjacent districts of Ajmer and non-desert Rajasthan; (3) Saurashtra, Kutch and part of northern Gujarat as then constituted; (4) a bi-pronged area extending north and southeast from Bombay; (5) the area extending from around Calcutta up the Hooghly and also northwest to the Jharia coalfields; (6) a large part of Assam; and (7) a large area of southwestern India including all of Travancore-Cochin and the mountain state of Coorg, much of contiguous Madras and one district each in the states of Mysore and Bombay. These regions will be taken up below in the order named.

1. Western Uttar Pradesh, Delhi state, and the contiguous tracts of the plains of northern Punjab and P.E.P.S.U., together form one of the best irrigated, most fertile agricultural regions of India. Relatively speaking the population pressure is not excessive; and there is normally abundant surplus grain and other cash crops for sale, both to nearby urban markets, most notably Delhi, and to grain-deficit areas considerable distances away. This alone would suffice to give rise to a substantial amount of non-agricultural employment in commerce and related activities and to village non-agriculturists serving the wants and needs of the more prosperous land-owning and commercial classes. But the share of agriculturists in the total working force is further diminished by the existence of a not inconsiderable amount of small scale and cottage-industry (which shall be referred to later at greater length) along with a variety of other non-agricultural pursuits.

2. The case of Rajasthan is somewhat different. A low proportion of agriculturists in the working population here need not betoken relative regional prosperity or the existence of agricultural surpluses, but may simply be due to inability to carry on much cultivation in the drier and/or more mountainous terrain under consideration. The economy may be based instead on stock-raising, mining and quarrying (which, however, is itself numerically an insignificant source of employment), cottage industries (the fine craft work of Rajasthan is famous throughout India), and the cross-desert transit trade (now greatly reduced due to the political partition of the subcontinent). The rendering of a variety of services and wares to the households of the large landlords and petty nobility (*jagirdars*) so numerous in the until recently feudalistic native states of Rajasthan must also have provided considerable, non-agricultural employment. It should be noted too that several districts of the Rajasthan desert area are highly urbanized by Indian standards, notably Bikaner and Jodhpur with one fair-sized city each, and Churu with numerous towns.

Adjacent to the desert, astride the semi-arid Aravalli ranges, the two districts of Jaipur and Ajmer also stand out for their low proportions of agriculturists. Both are highly urbanized areas, the latter in particular, though Jaipur, is a considerably larger city than Ajmer. The size of both cities depends not so much on the productivity of their immediate trading hinterlands but on the services they render to a much broader area: Jaipur, as capital, to the entire state of Rajasthan; and Ajmer, as administrative and chief maintenance center for the Northwestern Railroad, to an even larger area.

3. Saurashtra, Kutch and northern Gujarat proper form a region in many ways like the northern plains region first discussed. Generally, much more sparsely populated than that region, what it lacks in irrigation it makes up for by its favourable ratio of cultivated land per cultivator, the best in the whole of India, and its extremely good farm practices. The result is a considerable agricultural surplus, especially in such cash crops as cotton and ground nuts, brisk trade, and an effective demand for a wide variety of goods and services. Though the local artisanry was never especially reknowned, it appears to have managed to hold its own when, for reasons which are discussed elsewhere, there was a general retrenchment elsewhere in India. The same holds true of the serving castes. And while the rural non-agriculturists held on, the cities and towns, most of them capitals of the numerous petty states of the area (Saurashtra alone had over two hundred), grew as trade emporia and, since the turn of the country, as centers for newly developing industry. The great cotton mill industry, concentrated largely in Ahmedabad, a city of close to a million inhabitants in 1951, was the first to develop; but a number of other widely dispersed large and small-scale and cottage industries have since sprung up in response not only to local demand, but also to serve a variety of needs throughout India. Evidently the entrepreneurial skills for which the Gujaratis are famous in other parts of India have been effectively applied to their native area as well.

4. Further south along India's West Coast from Surat to Bombay and inland across the Ghats to Poona and Sholapur is another apparent belt of districts with a low proportion of agricultural workers. This area is not, however, particularly known for its agricultural surpluses. Largely manufacturing oriented, especially with respect to cotton textiles, it depends chiefly on raw materials shipped in from the more extensive cotton growing areas further east on the Deccan Lava Plateau. For power it taps the vast hydro-electric resources of the precipitous Western Ghats. (The seemingly isolated manufacturing districts of Baroda and Ahmedabad, which were classified along with Saurashtra and Kutch, might, incidentally, be conceived of as an extension of this region). Ancillary to its industrial development, the region has naturally expanded the scope of such service occupations as trade and transport; but the only district in which service occupations are especially noteworthy is Poona, the seat of the Indian defence academy and a major university and a principal center of the not inconsequential film industry.

5. Crossing the sub-continent to West Bengal and the Dhanbad District of Bihar, we come to another major industrial zone of India, in which workers in manufacturing (jute, chemical and metallurgical industries), service industries (essentially similar in function and development to those of the Bombay area) and coal mining * (in Dhanbad and Burdwan Districts), are sufficiently numerous to depress to below 50% the proportion of agriculturists in the total population. Yet, over much of this area, the absolute agricultural densities remain among the world's highest.

6. Continuing northeastward to Assam we encounter an area where the low proportion of agriculturists (by the definition of the Census) is very easily explained. This is the chief tea-growing area of India, in which over a third of the self-supporting males may be found working on the tea plantations. Outliers of the largest tea-growing tract include the districts of Cachar to the south and Darjeeling and Jalpaiguri to the west. The relatively sparsely settled, largely tribal district of United Khasi and Jaintia Hills, is, however, not especially known for tea plantations. Its low proportion in agriculture is due rather to the high degree of urbanization occasioned by the creation there of Shillong as a hill station and summer capital of Assam.

7. The last of the seven regions to be discussed, that in southwest India is far from homogeneous, and consequently, can be considered a region primarily in terms of areal contiguity. Two of the component districts, the Nilgiris and Coorg are highland plantation areas occupationally similar to that just discussed in Assam. Ootacamund, in the Nilgiris, also serves as a hill station, much like Shillong. Parts of other districts, most notably Kottayam, are also important plantation areas.

The West Coastal districts especially those of Travancore-Cochin and Malabar, like the delta areas of West Bengal, have low proportions of agriculturists in the labor force, despite phenomenally high absolute agricultural densities. Unlike West Bengal, however, this area is generally deficient in large-scale industry. The non-agriculturists are supported largely on the local development of cottage and small-scale industries. The most important of these by far are based on the coconut palm especially the manufacture of articles made from coir, the fibre derived from the husk of the nut itself. Although an overall food deficit area, a brisk trade is carried on in cash crops, the plantation crops of the highlands and hills, spices, tapioca, and coconuts, as well as rice; and the normal auxiliary services are highly developed. All along the west Coast fishing is an activity sufficiently important to have a significant effect in lowering the proportion of agriculturists. In North Kanara District, in fact, it is the importance of fishing, rather than cottage industries, which just manages to put the area outside the modal class interval.

East of the Ghats from Bangalore southward are a group of five highly urbanized districts wherein the low proportion of agriculturists is based largely on the importance of the modern industry which is located there because of the region's cheap hydroelectric power. Cotton manufacturing predominates; but the large city of Bangalore (population 800,000), favored by the bracing climate of the Mysore Plateau, is developing into a major center of varied large and small-scale manufacturing. Throughout the area the normal increment in service occupations necessitated by the development of manufacturing suffices to explain the unusually low proportion of agriculturists.

Sub-divisions by Tenure Status within the Agricultural Population

The Census, as has already been stated, sub-divides the agricultural population into four classes, on the basis of their status with regard to land tenure, namely, "cultivators of land mainly owned", "cultivators of land mainly unowned" (tenants), "cultivating laborers", and "non-cultivating owners of land [and] agricultural rent receivers" (landlords). Although the author has tabulated the data which would permit mapping each of these categories on a district-wise basis, it is not felt that doing so would be worth the effort entailed. In the author's view and that of presumably competent critics, the data are simply not sufficiently reliable.

It is worth-remembering that a number of Indian states were, in 1951, in the throes of agitation for, or legislation or

implementation of, measures for far-reaching land reforms. (Others, sadly, were then still dragging their feet). In the political milieu of that time it would have been most surprising if a very high degree of accuracy in the enumeration of tenure status were attained. This would have been true even if the census categories were clear and equally applicable throughout the sub-continent; but such was hardly the case. It is, therefore, not too surprising that the discrepancies between the data of the Census and the Agricultural Labor Enquiry conducted in the same year were as great as they were.

1. Non-cultivating owners of land: Landlords, the numerically smallest agricultural class, comprise, according to the Census, only 1·2% of the nation's self-supporting males. Since a common feature of land reform legislation was that one had to cultivate the land personally in order to be entitled to keep it, many of those who properly belonged in the landlord class could have been expected to report themselves as cultivators. This assertion cannot be proved; but it is yet to be refuted. Even if the data on landlords were reliable, they would tell us little. What really matters is the *concentration of land-holding* and the terms on which land is rented out, rather than the *number of landlords,* which, even at its greatest, accounts for but a very small share of the total population. (One of the great deficiencies of the 1951 Census is that it contained no question relating to the size of agricultural holdings or operations.)

2. Cultivators of land mainly unowned: The next smallest agricultural class, that of tenants (8.6% of the total and 12.7% of the agricultural population) is not much more amenable to detailed regional analysis than that of landlords. This is so partially because there is a bewildering variety of conditions under which land may be rented and partially because of the peculiar Census instructions on who was, or was not, to be counted as a tenant. Rents in India may be paid in cash or in kind, may be in fixed amounts or shares, may be customarily or contractually determined, may be paid to an overseer or directly to the landowner, may or may not entail the right to make decisions and may or may not cover the use of seed, irrigation water, and draught animals. Tenures, furthermore, may be both permanent and inheritable or, at the opposite extreme, terminable at will.

The Indian share cropper and certain other types of tenants are often scarcely distinguishable from attached agricultural labourers. According to the Census instructions doubtful cases of tenancy were to be decided on the basis of who made the decisions in the farm operation. If the person in question made the decisions he was to be called a tenant; if not then an agricultural laborer. But the answers to this question are obviously highly subjective; and the responses might place many persons in the category of tenants who do not really warrant such status. At the other end of the tenancy spectrum, the Census instructions were that any rent-paying farmer with a permanent, deedable tenure was to be classified as an owner cultivator. But, in the common absence of properly executed contracts and deeds, and the prevalence of the farmer's inability to read such documents as exist, the question of permanency of tenure is frequently open to dispute. To cite but one more difficulty, there is the not uncommon practice in India of sub-letting agricultural land. The sublessor is simultaneously landlord and tenant. The printed Census instructions do not state how such cases shall be treated. It may thus be seen that, even barring the numerous cases of mixed tenures (*e.g.*, tenants who also farm a bit of land of their own or tenants who do outside agricultural labor), the tenant in India is apt to be confused with any of the three remaining agricultural classes.

Nevertheless, viewing the data by natural census divisions, some interesting broad regional patterns do emerge. For

the great majority of divisions of India the percentage of tenants within the agricultural population falls within the narrow range of 7% to 15%. Only eight divisions have lower percentages; and of those eight divisions six are largely tribal areas. Rates of tenancy in largely tribal and mountain areas range from a mere 3% in Chota Nagpur, the lowest rate in all of India, to 11% in Himalayan Punjab.

Fourteen divisions score above 15%, the maximum being in the Rajasthan Dry Area where tenants comprise 59% of the agricultural population. The seven contiguous divisions, of the Rajasthan Plains (31%), Punjab Plains (27%), Madhya Bharat Plains (23%), Kutch (23%), Saurashtra (18%), Gujarat (16%), and P.E.P.S.U. (16%) form, with the desert area, a great block of territory in which a high rate of tenancy persisted through to 1951. Of the areas named, those of Rajasthan, Madhya Bharat, Saurashtra, Kutch and P.E.P.S.U. were native states prior to independence and maintained a largely feudal system of land tenure, with numerous petty lords and complex arrangements of sub-infeudation. In the highly commercialized areas of Punjab and Gujarat much of the tenancy was presumably on the lands of absentee landlords and village money-lenders.

Of the areas of high tenancy outside of Northwest India two west coast divisions, Bombay Konkan (46%) and West Madras (43%), immediately to the south, are said to have "peculiar" tenancy systems unlike those of other areas of India.[9] Adjacent Coorg (17%) may share certain aspects of their tenure pattern. The three remaining divisions of high tenancy lie in the Northeast of the country. Highest of these is Himalayan West Bengal (a misnomer which ought to read Sub-Himalayan West Bengal) (39%), the West Bengal Plain (20%) and the Assam Plain (20%). Of the first of these, very little is known; the area is, in any event, of little importance. The causes of high tenancy in the latter two areas are probably much like those at work in Gujarat and Punjab.

Thus, whether or not one places much faith in the Census figures on tenancy, a fairly clear and probably generally correct regional pattern emerges therefrom. There appeared to be in 1951, most important of all, a large area of Northwest India characterized by high to very high tenancy rates; one other area of rather high rates, the West Coastal strip; and a Northeastern area of only moderately high tenancy. The tribal areas of India exhibit very low tenancy rates. And the rest of the country varies but little from a median rate of about 11%.

3. Agricultural Laborers: Workers deriving the largest part of their livelihood from work on land which they neither own nor rent constitute 12·8% of the total and 18·9% of the agricultural population of India according to the Census. For this group there is no more, and very likely even less, reason for faith in the Census statistics than in the case of tenants. Nevertheless, there are several reasons why this group deserves to be studied in greater detail than any other class of agriculturists. In the first place, while all the others have some hold on and stake in the land, something which they are not likely to relinquish without considerable cause, the agricultural laborers, by contrast, are less rooted and more apt to take up new employment given the opportunity. Hence, they form a vast and ready reservoir of labor for large scale development projects and new industrial undertakings.[10] Second, in the absence of

[9] *Census of India*, 1951, Vol. I, Part I-B., pp. 199-200. The peculiarity alluded to by the Census is not explained.

[10] This point is elaborated at great length by V.M. Dandekar in his work, *Use of Food Surpluses for Economic Development*, in which the A.L.E. findings are extensively used on a regional basis. *See* especially Chapter V „Employment Potential of Development Schemes," pp. 58-71; VII, "Labour Employed on Development Project, pp. 89-110; and VIII, "Relief Works," pp. 110-117.

adequate work they exercise a depressant effect on the economy, driving down wages and occasionally consuming in the form of relief, expenditures which might otherwise be spent by the state on productive overhead investments. Third, as potential recruits to a united, militant, proletariat political bloc they warrant attention for reasons which are all too obvious, even though they may lie outside the scope of this study.

Thanks to the Agricultural Labor Enquiry, we have available a body of information against which to check the Census results. Where the regional patterns of the two investigations tend to coincide we may feel greater confidence in accepting the findings than where they appear to bear relatively little relationship to one another. On the other hand in cases where there is a wide disparity between the two we may, with reason, incline towards a belief in neither. It is impracticable, if not impossible, however, to compare the Census and the A.L.E. on a district-wise basis. In the stratified random sample of only 814 villages in the seventy-two regions of the Enquiry, many districts were entirely unrepresented, while the average number of villages investigated per district was only 2·7 (The entire sample covered only about one out of every 650 villages in the whole of India).

A comparison of the Census and the A.L.E. at the level of the Census "natural division" is, then, the most detailed one which can be regarded as feasible. Omitting the entirely urban division of Greater Bombay and the divisions of Himalayan Punjab and Sikkim, to which the sample did not extend, there was an average of 17 A.L.E. villages per division. Of course, for certain small districts the number was considerably lower than seventeen; and in such cases the probability of the sample's yielding reliable results is greatly reduced. Generally speaking, the more populous the division (or, more precisely, the greater the population of villages therein), the greater the likelihood that the A.L.E. results are valid.

One is, thus, confronted with a dilemma. On the one hand, for India as a whole, the 1951 A.L.E. shows a proportion of agricultural laborers in the working population which is far greater than that indicated by the Census, and no writer on the subject, to the best of the author's knowledge, appears to question the greater reliability of the A.L.E. findings relative to the country as a whole or even to a broad six-fold zonal breakdown thereof[11]. But, as one begins to work with smaller and smaller regions, he becomes increasingly less confident that the A.L.E. findings are closer to the true state of affairs than is the Census. And nowhere has the author seen an Official indication of the statistical confidence limits of the A.L.E. data for a given area or even for the entire nation.

In attempting to depict cartographically what appears to be the general pattern of regional variations in the proportion of agricultural laborers in the work force it was possible to lean very heavily on the laborious spadework of Daniel and Alice Thorner, who aggregated the A.L.E. village data so that they would fit within the regional framework of the Census "natural divisions", and thereby arrived at two sets of figures for a single set of areas.[12]

[11] For broad, general comparisons India was divided into the following zones : North, East, South, West, Central, and North-West, each an aggregation of several states. No use is made of zonal data in this thesis as t is felt that in a country as large as India such a coarse breakdown does not yield very meaningful results.

[12] D. and A. Thorner, "Agricultural Manpower in India : Labourers," *Economic Weekly*, Vol. IX, Nov. 9, 1957, pp. 1443-9, esp. Table I, pp. 1446-7. A slightly different (and less satisfactory) comparison, also by Daniel Thorner, is afforded in "Demarcation of Agrarian Regions of India; Some Preliminary Notes," in *Seminar on Rationale of Regional Variations in Agrarian Structure of India*, Table 2, p. 57. In the same volume, P. K. Mukherjee offers a state-wise comparison in "Some Comments on the Concepts and Definitions Used in the Recent Surveys," Table 3, p. 33.

The Census figures relate not solely to self-supporting males, but to all earners, (self-supporting persons plus earning dependents) of both sexes as a proportion of the *total population*. The proportion of agricultural laborers so computed for the whole of India came to 20·5%. (Since women and children are probably more commonly classified as earners among agricultural laborers than among any other occupational group, it is not surprising that the proportion cited so greatly exceeds the 12·8% obtained when only self-supporting males are considered.)

The A.L.E. figures also relate to all earners (not including non-wage earning "helpers"), but as a proportion of the *rural population only*, the sample having been drawn entirely from villages. In the Thorner study the Census figures were not computed in terms of the rural population because the Census did not provide "separate rural and urban figures for earning dependents according to their *own* means of livelihood.[13] That is, they were classified solely by the means of livelihood on which they were classified as *mainly* dependent, which, by Census fiat, was said to be that of the *person* on whom they were dependent. A further distinction is that, whereas the Census classification of a self-supporting worker is based (theoretically) on the occupation which provided him with the largest share of his income, the A.L.E. classification of all earning members of a family generally followed that of the head of the household (a method not as unrealistic as one might suppose), who was himself classified as an agricultural worker if that was his occupation more than one-half of the total number of days on which he actually performed work during the year.[14] The all-India percentage of agricultural laborers in the rural population so obtained by the A.L.E. was 38·2%.

Using the data of the Census and the A.L.E. the Thorners were able to establish three broad groups of natural census divisions, high, medium and low, the limiting values of which differed with the investigation in question. This they were able to do because, in spite of the great regional discrepancies between the two sets of figures, they found a general tendency for the divisions scoring high in one set to score high also in the other, and *vice versa*. Relatively few divisions were misfits in the classification they devised.

It would have been possible to map the tabulations of the Thorners directly; but because, in working out the Census data, they made no allowance for the regional variations in the degree of urbanization, it was decided first to adjust for this deficiency for each of the natural divisions and thereby to arrive at a set of figures more comparable to those of the purely rural sample of the A.L.E. The formula used is as follows:

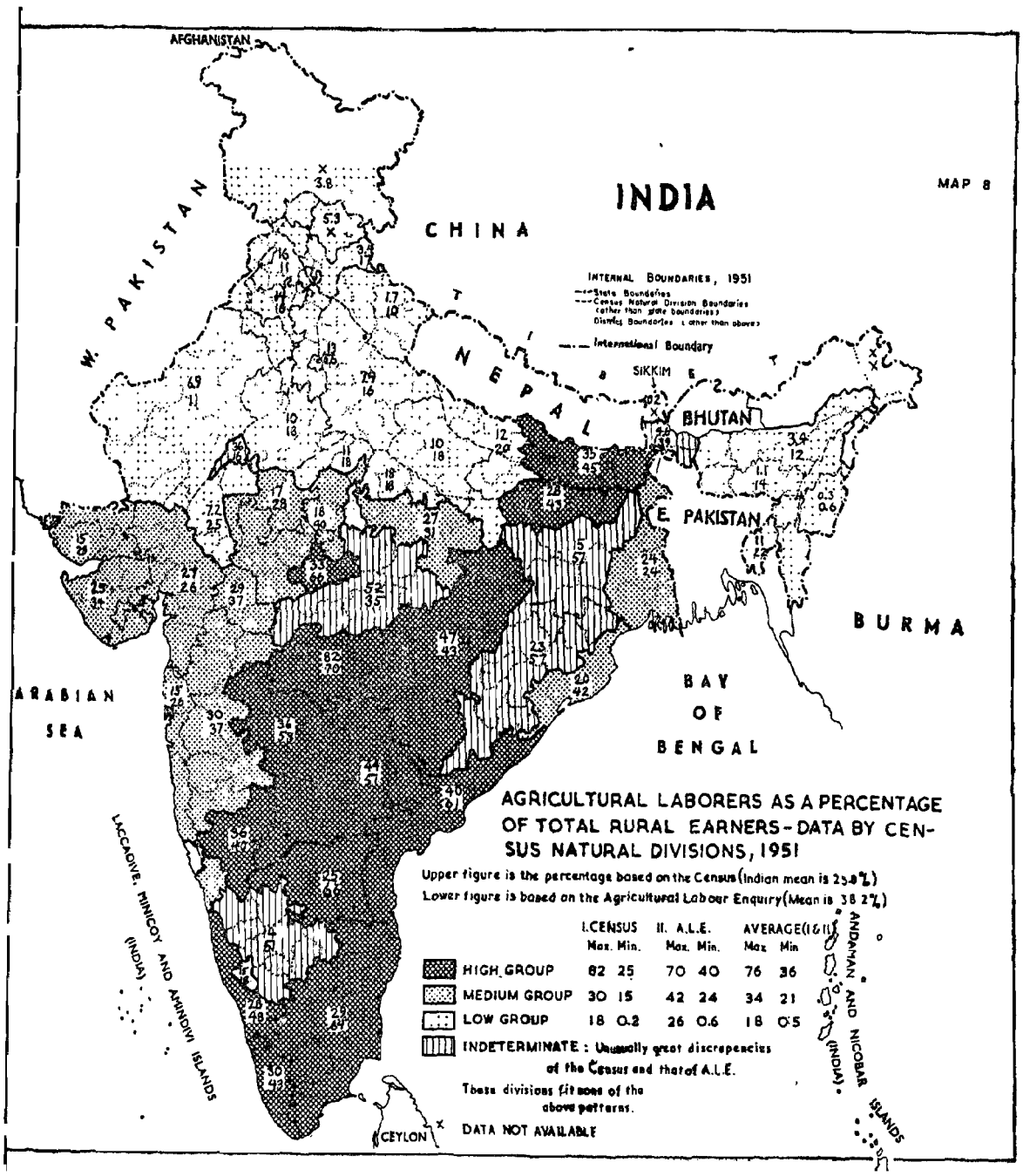
$$L_r = T/R \times L_t$$

in which L_r is the desired adjusted rural percentage of agricultural laborers according to the Census. L_t the percentage given by the Thorner for the total population, T the total population and R the rural population. (This formula yields only a close approximation of the figure sought, since the agricultural laborers counted by the Census *did* include a small percentage actually resident in urban areas, which the formula treats as being wholly non-agricultural.) The all-India percentage of agricultural laborers in the rural population, as determined by the method indicated is 25·8%, still well below the A.L.E. figure of 38·2%.

Map 8 indicates for each Census natural division the proportions of agricultural laborers which were computed by the author from the Census-based data of the Thorners and those computed by the Thorners themselves from the A.L.E. After plotting the two sets of figures the author likewise established high, medium, and low groups with limits differing considerably for the two distributions. Also established was a small indeterminate group of divisions not clearly fitting any of the previous three. In

[13] Thorner, *op. cit.*, p. 1444.

[14] A. L. E., *Rural Man-Power and Occupational Structure*, pp. 4-6.


INDIA
MAP 8
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
Districts Boundaries (other than above)
International Boundary
AGRICULTURAL LABORERS AS A PERCENTAGE OF TOTAL RURAL EARNERS - DATA BY CENSUS NATURAL DIVISIONS, 1951
Upper figure is the percentage based on the Census (Indian mean is 25.0%)
Lower figure is based on the Agricultural Labour Enquiry (Mean is 38.2%)
I. CENSUS II. A.L.E. AVERAGE (I & II)
Max. Min. Max. Min. Max. Min.
HIGH GROUP 82 25 70 40 76 36
MEDIUM GROUP 30 15 42 24 34 21
LOW GROUP 18 0.2 26 0.6 18 0.5
INDETERMINATE : Unusually great discrepancies of the Census and that of A.L.E.
These divisions fit none of the above patterns.
DATA NOT AVAILABLE

delimiting the groups some slight overlappings of the maximum limits of one group and the minimum limits of another were allowed. In view of the uncertainty of the data to begin with, it was felt that this procedure was justified. The degree and range of the overlap may be seen in the marginal data of the map. It will be noted that if one takes the *averages* of the two sets of scores there is no overlap at all, and the distinctness of the three groups appears to be clearly established. The reason for permitting overlapping scores was to decrease the number of otherwise indeterminate cases, when there was reason to believe that the divisions in question actually belonged in one of the three established categories. All of the doubtful divisions had also to meet the criterion of being contiguous with one or more regions which were clearly within the category to which they were ultimately assigned.

A rather striking zonation of India emerges from map 8. While there appears to be no simple explanation of this zonation, the one controlling factor which may well be most universally applicable is the degree of pressure on the land of the agricultural population. Although one often comes across statements implying as much, the author was, at first, a bit sceptical as to their general applicability. Certainly there is no high degree of correlation apparent between the proportion of agricultural laborers and the density of population per square mile or even the density of cultivating population per square mile of cultivated land.[15] But, as the productivity of land varies so greatly from one part of India to another, it is not possible to measure the *effective* pressure of population in a given area merely from a study of population density maps. One area with an agricultural density of only one hundred per square mile may be much more crowded, in effect, than another with five hundred.

But, if we cannot measure *directly* the regional variation in population pressure, we may, nevertheless, observe the consequences of the demographic history of India in modern times, to see what light that might throw on the subject. It is generally known that until relatively recently, India, like the rest of the under-developed world, had a reasonably stable population with a high birth rate counter-balanced by a high death rate. When times were good, climatically speaking, the population slowly grew, when a severe drought or famine (or plague) occurred in a given area it fell sharply. With the reduced population following the catastrophe the effective population pressure on the land was temporarily eased and the slow build-up phase of the cycle reinitiated. As the network of railroads, famine relief schemes and medical facilities spread over India in modern times the cycle was broken in many cases. Where previously a great famine might have brought on the death of millions, imported emergency food supplies could now result in but a negligible loss of life. This blessing was mitigated, however, by the fact that there was no easement of the pressure of population on the land. As the population grew and farms were increasingly sub-divided, more and more marginal farmers had to seek to supplement their livelihood by working for others or, after first going into debt, lost their land entirely and had to become full-time wage laborers.

As has been convincingly demonstrated by Trewartha and Gosal, the phasing of periods of growth and decline occurring in Indian demographic history has varied considerably from one part of India to another.[16] While the thirty-year period from 1891 to 1921 was marked by a general population *decrease* over most of North Central and North-west and West Central India (usually averaging less than

[15] cf. plates 1 and 2 of the atlas accompanying G. S. Gosals, *A Geographical Analysis of India's Population*. See also end-plate No. 2 of this work.

[16] G. T. Trewartha and G. S. Gosal, "The Regionalism of Population Change in India," *Cold Springs Harbor Symposia on Quantitative Biology*, Vol. XXII, 1957, pp. 71-81. See also the *Census of India*, 1951, Vol. I, Part I. A., pp. 121-138 and maps 6-11 for the material on which this article is largely based.

1% per year), the same period was marked by a general increase over the rest of the country, (usually averaging under 1·5% per year). From 1921 to 1951, however, thanks partly to the bounty of nature and partly to the controls exercised by man, there was a general population increase throughout India (usually from 0.5% to 1·5% per year). If we compare Trewartha's and Gosal's map of population change from 1891 to 1921 with map 8 we discover a remarkable correlation of areas of population decline with regions with a low and medium proportion of agricultural laborers and areas of population increase with region with a high proportion of agricultural laborers. This correlation is especially marked if we exclude from consideration the largely tribal areas of India and the obviously exceptional areas of the Assam Plain and Tripura which were then and still are, "pioneer" areas to which the population growth and decline cycle does not apply. The following table shows the extent of this correlation, not taking into consideration the exceptional areas cited.

TABLE 7

POPULATION GROWTH OR DECLINE OF CENSUS NATURAL DIVISIONS CLASSIFIED B PROPORTION OF AGRICULTURAL LABORERS

(Data are for the Period 1891—1921)

Proportion of Agricultural Laborers in 1951 (as per map 8)	Total No. of Divisions Considered	No. of Divisions by Change in Population		
		Decrease	0% to 0·5% Increase	0·5 % to 1·5 % Increase
Low	11	11	0	0
Medium	11	8	2	1
High	13	3	4	6

Why, one may ask, does the 1951 distribution of agricultural laborers reflect the population changes of the period 1891 to 1921, rather than the relatively uniform increases of the succeeding thirty years? The answer does not appear to be too difficult. The pattern of 1951 was probably fairly well established well in advance of that year and simply persisted in the absence of any countervailing demographic events. Since the areas of population decline must have experienced a very considerable easing of population pressure during the first generation under review, they had a considerable margin for population increase in the following generation without undergoing much increase in the proportion of Agricultural laborers. This margin did not exist in the regions of earlier population growth. Just when the general pattern of the present was established would require considerable additional research. Since the age structure of the area of population growth in the period 1891-1921 was probably one with a higher proportion of juveniles than that of the areas of population decline, the relative swelling in the actual labor force on the land in the former areas might not have been fully felt until well after 1921.

In addition to population pressure many other local factors have played a role in determining the proportion of agricultural laborers in the several regions of India. In the paragraphs which follow these forces are discussed in respect to the regional pattern exhibited by map 8, beginning with the areas of low proportion and proceeding to the medium, the high, and finally the indeterminate groups.

The principal area in which agricultural laborers comprise but a small share of the rural population blankets most of North Central and Northwest India covering the entirety of the states of Uttar Pradesh,

Delhi, Punjab, P.E.P.S.U. and Himachal Pradesh, the great majority of Rajasthan, and the Northern Plains portion of Madhya Bharat. A second much smaller area is that of Assam, Manipur and Tripura, to which we can consider Sikkim an outlier. No other parts of India fall in this category. In neither of the two areas named, however, are the reasons for the low proportion of agricultural laborers uniform from one census division to the next.[17]

In the isolated mountainous tribal areas of both the Northeast and the Northwest a pattern of slash-and-burn cultivation or small independent sedentary farming prevails and there is but little demand for work as agricultural labor. Tenancy, as we have seen, is also rather rare.

In Rajasthan, by contrast, tenancy is so much the rule on the holdings of the wealthier landowners that there is relatively little scope for the employment of agricultural laborers.

Uttar Pradesh presents still a third situation. Traditionally this was an area of very high tenancy under the *zamindari* system of land revenue collection. (The *zamindars* were tax collectors on large estates covering most of the province. These lands they treated as their personal property, even though they were officially but intermediaries between the cultivators and the government.) Hence, as in Rajasthan, there used to be relatively little scope for wage labor. Between 1947 and 1951, however, the state of Uttar Pradesh abolished the *zamindari* system and the tenants of old, all of whom possessed heritable tenures, were thenceforward considered as *de facto* landowners. In time, no doubt, many families will lose their land due to debt or will be forced, due to land sub-division, to seek to augment the earnings from their own holdings by work on the lands of others. But as of 1951 these processes do not appear to have had much effect. The increase in irrigation facilities in much of Uttar Pradesh, and especially in the West, has, in modern times, also greatly retarded the growing pressure on the land.

Punjab, P.E.P.S.U., and the Plains of Assam also appear to be areas in which particularly favourable man-land ratios and/or irrigation facilities have retarded the tendency toward a dependence of cultivators on the performing of outside wage labor. At the same time they are areas in which the *demand* for seasonal labor, at harvest and planting times, is apt to be great on the part of the larger proprietors, who otherwise depend largely on their tenants' labor. That labor is scarce in these two areas is evidenced by the unusually high wage rates for agricultural labor which prevail there.[18]

The principal territorial block with a medium proportion of agricultural laborers includes Saurashtra and Kutch, almost all of Bombay State and Madhya Bharat, and a small part of southern Rajasthan. Vindhya Pradesh, separated from this area by a narrow southerly projection of Uttar Pradesh, may also be considered with it. A second, much smaller area comprises the West Bengal Plain and Coastal Orissa.

All the interior divisions, except one, have two characteristics in common, one militating against a very low proportion of agricultural laborers and the other against a very high proportion. The former is a moderate development of cash cropping, particularly of cotton; the latter a relatively

[17] Significantly, there is a very high degree of correspondence between the areas with a low proportion of agricultural laborers and areas with a high proportion of self-supporting males as indicated by map 3y TLis tends to lend support to the reality of the Census enumeration of the latter, without, of course, accou ng for the numerous exceptional cases which have been cited in this study. Both distributions could be larg explained in terms of low effective agricultural population pressure. Conversely, the areas in which there a low proportion of self-supporting males in agriculture are almost invariably in divisions with high prop tion of agricultural laborers.

[18] M. L. Dantwala, "Regional Variation in Agricultural Employment and Wages," in *Rationale of Regional Variations in Agrarian Structure of India*, pp. 98-103, especially Table II, p. 102, in which the three states named are shown to occupy the three highest ranks in India with respect to wage levels.

low pressure of population on the land. The case of Vindhya Pradesh, an area of largely subsistence economy, is a partial exception to the above generalizations.

The remaining coastal regions named, except for Coastal Orissa, are areas of moderately high tenancy (quite high in the case of Konkan), a fact which, as in the extreme case of Rajasthan, tends to preclude the development of a large force of agricultural wage earners. Two of the regions only, Saurashtra and Kutch, are areas in which rural population densities are relatively low; but both regions are highly commercialized and prosperous and can effectively demand such potential agricultural labor as exists therein. The remaining areas, by contrast, especially the West Bengal Plain, have dense agricultural populations, such that the "push factor", making for higher proportions of agricultural labor, ought to be rather high. That it is not higher than it is in the case of West Bengal, and probably also the Konkan, is presumably due largely to the emigration of males to nearby Calcutta and Bombay respectively in search of urban employment rather than agricultural labor.

Just as a low proportion of agricultural labor appears, as has been seen, to be a general characteristic of the North of India, a high proportion appears to be generally representative of the South and most of the peninsular interior. But once again there is no single reason which will explain the proportions for all the Census divisions so classified. These divisions include the entirety of the states of Travancore-Cochin, Madras, and Hyderabad, the southern part of the Bombay Deccan, and two divisions of Madhya Pradesh, the Southwestern and the Eastern, all in a single contiguous block; a separate block comprising the North and the South Bihar Plain; and the small state of Bhopal.

With but a single exception, the peculiar case of Western Madras (as constituted in 1951), all these divisions are of average or low tenancy rates; hence, land-holders of means, not wishing to work their own lands, must employ agricultural labor. Generally speaking, the densities of population per square mile of cultivated land are quite high, in excess of 750 throughout the plains of Bihar and the cited coastal divisions and even in a number of districts of those divisions of the sub-humid parts of the peninsular interior.[19]

A third, general condition making for a high proportion of agricultural laborers is that almost all of the divisions in question are areas in which there is relatively little or no constraint felt in allowing women to engage in field labor for others for wages. Relative to the total number of agricultural laborers, women probably form a much greater proportion in the South than they do in the North, especially in Uttar Pradesh and Punjab.

Apart from these general considerations, a few somewhat more local peculiarities warrant our attention. In the rice-growing areas, *i.e.*, the coastal divisions, Bihar, and Eastern Madhya Pradesh, there is a considerable demand for seasonal agricultural labor, especially at the time of transplanting, which work is largely done by women. Except for Southern Madras, and, to a lesser extent, South Hyderabad, most of the area is relatively remote from large urban centres which might drain off a part of the excess agricultural labor. Similarly, in the Deccan Lava areas of Southwest Madyha Pradesh (Berar) and North Hyderabad (Marathwada), and outlying Bhopal, especially the former, there is a high seasonal demand for labor in the cotton fields. Berar, the chief center of Indian cotton production, is also, not surprisingly, the area with by far the highest rates of agricultural labor in the whole of India, whether those rates be determined by the Census or by the A.L.E.

[19] G. S. Gosal, *op. cit.*, plate 2.

We turn, finally, to the half-dozen "indeterminate" divisions which did not fit into any of the three groups established for map 8. In two of these, Himalayan West Bengal and Ajmer, the size of the A.L.E. sample was probably too small to yield reliable results. On the basis of the Census figures only, Himalayan West Bengal would appear to be a part of the adjoining Northeast Indian region with a low proportion of agricultural laborers. But Ajmer has a remarkably higher percentage of agricultural laborers than surrounding Rajasthan. The fact that the feudal *jagirdari* tenure system of the latter area was less prevalent in this former exclave of British India may be the explanation of its singularity.

The two neighbouring indeterminate divisions of Chota Nagpur and Inland Orissa, in Eastern India, contain the largest block of tribal people in all of India; but, unlike the tribal peoples of the mountain areas, these indigenes frequently do not enjoy so high a degree of isolation from the main stream of Indian life. While they usually have their tribal territories and individual family plots of cultivable land (fixed or shifting), they also commonly work, on a more or less protracted basis, in the Hindu villages locally interspersed among them or in the predominantly Hindu areas on their periphery. As the various phases of the agricultural season come earlier in the Hindu areas of Bengal and Orissa to the east of the main tribal regions, they can and do work in both their own home fields and considerable distances away as laborers in the fields of others. This may account for much of the great discrepancy between the low Census and the high A.L.E. figures. The Census was conducted in the agricultural slack season of late February when most tribal people could be expected to be found in their home region and when, interviewed on their own lands, they would almost surely report themselves as owner-cultivators (agricultural class I).[20] The A.L.E. by contrast, was conducted over a protracted period by specially trained workers who would be less likely to accept at face value such a simple report as to tenure status, and would thus probably come closer to ascertaining the correct proportions of agricultural laborers.

The Northeast Madhya Pradesh division also has a fairly large tribal population, though far from a majority; but unlike the areas just discussed, we find that here the proportion of agricultural laborers given by the A.L.E. is well below that of the Census. Except for the case of tiny Ajmer, which we may discount, in no other division was the A.L.E. figure so much lower than that of the Census. (Almost always, of course, it is higher.) The author has no satisfactory explanation for the difference, except the surmise that the statistically improbable actually occurred, and that the A.L.E. sample of fifteen villages in this area yielded an unreliable result. If that were known to be the case, relying on the Census figure, we would have to classify the division with the high group.

The final indeterminate division is the state of Mysore. Comparing the Census and the A.L.E. figures for this area with those of all the surrounding areas it appears that the A.L.E. figure is more or less "in phase", as it were, and the Census figure is anomalous. The number of sample villages in the A.L.E. was twenty, which is above average. Thus, whatever the reason may have been, one may conclude that the Census figure is probably a gross under-enumeration and incline toward the belief that Mysore should be classified, along with its principal neighbourers as an area with a high proportion of agricultural laborers.

[20] *Census of India*, 1951, Vol. I, Part I-A, p. vi.

4. Owner-cultivators.— Cultivators of land mainly owned." (agricultural class 1), constitute, according to the Census, 45·2% of all self-supporting male laborers and almost exactly two thirds of all agriculturists. It is, however, by now apparent that these figures represent the results of considerable over-enumeration. Still, it is probable that this class of agriculturists does represent a majority of the total; and it is almost certain that it constitutes a plurality. Nevertheless, it is not necessary to consider the regional variations in this group in detail. Since the two other large agricultural classes, tenants and agricultural laborers, have already been discussed at considerable length, one can usually infer the general range of the proportions of owner-cultivators in the several regions of India by subtraction.

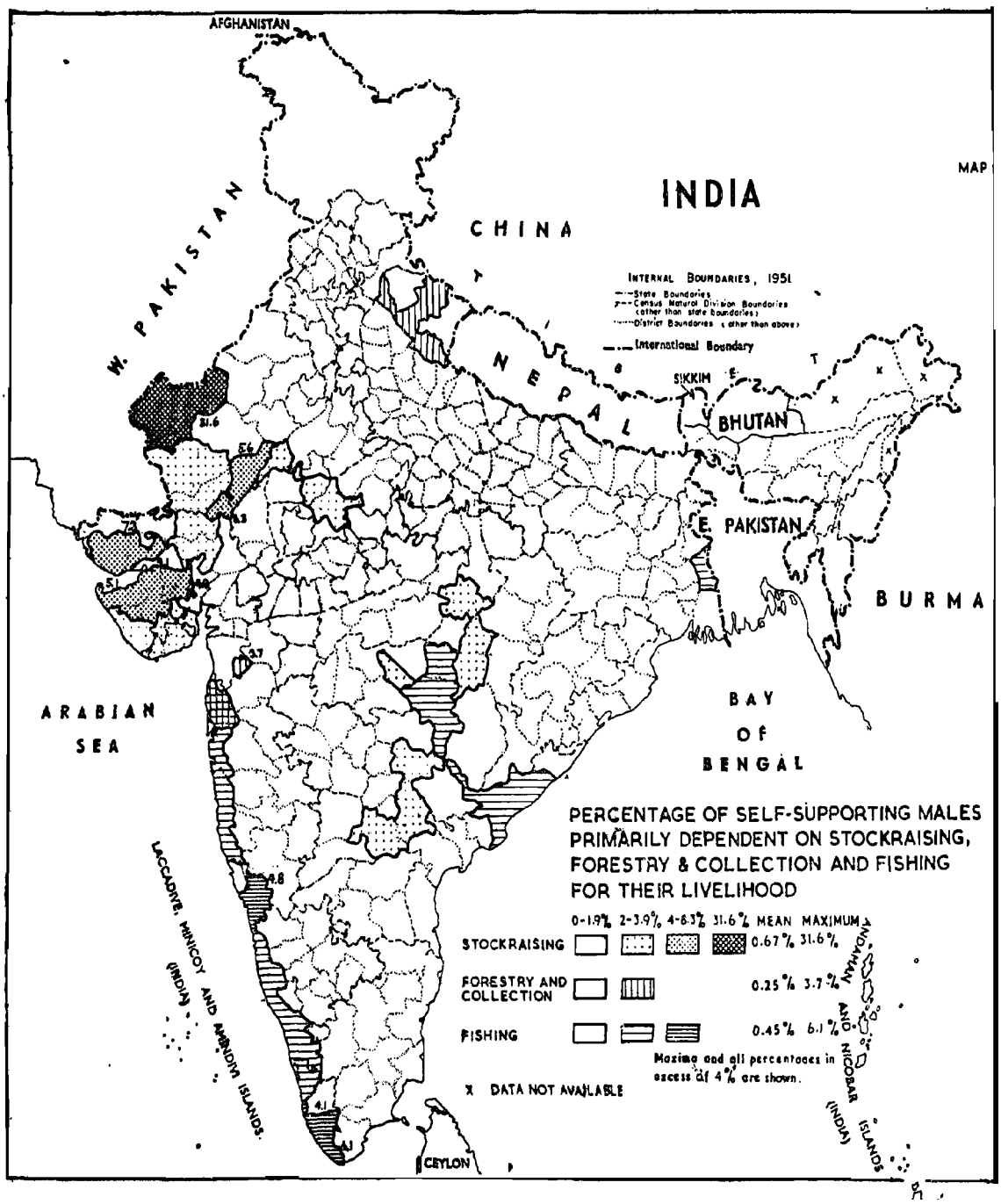
Broadly speaking, the frontier tribal areas would appear to have the highest shares of cultivating land-owners. The tribal areas of Bihar and Orissa would probably rate quite high by some criteria of enumeration, and reasonably low by others. Uttar Pradesh, especially the West of that state, would rate highest in Hindu India. Much of Rajasthan, especially the Desert area, the entire West Coast from the Konkan southward, and Berar in the Deccan would rate lowest. The remaining areas with high proportions of agricultural laborers and the West Bengal Plain, with a moderately high proportion of both agricultural laborers and tenants, would also rank fairly low. And the rest of India would probably rank close to the Indian mean, with more areas on the high side of it than on the low.

Occupational Sub-divisions within the Non-Agricultural Population

In discussing in this section the non-agricultural population an attempt will be made to work within a sectoral framework more relevant to the economy of India than is the customary primary-secondary-tertiary breakdown commonly used in international comparisons. The sectors which are recognized as being most significant are as follows: (1) The non-corporate primary occupations other than those officially classified as agricultural, most notably stock-raising, forestry, and fishing (which, were it not for the particular way in which the Census was tabulated, would have been included in the preceding section of this chapter); (2) the traditional artisan and serving occupations; (3) occupations within corporately organized goods-producing industries: *i e.*, mining, the plantation industry, and manufacturing; (4) commerce and transport and communications, that is, those occupations which "lubricate" the economy by facilitating the flow of goods and services therein; and (5) occupations associated with the government.

1. The Non-Corporate Primary Occupations.—Map 9 indicates the distribution of stock-raising, forestry and collection and fishing as principal occupations in India. The mean percentage of self-supporting males primarily engaged in each of these three occupations is remarkably small: 0·67%, 0·25%, and 0·45% respectively; and areas in which there is any noticeable concentration of such workers are relatively few and small in size. This, of course, ignores the considerable extent to which these occupations are pursued on a subsidiary basis, and by women and children. In the cases of stock-raising and collection in particular their contribution to the total amounts of these types of labor is quite significant.

(a) Stock-raising.—The only large area of India in which there is any apparent concentration of workers in stock-raising is the sub-humid to arid region of the Northwest including Saurashtra, Kutch, Ajmer and much of southern Rajasthan. Six districts of the interior of peninsular India also have from 2% to 4% employment in this occupation, but


MAP
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY DEPENDENT ON STOCKRAISING, FORESTRY & COLLECTION AND FISHING FOR THEIR LIVELIHOOD
0-1.9% 2-3.9% 4-6.3% 31.6% MEAN MAXIMUM
STOCKRAISING 0.67% 31.6%
FORESTRY AND COLLECTION 0.25% 3.7%
FISHING 0.45% 6.1%
Maxima and all percentages in excess of 4% are shown.
X DATA NOT AVAILABLE

they are hardly insignificant. What is most puzzling in looking at map 9, is the distribution of stock-raising in the desert area of Rajasthan. In Jaisalmer District 31:6% of the population is enumerated as deriving its livelihood from stock raising. (The next highest percentage is but 8·3% in Sirohi). Yet the neighbouring districts of Bikaner to the northeast, Jodhpur to the east, and Barmer to the south are said to have but 0·3%, 0·5% and 2·3% in stock-raising respectively. Can one really believe that Bikaner which is no less of a desert area than Jaisalmer has relatively, less than one hundredth as much primarily pastoral employment? Almost surely not. A reasonable supposition is that in much of Rajasthan, and, for all we know, in other parts of the country as well, there was a tendency on the part of enumerators to classify pastoralists as cultivators. Probably the bias was even greater where the pastoralists had a claim to land either as owners or tenants. Of course many pastoralists do engage in a bit of seasonal cultivation; but it is dubious, in the case of Rajasthan, whether that bit is sufficient to warrant their being placed in the Census category of agriculturists. One may, therefore, conclude that the Census data relating to stock-raising must be used with the greatest caution.

(b) Forestry and Collection.—These occupations, particularly the latter, are carried on, on a non-commercial basis, all over India and especially in tribal areas, to gather fuel, fodder, medicinal herbs, and foodstuffs—sometimes even staples, such as the *mahua* fruit, in Chota Nagpur —for the household. Collection is thus an adjunct of small-scale primary production which is of some significance. But even as a commercial activity, as in the case of collecting lac, it commonly tends to be conducted on a subsidiary basis. In only five districts of India does the Census indicate that more than 2% of all self-supporting males are primarily employed in forestry and collection, the tribal district of Dangs, with 3·7% having the highest relative share. Of the four remaining districts, three are in well-forested Himalayan Uttar Pradesh, easily connected by river to the adjacent Gangetic Plain, and the fourth, Thana District, reaches to the crest of the also well-wooded Western Ghats in the immediate hinterland of Bombay. All these situations are ideal for logging operations, to which activity the locally relatively high percentages may be attributed. To what degree this is carried on, on a small-scale basis, rather than through the agency of organized capitalistic (or government) enterprise the author is unable to say. If primarily the latter, it might have been better to have treated forestry along with plantation industries in sub-section 3.

(c) Fishing.—As an important activity fishing is confined primarily to the West Coast of India from Thana all the way south to Cape Comorin. (The apparent break on the map is formerly Portuguese Goa). In three districts it engages over 4% of the population the highest proportion, 6·1%, being found in southernmost Trivandrum. By contrast, only two East Coast districts, both in Northern Madras (now Andhra) register over 2%. Also exceeding 2% are two districts of East Madhya Pradesh (which appear to be dubious cases) and Nadia District of West Bengal where river and pond fishing are of some importance.

2. The Traditional Artisan and Serving Occupations.—Readers familiar with the Hindu *jajmani* system will recall that there are a variety of occupations diffused throughout non-tribal India, which traditionally were carried out for customary payments on the basis of a set of inheritable ties between the serving households (the *kamins*) and the households served (the *jajmans*). This system has long been tending to break down or decline in importance, especially when the pressure on the land became so great that the *jajmans* could no

longer afford to maintain their *kamins*. Those who abandoned their occupations often turned to agricultural or other forms of casual labor. Others who lost all or a part of their customary clientele attempted to carry on their profession on a cash basis, either on a primary or a subsidiary basis. But relatively few traditional household *occupations* died out, no matter how changed the conditions under which they were practiced.

Much as one might like to do so, it is impossible at this stage to map the present quantitative distribution of work carried out within the framework of the *Jajmani* system. And as for the traditional occupations, those of priest, blacksmith, carpenter, potter, oil-presser, barber, washerman, sweeper and leatherworker, to name some of the most important ones, one can only get an approximate idea of their distribution by the use of the 1951 Census. The simplest map to construct, affording such an approximate idea, is one showing all non-agriculturalists as a proportion of the total rural population. This distribution is presented on map 10, copied, with slight modifications, from a published map by G. S. Gosal.[21]

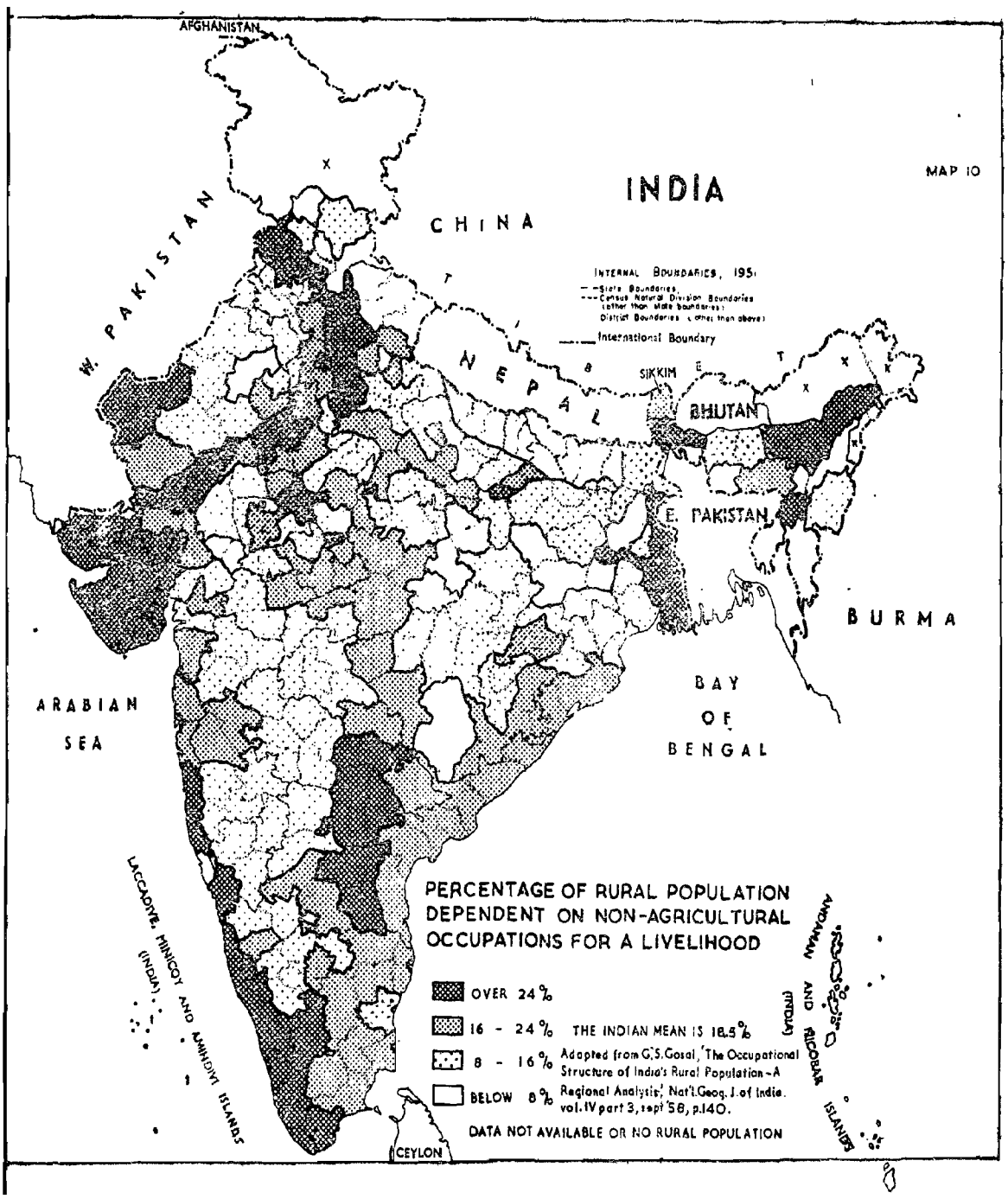
The reason it was decided initially to deal only with the rural population (which is, in any event, over five-sixth of the total) is that in the urban areas the traditional household occupations are lumped together with all sorts of other, generally more organized, types of work within particular census occupational categories to a much greater degree than is the case in the Indian countryside. While certain rural areas where an unusually high degree of non-traditional, non-agricultural work is carried on (*e.g.*, plantation areas) limit the value of map 10, for the present purpose, those areas are generally well known and may be mentally compensated for. Less easy to account for quantitatively is the amount by which work in cottage and small-scale industries (which are *not* here counted as traditional occupations) and commuting to jobs in urban areas swells the proportion of rural non-agriculturists. Thus, map 10 must be used with considerable discretion. Accordingly, the discussion of the regional variations of map 10 will be supplemented by consideration of several other maps which are also somewhat indicative of the degree of employment in traditional household artisan and serving occupations.

Approximately nineteen per cent of the population of rural India, according to the Census, derive their livelihood from non-agricultural pursuits. The great majority of India, as shown by map 10, falls in the two class intervals from 8% to 24%; and within this range—indeed, to a fairly large extent over the whole of India—map 10 tends to reflect the pattern of map 7 showing the distribution of non-agriculturists in the total population, (*i.e.*, by subtracting the percentage of agriculturists from 100%). One of the chief differences between the two maps is that the isolated, highly urban districts which stood out on map 7 for their unusually low degree of agricultural employment here stand out much less or not at all. But those *regions* (as opposed to single districts) which stood out on map 7 tend also to stand out here. There appear to be four general situations in which this is the case:

(1) In regions where the general level of rural prosperity tends to make not only for a high degree of urbanization but also for a greater demand to maintain the traditional village services. The West Uttar Pradesh-Punjab and the Saurashtra-Kutch-North Gujarat Regions are examples.

(2) Where urbanization was initially based largely on processing raw materially produced outside the region and the consequent growth of the local market for

[21] G. S. Gosal, "The Occupational Structure of India's Rural Population—a Regional Analysis," *The National Geographical Journal of India*, Vol. IV, Part 3, Sept. 1958, map on p. 140.


MAP 10
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF RURAL POPULATION DEPENDENT ON NON-AGRICULTURAL OCCUPATIONS FOR A LIVELIHOOD
OVER 24%
16 - 24% THE INDIAN MEAN IS 18.5%
8 - 16%
BELOW 8%
Adapted from G.S.Gosal, 'The Occupational Structure of India's Rural Population-A Regional Analysis,' Nat'l.Geog. J. of India. vol. IV part 3, sept '58, p.140.
DATA NOT AVAILABLE OR NO RURAL POPULATION

food-stuffs injected into the countryside a measure of prosperity which would otherwise have been lacking and which in turn helped sustain the traditional rural services. Parts of West Bengal, and southwest India (exclusive of the Malabar Coast and the plantation areas), and to a lesser degree, the hinterland of Bombay seem to be cases in point. Commuting, in the case of West Bengal in particular, may also explain much of the rural non-agricultural employment.

(3) In little urbanized regions, where cottage and small-scale industries are especially well-developed in the rural areas themselves, this alone may suffice to create a high degree of both rural and total non-agricultural employment; and here too the traditional occupations are apt to benefit by such prosperity as those industries create. The Malabar Coast is by far the best example of this situation; but some of the areas named above also have not inconsiderable cottage and small-scale industrial development.

(4) In regions in which a high level of non-agricultural employment is attributable to such primary industries as stock-raising, as in parts of Rajasthan, and plantation industries, in Assam and part of Southwest India, one should probably not expect to find a high degree of traditional occupations. Stock-raising is not very apt to provide a markedly greater degree of local prosperity than would cultivation, and in the areas of plantations the newly implanted, more or less artificial societies have presumably carried over relatively few characteristics of the old village-based order.

There is one rather large region of peninsular India in which the percentage of rural non-agricultural workers is over 24%, namely most of the Telangana area of the South Hyderabad Division (where one district, Karimnagar, is shown to be one-third non-agricultural) and two districts immediately to the south in the Madras Deccan. On the basis of two visits to Telangana, the author is highly sceptical of the correctness of the Census enumeration in this area. There is no apparent reason why it should have the high proportion of rural non-agriculturists attributed to it. This scepticism with respect to Telangana carries over to the figures for the area to the south of which the author has no first-hand knowledge. It seems probable that in these areas a systematic bias was introduced by the common mistaken enumeration of caste professions rather than the professions actually pursued as a main source of livelihood. (This sort of bias, which has already been discussed, is, it should be noted, much more likely to occur in rural than in urban communities, where the concern with caste, at least so far as occupations are concerned, has greatly diminished).

To cite the most extreme evidence in support of this contention it may be noted that whereas North Hyderabad returned about 750 rural male workers under the industrial category "processing and manufacture of beverages," South Hyderabad, with somewhat over twice the population returned over 51,000 such workers, which is 40% of the total for the whole of India[22] It is obvious that many, if not all, of the locally important caste of toddy tappers (who should be properly considered under the category of forestry and collection in those instances when they still follow their caste calling) were classified in the category named in the latter area.

If, as appears to be certain, we are confronted with a flagrant error in the areas just discussed one would probably be safe in assuming that similar, less flagrant, and hence less easily detectable, errors have entered into the statistics for other areas. It is the author's guess, in accordance with this line of reasoning, that the whole

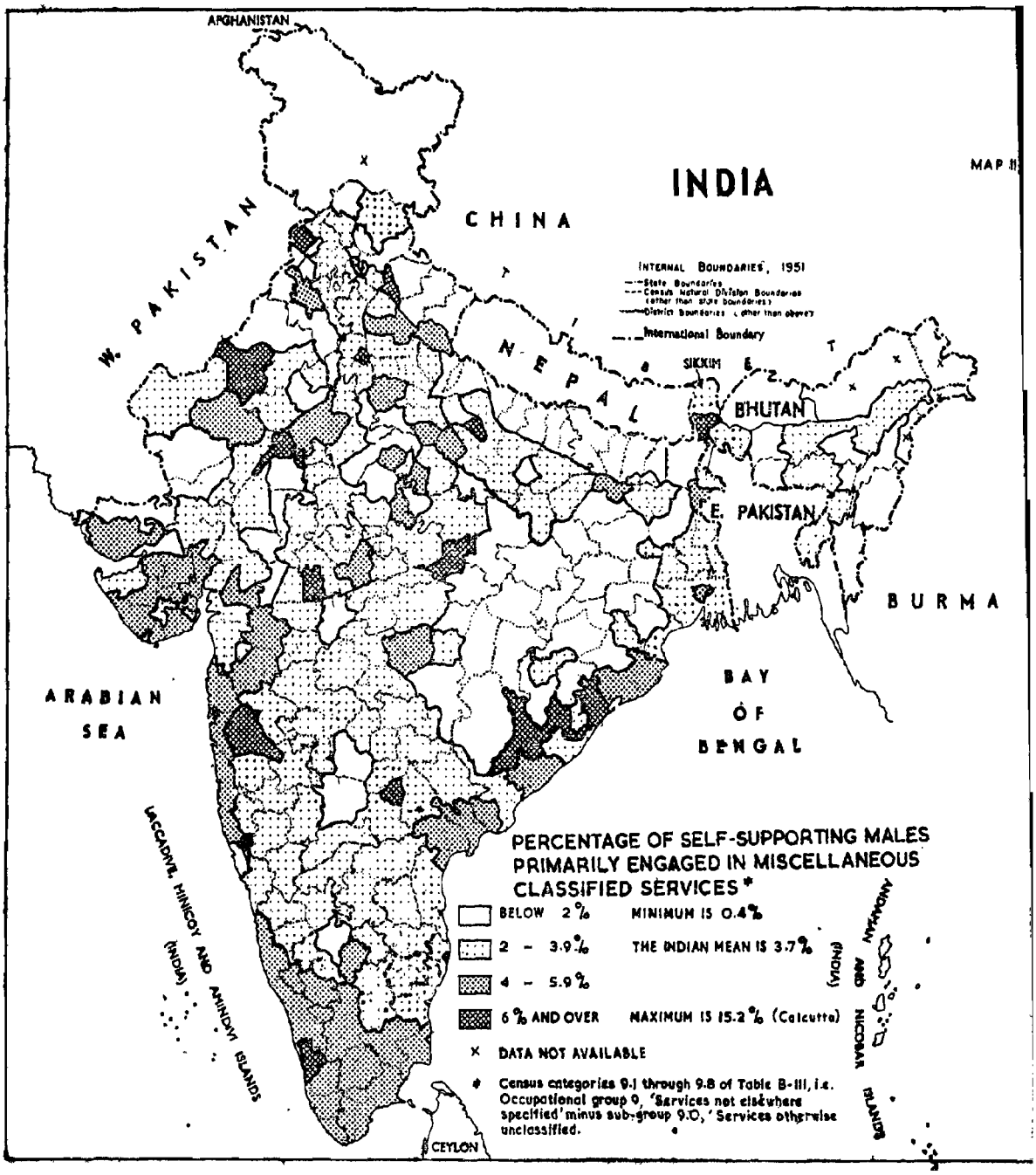
[22] *Census of India*, 1951, Vol. 1, Part II. C., Table B-III, pp. 96-97.

of Telangana, the whole of the Madras Deccan Division, much of Central Madhya Pradesh and much of the Interior Orissa Division are enumerated by the Census as having a greater proportion of rural non-agriculturists than is actually the case; and that, as a consequence, one may make, in these regions in particular, no reliable inferences from map 10 as to the extent of employment in the traditional artisan and serving occupations.

If consideration is limited to the principal traditional service occupations (*i.e.*, excluding artisan activities and commerce), the resulting map (map 11) may be presumed to be much more reliable for several reasons. First, since a much larger proportion of workers in service castes are actually pursuing their caste callings than is the case with artisan castes, biases introduced by the reporting of caste occupation rather than actual occupation will be of lesser magnitude. Second, since most of the work in serving occupations (domestic service, barbering, and the washing of clothes, accounts for two-thirds of the three million people so classified) is menial in nature, while that in artisan occupations usually is not, whatever psychological bias might exist would be against reporting caste occupation when it is not the occupation actually pursued. Third, with the exception of domestic services, the occupations under consideration tend to be rather discrete in the context of Indian life. A final note: Map 11, unlike map 10, takes into consideration the urban as well as the rural population. This is perfectly proper in this case, since the occupations treated are universally and overwhelmingly carried on in India as individual household pursuits rather than on a corporate basis.

If the reader compares map 11 with map 2 showing the regional variations in the level of economic development, he will find a rather high degree of correlation between the two. Areas on map 11 with less than 2% employment in miscellaneous classified services almost always show up on map 2 as being areas of tribal or subsistence peasant economy. At the opposite extreme, areas with over 4% employment in these services almost always show up as areas of advanced commercialization, economic diversification, or large-scale organization. In between, areas in the 2% to 4% range of map 11 are usually shown as areas of incipient commercialization on map 2.

There are, however, several noteworthy exceptions to the above generalizations. First, we note that two districts in Orissa and one in Rajasthan score over 6% on map 11. These are probably attributable to errors in enumeration, the Orissa case being especially hard to credit. Second, we note several fairly large areas of advanced commercialization on map 2 where there is less than 4% employment in miscellaneous services, most notably in the cotton growing areas of the Deccan and the plantation areas of Assam. In the former areas, and certain others of lesser importance commercialization has not gone hand-in-hand with prosperity for a large segment of the population; and the demand for services is, consequently, about as low, as a rule, as in areas of incipient commercialization. In Assam, however, one can explain the low proportion of workers in traditional services as being natural to an area comprising such a large population of immigrant workers. The population brought to the area, largely at the expense of the tea planters, was made up mainly of agricultural labourers and there was no incentive for the plantation owners to pay the way also of barbers and washermen to serve them. Two final areas standing out on map 2, but not especially on map 11, are West Bengal and East Punjab-West Uttar Pradesh. The probable explanation of the latter case is that many workers in the Muslim castes who normally performed the work of barbering and clothes-washing in that region fled at the time of partition to areas in West Pakistan,


AFGHANISTAN
INDIA
MAP II
CHINA
W. PAKISTAN
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN MISCELLANEOUS CLASSIFIED SERVICES*
BELOW 2 %
2 - 3.9 %
4 - 5.9 %
6 % AND OVER
MINIMUM IS 0.4%
THE INDIAN MEAN IS 3.7 %
MAXIMUM IS 15.2 % (Calcutta)
× DATA NOT AVAILABLE
* Census categories 9.1 through 9.8 of Table B-III, i.e. Occupational group 9, 'Services not elsewhere specified' minus sub-group 9.10, 'Services otherwise unclassified.

thus leaving a void which Hindus, owing to the low status of the work in question, were reluctant to fill.

Barring the exceptions noted in the preceding paragraph, it appears that the pattern of map 11 is a rather good guide to the general level of prosperity and economic development in India. If we assume, as seems logical, that the local demand for the traditional services of a personal nature is, in general, proportional to the effective demand for traditional services as a whole (including the work performed by artisans), then we probably can arrive at no better cartographic guide (without a great deal of statistical juggling) to the latter demand than that afforded by the map of the former, i.e., map 11. It would be possible at this point to take up the question of artisan occupations in greater detail; but it will be more convenient to discuss that question in the general context of the distribution of manufacturing activity of all sorts in India.

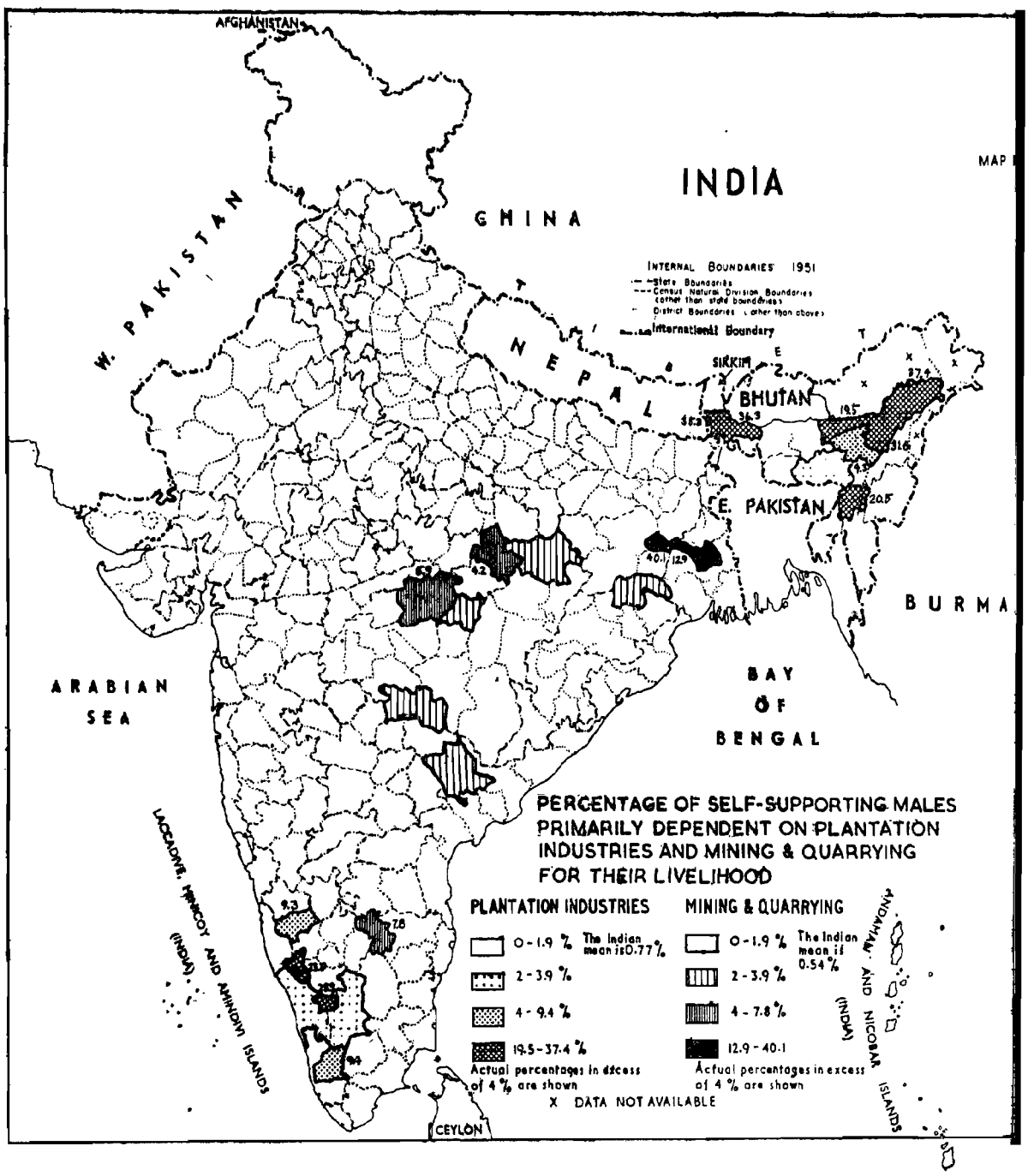
3. Corporately Organized Industries.—The industries with which this section is primarily concerned are those which are capitalistically organized on some sort of corporate basis, rather than on the basis of the small-scale family enterprise, and which produce goods either for a foreign market or domestically in competition with the artisan groups characteristic of the traditional Indian economy. The plantation industry, the mining industry, and factory manufacturing are the principal subheadings of this group.

(a) Plantation Industries.—Plantation workers form a significant portion of all self-supporting males in but two regions of India (map 12): Northeastern India, from Darjeeling east to Lakhimpur and Cachar in Assam (with some interruptions), and the less important Ghats area of Southwest India. In the latter area many small-scale cultivators of plantation crops and spices were probably enumerated as agriculturists, due to the fact, or assumption, that the greater part of their income came from the cultivation of non-plantation crops.

(b) Mining and Quarrying.—These occupations are also of considerable importance in only a few parts of India (map 12). Two coalfields, the Jharia field in Dhanbad, Bihar, and the Raniganj field in Burdwan, West Bengal, account for the great majority of all workers. Most of the remainder are located in a few other districts of the highly mineralized northeast peninsular portion of India. The only other district with a large concentration of mine workers is Kolar, Mysore, in which the famous Kolar Goldfields are located. Two other rather minor concentrations are in the lignite fields of what was Hyderabad.

(c) Factory Manufacturing.—The distribution of employment in manufacturing presents a much more difficult problem. According to the Census 8·1 million self-supporting males are primarily employed in processing and manufacturing of all sorts. This figure, which is probably somewhat of an over-enumeration, due mainly to the confusion of caste occupation with actual occupation, comprises, as has already been stated, both petty artisans and workers in clearly recognizable manufacturing establishments. Among the former are included all sorts of repairmen, who themselves are not engaged in original manufacture, and all hawkers of products which they themselves make, even those who spend much more time in the hawking than in the making. In the previous section it was stated that the proportion of artisans catering to purely local needs of a traditional nature was probably reasonably well reflected by map 11.

Our present concern, however, is with workers in factories and cottage workshops producing goods not solely for the village or immediate neighbourhood (urban or rural) in which they reside, but rather to be sold through middlemen and/or cooperatives to a much broader market.


AFGHANISTAN
INDIA
MAP
CHINA
W. PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY DEPENDENT ON PLANTATION INDUSTRIES AND MINING & QUARRYING FOR THEIR LIVELIHOOD
PLANTATION INDUSTRIES
0 - 1.9 % The Indian mean is 0.77 %
2 - 3.9 %
4 - 9.4 %
19.5 - 37.4 %
Actual percentages in excess of 4 % are shown
MINING & QUARRYING
0 - 1.9 % The Indian mean is 0.54 %
2 - 3.9 %
4 - 7.8 %
12.9 - 40.1
Actual percentages in excess of 4 % are shown
X DATA NOT AVAILABLE

Unfortunately, the author has found no reliable all-India regional data bearing on the quantitative distribution of employment in either small-scale or cottage industries.[23] Even official estimates of total national employment in these two types of establishments appear to be lacking. Only for the so-called large-scale industries, thanks to the annual Census of Manufacturers, initiated in 1949, are there published data on the extent of factory employment. The factories covered are those falling within the purview of the Factory Act of 1948, and which were duly registered under the provisions thereof. Three types of establishments are included: (a) Those utilizing power and employing at least ten workers; (b) Those not utilizing power and employing at least twenty workers: and (c) Any other factories "specially notified by the State Governments provided that the manufacturing process is not being carried on by the owner only with the aid of this family".[24] In all, an average daily employment of about 2,900,000 workers was registered in reporting factories of these three types. Of this number over 90% were in factories of type (a), and less than 2% in factories of type (c).[25]

Adult men accounted for 88 % of the total employment, adult women for 11%, and adolescents and children (if we are to believe the official statistics) but 1·2%[26] Since factory wages are relatively good by Indian standards virtually all men regularly employed in factories could reasonably be considered as self-supporting. The number of such persons would, it should be noted, be appreciably in excess of 88% of 2,900,000, since that figure represents average daily employment which is, of course, below total employment due to the generally high rates of absenteeism and labor turnover. Moreover, casual laborers, hired in considerable numbers by many factories on day-wages, are not entered on the factory rolls and hence are not counted in the official statistics. On the other hand, the volume of employment to which the statistics refer is slightly inflated by the inclusion of clerical and other factory workers not personally involved in the manufacturing processes. These the 1951 Census of India would not, in theory, class as factory workers.

In the author's opinion some figure between 3,000,000 and 3,250,000 would represent the correct number of adult males primarily dependent on "large scale" factory work in India in 1951, as compared to a Census total of 8·1 million self-supporting males dependent on all forms of processing and manufacturing. The number dependent on the traditional artisan occupations pursued as individual family enterprises is probably, according to some very rough calculations which the author has made, between 3,750,000 and 4,000,000.[27] Thus, in all likelihood, the number of self-supporting male-workers in all non-traditional (though not necessarily non-household) cottage and small-scale industries

[23] *The All India Directory of Cottage Industries*, published by the Ministry of Commerce and Industry in 1953, does supply state-wise data on employment in a large number of cottage industries. There are, however, numerous gaps in coverage due to faulty compliance by the several states with instructions for the compilation of the desired information issued by the Central Government. There appears, moreover, to be no standardization as to just what is to be included under the term "cottage industry" as opposed to small-scale manufacture on one hand and household enterprise on the other.

[24] Manager of Publications, *Statistics of Factories*, 1951, pp. 25, 26 and 29. Several generally minor regional biases are introduced into the official factory statistics due in part to the regional variations in the degree of non-reporting, especially among type (c) factories and in part to the variations in state rulings as to what constitutes a factory under the heading of type (c) (p. 2).

[25] *Ibid.*

[26] *Ibid.*, p. 5.

[27] In these calculations traditional industries were taken to be limited to those presumably producing almost exclusively for a local market, i.e., within the direct reach of the artisan producer. Handloom weaving for sale to non-local markets, for example, was considered as a cottage industry rather than a traditional industry. The distinction is admittedly arbitrary. Too many assumptions entered the calculations to warrant their detailed explication.

combined would be only a bit more than one million. Unfortunately, it is not possible at present to map the distribution of such workers.

Map 19, which will be discussed in the subsequent section of this chapter, shows the distribution of employment in all components of the secondary sector combined. Map 13, to be discussed below, deals exclusively with factory workers as enumerated by the 1951 Census of Manufactures. In commenting on map 13, some parenthetical references will also be made with regard to the distribution of cottage and small-scale industry where they are known to be particularly important.

In constructing map 13 use was made of the district-data assembled in the *Basic Statistical Analysis of India*. This work reorganizes that of the volume *Large Manufacturing Establishments in India* in which the original data are arranged according to a very detailed industrial rather than a district breakdown. In both works employment data are for all non-casual workers, regardless of sex and age, and for seasonal as well as perennial factories. But, in the district data of the former, industries in which the total number of workers was less than fifty were omitted. Thus, district totals, in many instances, are slight underenumerations on this account as well as on account of non-registration of factories.[28]

Although there have already appeared several maps of the distribution of factory manufacturing in India on the basis of district data, map 13, to the best of the author's knowledge, is the first attempt to show the proportion of workers in relation to the district population.[29] It may, however, be somewhat misleading in those places where commuting across district lines is at all significant, since workers are counted at the place of work rather than at the place of residence. Thus, the difference between 7·2 factory workers per thousand population in Calcutta as against 118 in Bombay is partly explained by net commuting out of the former district (which is coincident with the city proper) to the factories roundabout in the district of Howrah, Hooghly and 24-Parganas, whereas, in the case of the Bombay area, the factories lie almost entirely *within* the city and the net commuting is inward.

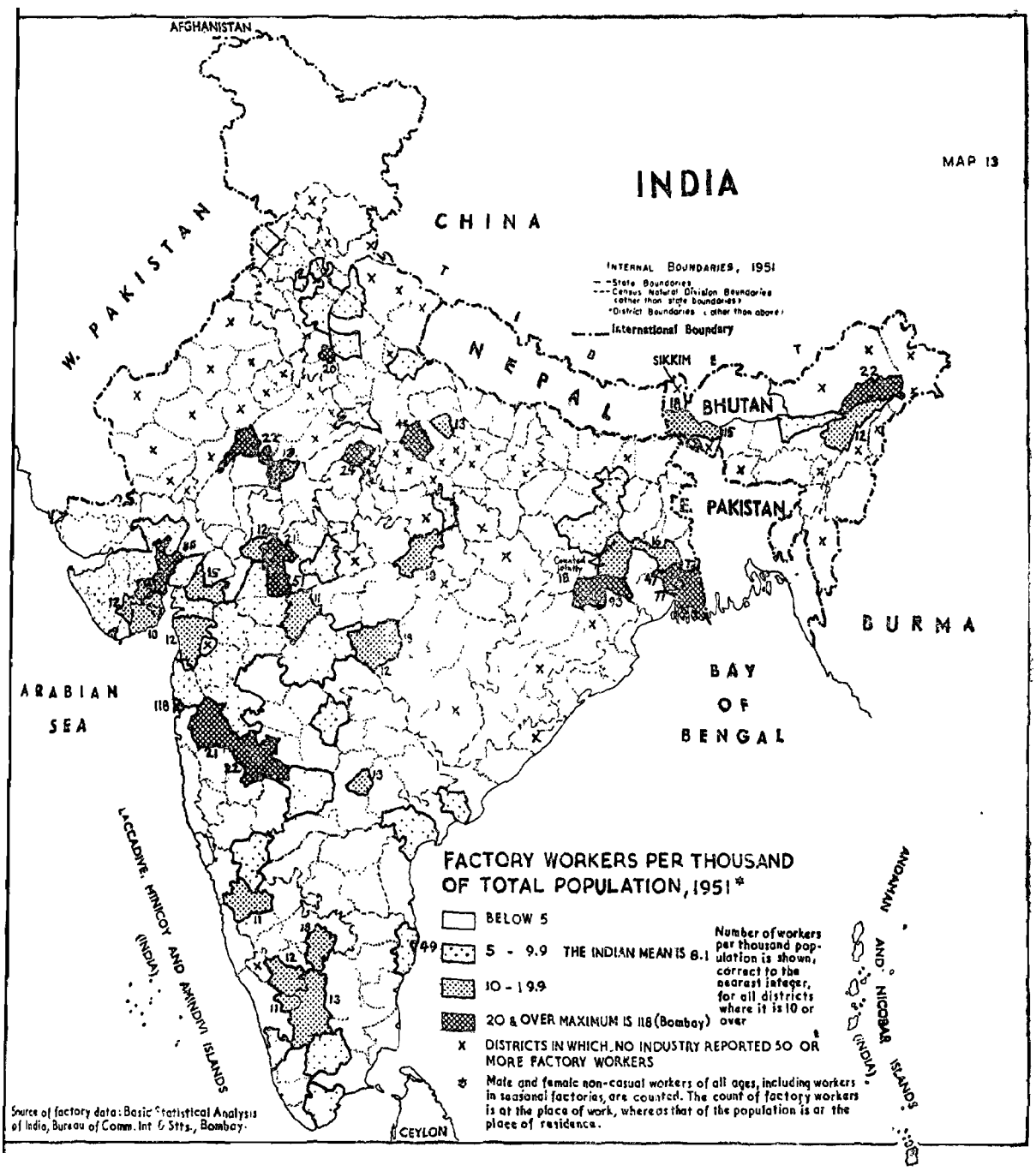
It will be noted from map 13 that there are no broad industrial regions in India or even very clearly restricted industrial belts.[30] Instead factory manufacture is

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[28]. The author cannot vouch for the accuracy with which the data of the *Basic Statistical Analysis of India* were compiled. The steel mill at Bhadravati, Mysore, for example, with nearly 5,000 workers, was found to be enumerated both under Shimoga District, where it belonged, and Mysore District, where it did not. Probably, however, few other, if any, mistakes of comparable magnitude were made.

[29]. G. T. Trewartha and J. L. Verber, "Regionalism in Factory Industry in India-Pakistan," *Economic Geography*, 1951, pp. 283—286; map on p. 284. P. P. Karan, "The Areal Distribution of Manufacturing in India," *Journal of Geography*, 1958, pp. 294—300, map on p. 296. R. C. Kingsbury, "India's Industrial Growth" *Focus*, Vol. VI, No. 9, May, 1956, map on p. 3. Mr. Kingsbury makes no mention of how his map (drawn by Vincent Kotscher) "Percentage of Total Population in Manufacturing", was compiled. Presumably district data were used; but just how is not certain. To this author, his results appear to be little more than a rather wildflight of fancy. The inaccuracies are too numerous to mention; but quite commonly, the number of workers indicated in manufacturing appear to have been swollen to several times the correct amounts.

[30]. Trewartha and Verber, though stating in their article that "India-Pakistan has no industrial belt or belts as exist in some highly industrialized countries", discern, nevertheless, "a recognizable pattern in the distribution of factory industry" and delineate "three general regions in which factory industry is more concentrated than in others". To this author, the "regions" may be recognized only on the map presented, due largely to the weight of the symbolization employed; it is not felt that they have any existence in reality. The so-called "Northern Region" for example, stretching from the Bay of Bengal to West Punjab, contains numerous districts in which not a single industry employs as many as fifty workers. Karan, working only with districts in which there are at least 1,500 factory workers and employing the graduated circle technique, also has little trouble in recognizing "manufacturing areas", of which he described five, and cites nine others. But he too appears to be the victim of his symbolization, which makes "manufacturing areas" appear where none really exist. The circles (colored solid black) for Calcutta and Bombay are each about 350 miles in diameter, or not quite 100,000 square miles in area.


MAP 13
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
TIBET
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
FACTORY WORKERS PER THOUSAND OF TOTAL POPULATION, 1951*
BELOW 5
5 - 9.9
10 - 19.9
20 & OVER MAXIMUM IS 118 (Bombay)
THE INDIAN MEAN IS 8.1
Number of workers per thousand population is shown, correct to the nearest integer, for all districts where it is 10 or over
X DISTRICTS IN WHICH NO INDUSTRY REPORTED 50 OR MORE FACTORY WORKERS
* Male and female non-casual workers of all ages, including workers in seasonal factories, are counted. The count of factory workers is at the place of work, whereas that of the population is at the place of residence.
Source of factory data: Basic Statistical Analysis of India, Bureau of Comm. Int & Stts., Bombay.

highly concentrated. In only seventeen districts (out of 307 in India) are there twenty or more factory workers per thousand of total population and only nine or ten with over forty.[31] On the other hand, for the vast majority of districts there are not even five factory workers per thousand of total population, while for more than one district in six not a single industry has as many as fifty factory workers.[32]

The fifty-five or so districts in which there are over five workers per thousand of total population are far from randomly distributed. Almost all of them lie in areas of advanced commercialization, economic diversification, or large scale organization (as shown on map 2). Much, if not a clear majority, of the factory work in those districts with between five and twenty workers per thousand population is, in fact, in the primary processing plants, often of a seasonal nature, in those parts of India where there are large available agricultural surpluses, of cotton, sugar and groundnuts in particular. But the surplus wheat and rice areas frequently do not stand out simply because grain is commonly shipped to market in the unmilled state; and much of what milling does take place in such areas is in small-scale or cottage industrial establishments.

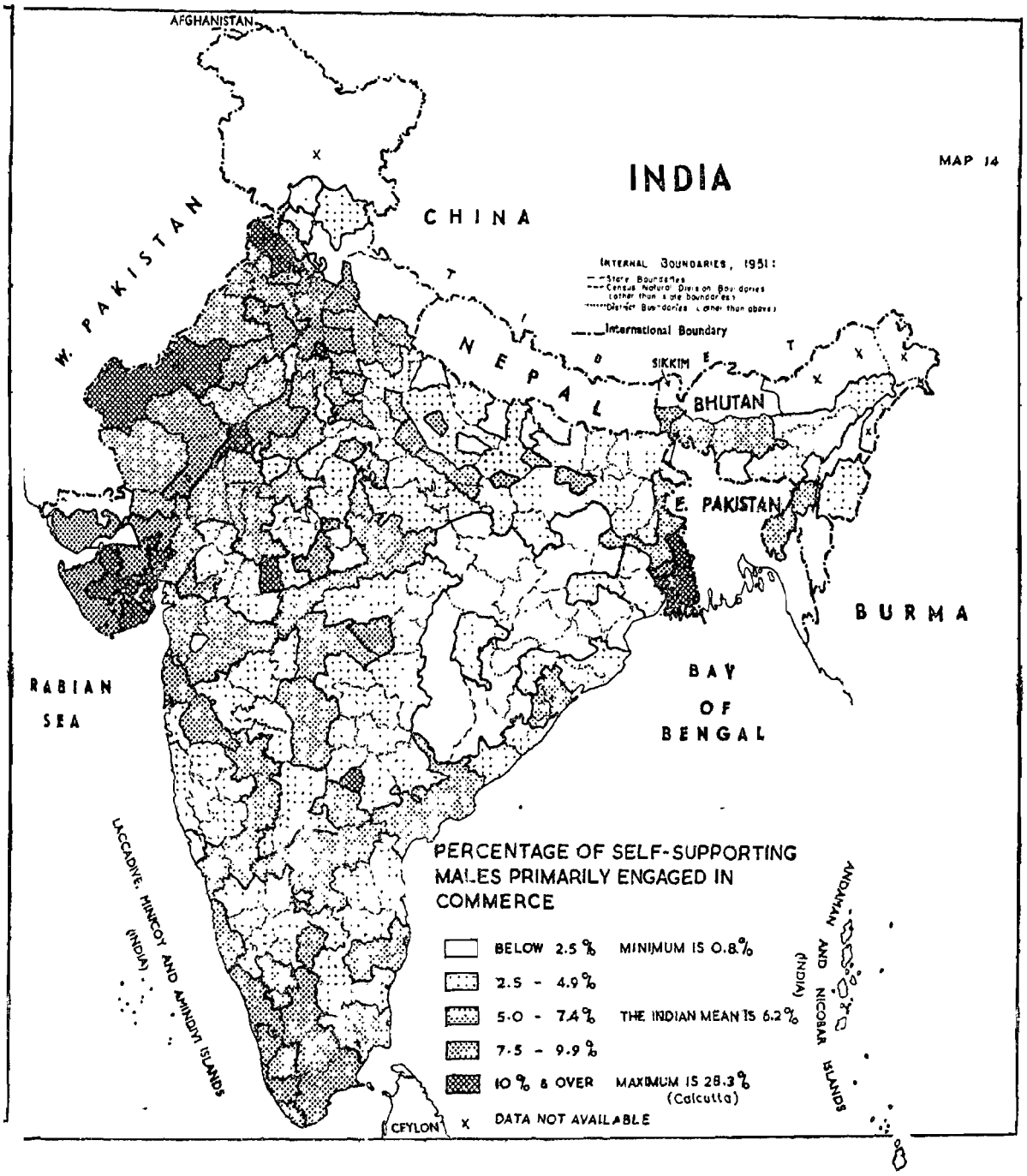
For several areas of India employment in small-scale and cottage industries, if counted in the totals for factory employment, might significantly affect the distributions presented on map 13. Most important of these, no doubt, is the Malabar Coastal area, where the coir industry is of great importance. Punjab and Western Uttar Pradesh would also be figured in for a variety of industries: milling in particular, but also light engineering industries, the fabrication of wood and metal goods, the hosiery and knitwear industry (in Ludhiana and Jullundur Districts, in particular) and a variety of highly specialized manufactures (*e.g.*, sporting goods in Jullundur and Meerut, musical instruments in Meerut, etc.). For handloom weaving, Southern Madras, Telangana, non-tribal, inland Orissa and Western Uttar Pradesh are of some importance; for biri-making East Madhya Pradesh, the entire Malabar Coast and scattered other areas; and for fine, artistic craftsmanship in wood, ivory, and metal, Rajasthan.[33]

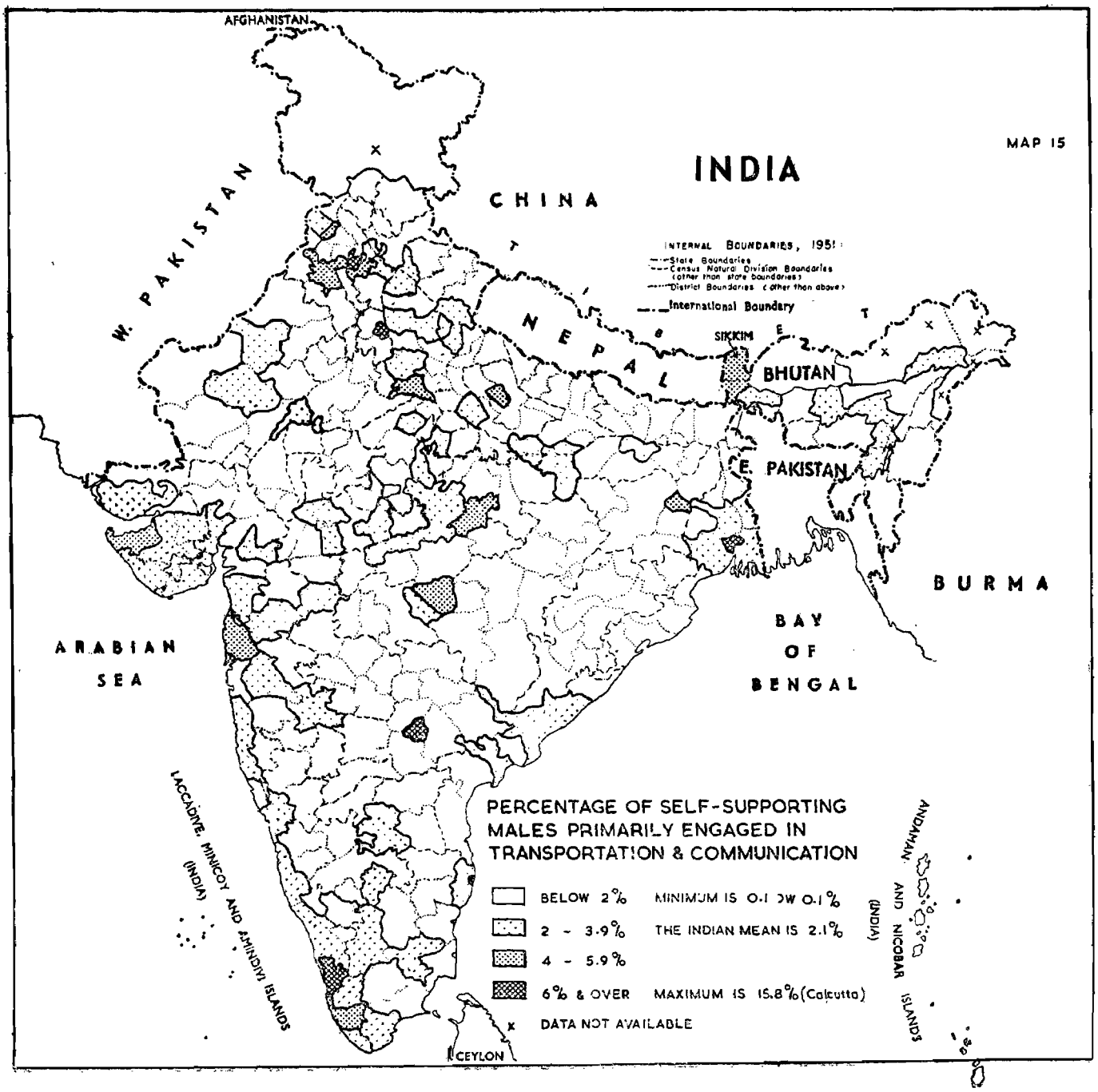
4. Commerce, Transportation and Communication.—Maps 14 and 15 show, respectively, the percentage of self-supporting males in commerce and in transportation and communication. In dealing with these two occupational groups it is impossible to separate the traditional from the more rationalized and more modern types of organization. Village shopkeepers, like department store owners, are willing to sell virtually anything for which there is a local market; whether their profits are derived from locally produced wares, the use of which has been sanctioned for centuries, or from such alien commodities as kerosene or bicycle pumps is immaterial to them. Similarly, the donkey driver is as happy to transport portland cement as sun-baked bricks. Generally speaking, both groups act as lubricants between traditional India and the modern world, accommodating themselves to the demands of each and allowing them to inter-act. Map 14 fairly closely matches one's expectations based on

[31]. Only sixteen districts with over twenty factory workers per thousand population may be counted on map 13. This is because Dhanbad and Purulia Districts were counted together by the *Census of Manufacturers* under the old name, Manbhum. The former of these two districts contains almost all the manufacturing in the two areas combined, and, were it to have been separately enumerated, might even be found to fall in the highest class interval.

[32]. Areas with five factory workers per thousand of total population would probably have, on the average *about* 2% of all self-supporting males in factory work. Forty per thousand could be converted, on the same basis to roughly 16 and so forth.

[33]. These observations are based on the author's own field experience, the data of the *All-India Directory of Cottage Industries*, and partly on T. Hermans, "The Role of Cottage and Small-Scale Industries in Asian Economic Development," in *Economic Development and Cultural Change*, Vol. IV, No. 4, 1956, pp. 356—370.


INDIA
MAP 14
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
BAY OF BENGAL
ARABIAN SEA
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951:
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN COMMERCE
BELOW 2.5 % MINIMUM IS 0.8%
2.5 - 4.9 %
5.0 - 7.4 % THE INDIAN MEAN IS 6.2%
7.5 - 9.9 %
10 % & OVER MAXIMUM IS 28.3% (Calcutta)
X DATA NOT AVAILABLE


MAP 15
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN TRANSPORTATION & COMMUNICATION
BELOW 2%
2 - 3.9%
4 - 5.9%
6% & OVER
MINIMUM IS 0.1 OR 0.1%
THE INDIAN MEAN IS 2.1%
MAXIMUM IS 15.8% (Calcutta)
DATA NOT AVAILABLE
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON

the analysis of previous maps. In general, areas of pronounced prosperity, especially Punjab and Saurashtra, are seen to have over 7·5% employment in commerce, as do numerous isolated highly urbanized districts. Much of the Rajasthan Desert area has an unusually high proportion of people engaged in commerce. This is largely, of course, a function of its small percentage of cultivators; but the distant spacing of settlement in this area probably requires more specialization in commercial activities than in areas of denser population, where the producers of primary and secondary goods may themselves find it convenient to market their produce. The fairly even spacing of major centers of commercial activity in Western Uttar Pradesh and the adjacent plains portion of Madhya Bharat is also noteworthy and suggestive of the theoretical equally-spaced primary service centers of the German economic geographer Christaller.

Generally, the data of map 14 appear to be reasonably reliable. Certain areas in the Deccan with between 5 and 7·4% employment in commerce may, however, represent slight overenumerations, especially the Madras Deccan area, while in a few instances districts shown in this category fall barely within its limits and are not essentially different from the adjoining districts in the lower class interval.

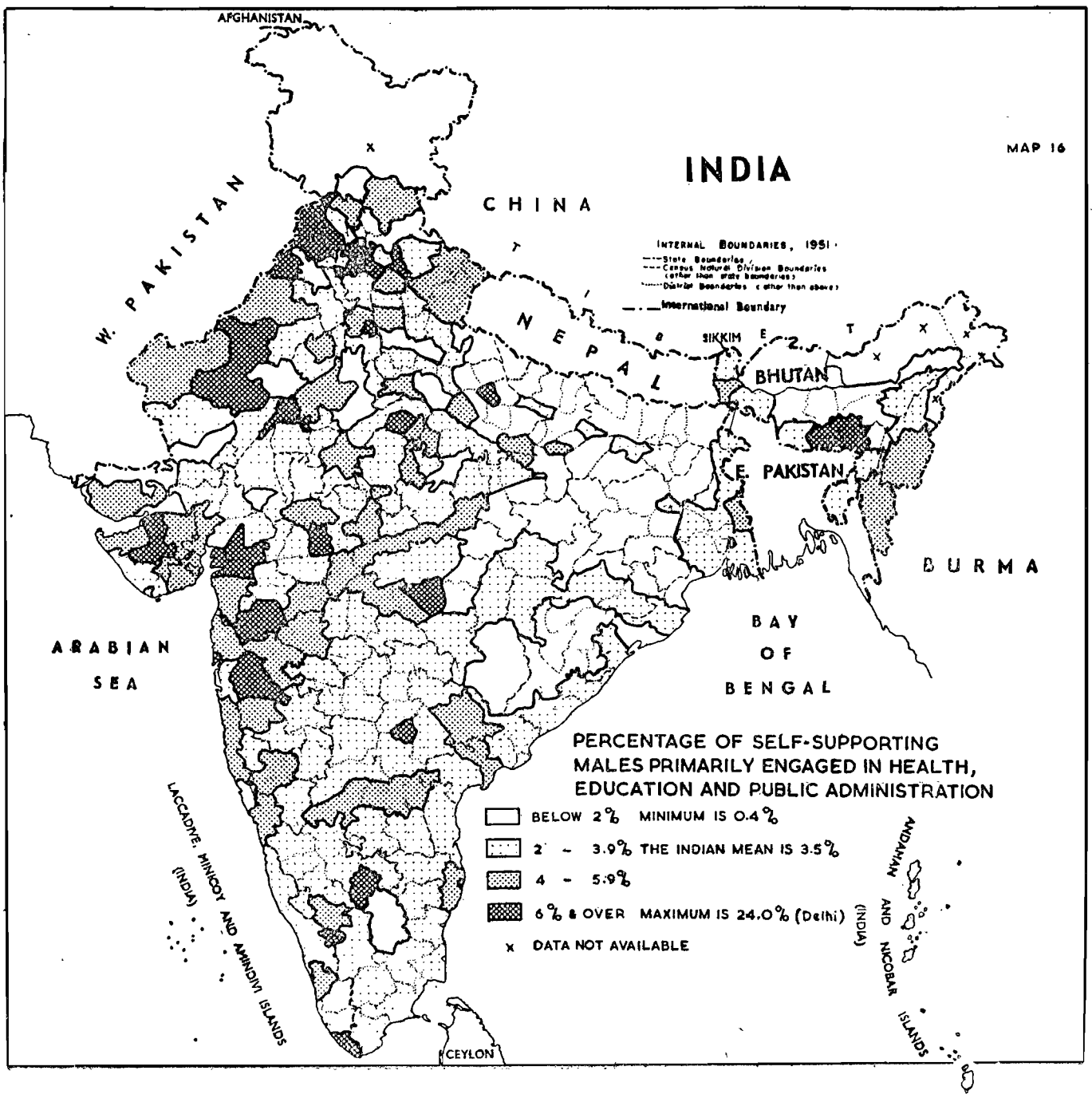
With regard to the population employed in transportation and communication (map 15), few areas stand out as being above the national mean, a fact which betokens a rather high degree of local concentration within this occupational group. A large proportion of the twenty districts with over 4% employment contain important rail junctions or ports. Sikkim stands out, no doubt, because of its large number of mountain porters; in Bikaner and Jodhpur employment in the caravan trade may, similarly, be of some significant. Generally, however, one might expect that many of those indviduals in Rajasthan involved in trading by caravan have been classified (probably correctly) as being primarily engaged in commerce.

In several districts of P.E.P.S.U. the degree of employment in transport work appears inordinately high, *i.e.*, on the order of several times as high as in the surrounding districts of Punjab which ought, if anything, to have slightly more, rather than much less, employment in transport than P.E.P.S.U. The explanation appears again to be mere bias. It will be recalled that, compared to Punjab, P.E.P.S.U. had extremely few workers classified under "services otherwise unclassified." Quite likely many day-laborers, occasionally working in towns as porters in the market, and who would, in Punjab, have been classified under the heading "services otherwise unclassified," of map 6 were, in P.E.P.S.U. erroneously classified as transport workers.

5. Government and Associated Services

Map 16 indicates the percentage of self-supporting males primarily engaged in all forms of public administration (*i.e.*, all government workers not elsewhere classified), education (which is mainly government-supported) and health services (a large part of which, if not a majority, are operated by the government). It provides, therefore, a tolerably good guide to the regional variations in the degree of "welfarism" in the Indian welfare state.

The most striking feature of map 16 in contrast to many of the other maps dealt with in this chapter, is the remarkable tendency for given states, rather than regions straddling state lines, to have homogeneous distributions, especially if one excludes districts containing state capitals and such special cases as hill stations where government offices are apt to be concentrated. This indicates the degree to which government direction, rather than the free play of the market, has regulated the supply of the services under consideration. Generally speaking, the wealthier states have larger employment in


MAP 16
INDIA
AFGHANISTAN
CHINA
W. PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN HEALTH, EDUCATION AND PUBLIC ADMINISTRATION
BELOW 2% MINIMUM IS 0.4%
2 - 3.9% THE INDIAN MEAN IS 3.5%
4 - 5.9%
6% & OVER MAXIMUM IS 24.0% (Delhi)
x DATA NOT AVAILABLE

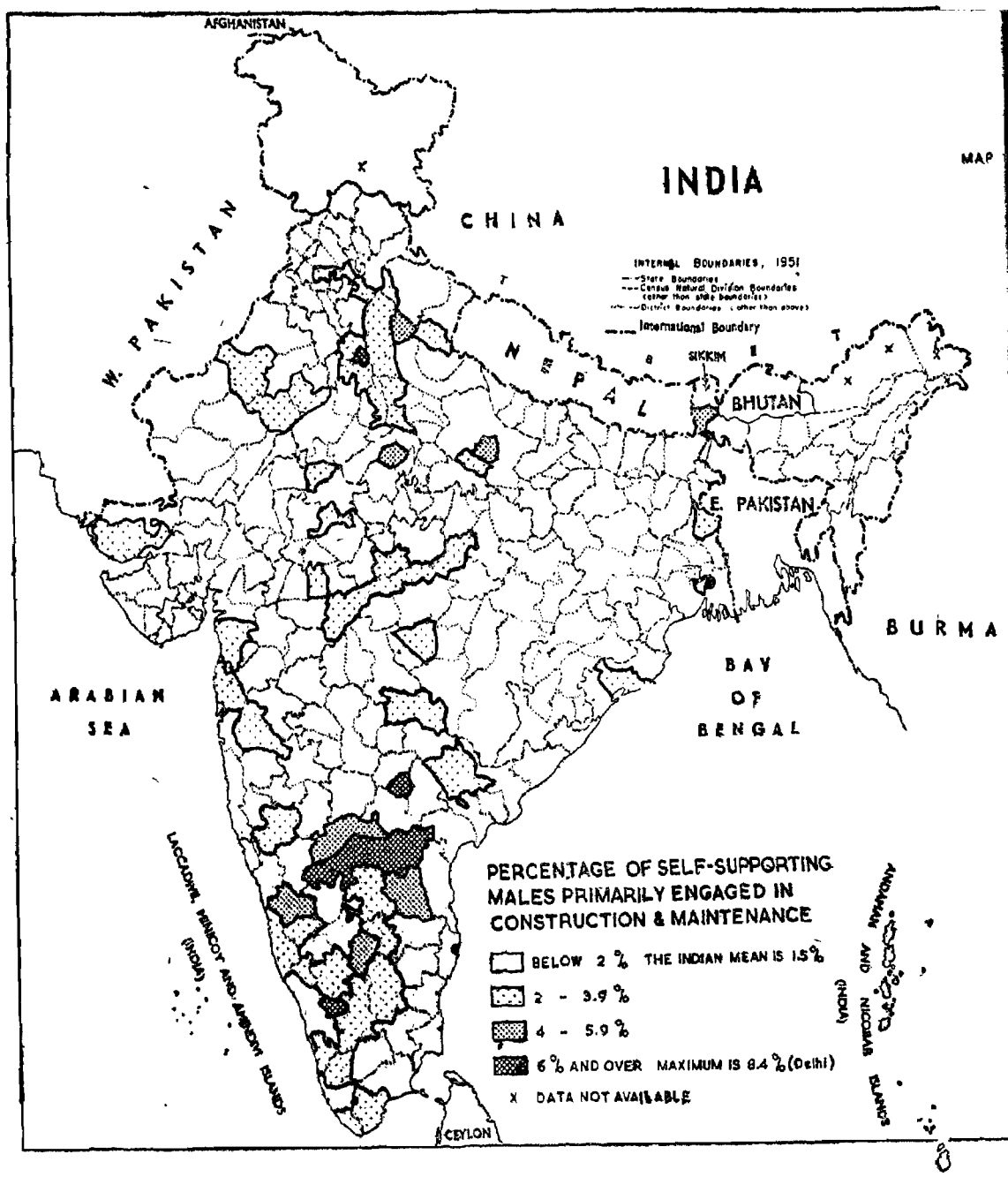
health, education and public administration, even in their poorer districts and the poorer states but little, even, in many instances, in their wealthier districts. Thus, excluding capital and hill station districts, we find 15 out of 17 districts in Bihar with under 2% of such employment, the sole exception, the coal-mining district of Dhanbad, only barely attaining that figure; 11 out of 13 districts of neighbouring West Bengal with between 2% and 4%, with but one district above and one barely below those limits; and 13 out of 15 districts of Hyderabad, 7 out of 8 districts of Mysore, and 19 out of 24 districts of Madras in the same 2% to 4% class interval. Elsewhere, where states appear to be more heterogeneous on the map, it is often simply due to the fact that the general range of values tends to straddle the breaks between class intervals. Thus, excluding the capital district, all of Orissa falls in the range 0·5% to 2·1%, three districts scoring the latter figure.

Northwest India appears on map 16 more heterogeneous, on the whole, than the remainder of the country. In part this probably reflects a real state of affairs, which is contrary to the generalization made above relative to the tendency towards homogeneity within given states. But it must be remembered that prior to 1947 four states of this part of India, namely Rajasthan, Madhya Bharat, P.E.P.S.U. and Saurashtra comprised congeries of petty states, each with its own system of government and welfare services and that little unification of services could be attained in the three-and-a-half years between the attainment of independence and the taking of the 1951 Census. In addition to the real variations within Northwest India there is some variation which is only apparent, due to the numerous enclaves, and territorial inter-digitations which characterize the political map of this general area. There is, finally, a certain amount of departure from the relatively homogenous state patterns which would appear to be due to biases in enumeration. As such cases are not very important they need not be individually discussed.

In addition to the administrative and welfare services, there is one other occupational category in which the government's role is normally very important, namely the general field of construction and maintenance, employment in which is indicated by map 17. The distribution revealed by this map is rather erratic. This is not difficult to explain. First, much of the employment in construction work in India is of a mass nature, being afforded by the large scale development projects, especially multi-purpose projects of the various Five-Year Plans. Thus, in the districts on either side of the Hyderabad-Madras border work on the giant masonry dam across the Tungabhadra River and on the irrigation works dependent thereon provided work for tens of thousands of laborers when the 1951 Census was being taken.[84] Were the Census to be taken anew today the same area would probably not have a significantly high proportion of construction workers? Second, in certain highly developed areas which one would expect to show up as having more than 2% employment in construction, it is fair to assume that much of such employment was enumerated under the Census category "services otherwise unclassified." This explanation would go far to explain the generally low percentages of Malabar District, Saurashtra, and Punjab. It would thus appear that since construction work is among the most temporary, least discrete, and hence most difficult to classify properly of any to be found in India, one can put but little faith in map 17 and can attach but little significance to the regional pattern therein.

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[84]. Twenty-thousand laborers were simultaneously employed on the masonry work of the dam alone according to H.C. Hart (*New India's Rivers* p. 102).


AFGHANISTAN
INDIA
MAP
CHINA
W. PAKISTAN
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
BAY OF BENGAL
ARABIAN SEA
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON
PERCENTAGE OF SELF-SUPPORTING MALES PRIMARILY ENGAGED IN CONSTRUCTION & MAINTENANCE
BELOW 2 % THE INDIAN MEAN IS 1.5%
2 - 3.9 %
4 - 5.9 %
6 % AND OVER MAXIMUM IS 8.4 % (Delhi)
X DATA NOT AVAILABLE

The Three Main Economic Sectors

In the three preceding sections of this chapter, the discussion was based on an occupational breakdown considerably more detailed than the threefold primary-secondary-tertiary classification now current in economic literature. For several reasons, however, partly by way of summary, partly as a convenience for quick reference purposes, and partly in deference to tradition, maps 18, 19 and 20 are presented, showing the proportions of the self-supporting male labor force in the three basic sectors just cited. These are discussed but briefly in the following paragraphs. The relationship between the size of the secondary and the tertiary sectors will subsequently be considered at somewhat greater length.

1. The Primary Sector[35]: Comparing map 18, relating to the total primary sector, with map 7, relating to the cultivating population only, one finds a general agreement of pattern. The class intervals of each map were intentionally made identical in order to facilitate comparison between the two. In only sixty-eight districts out of 302 do the patterns of the two maps differ; and the great majority of these cases are not significant, the actual percentage differences being quite small, though enough to make the districts fall in different class intervals on the two maps.

Only in those few areas where there is an appreciable development of plantation industries, mining, or stock-raising do really significant variations in the patterns of the two maps arise. In fact, in only ten districts in the entirety of India do the patterns of two maps vary by as many as two class intervals, though in six of these districts they vary by as many as three. Four of the six latter districts and three others of the ten cited are plantation districts in Assam and Himalayan West Bengal. Of the remaining three districts, two, Dhanbad and Burdwan, are mining districts, the former much more important than the latter, and only one, Jaisalmer, characterized by a very high proportion of stock-raising.

2. The Secondary Sectors[36]: Perhaps the most striking feature of map 19 depicting the size of the secondary sector is the small degree to which it reflects the pattern of map 13, showing the number of factory workers per thousand of total population. Since, on an areal basis, the distribution shown on map 19 is primarily a function of the development of traditional craft industries, rather than of manufacturing in the modern sense of the word, this should occasion no surprise.

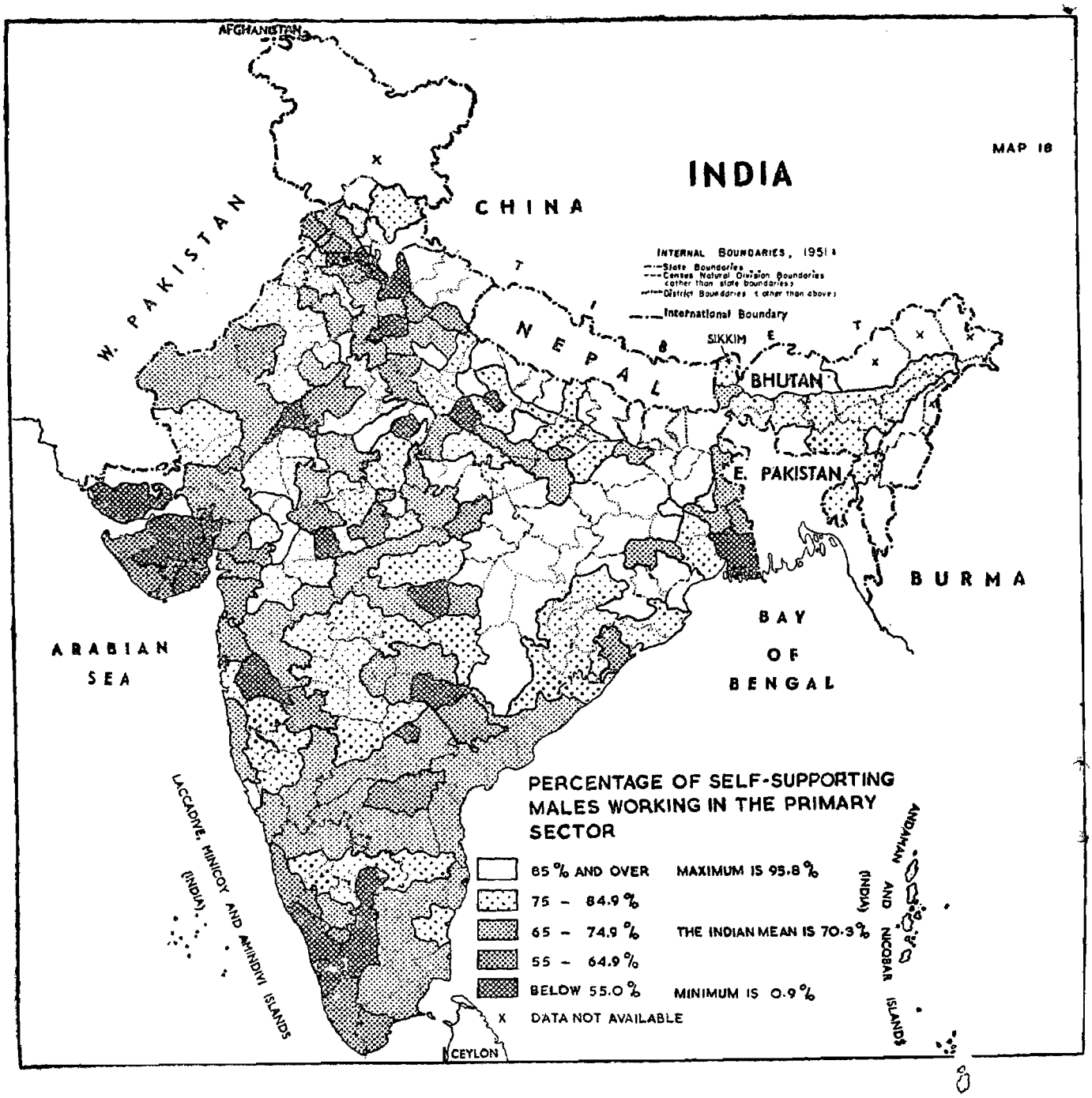
No detailed analysis of map 19 is required at this point, much of the pattern having already been explained in the preceding discussions of the traditional village occupations and of factory manufacturing. Among the points stressed in the discussion of traditional village occupations, it will be recalled, was the unreliability of the Census occupational data of the Telangana districts of Hyderabad which stands out as such a conspicuous block on map 19. At the end of the discussion of factory manufacturing, the areas in which cottage and/or small-scale industries were well developed, but for which no mappable data existed, were indicated. Some of these stand out fairly clearly on map 19, *e.g.* the Malabar Coast, parts of Tamil Nad, Saurashtra-Kutch, Western Uttar Pradesh, and a few districts of Rajasthan, Punjab shows up but poorly, due to the migration of so many of its artisans to West Pakistan.

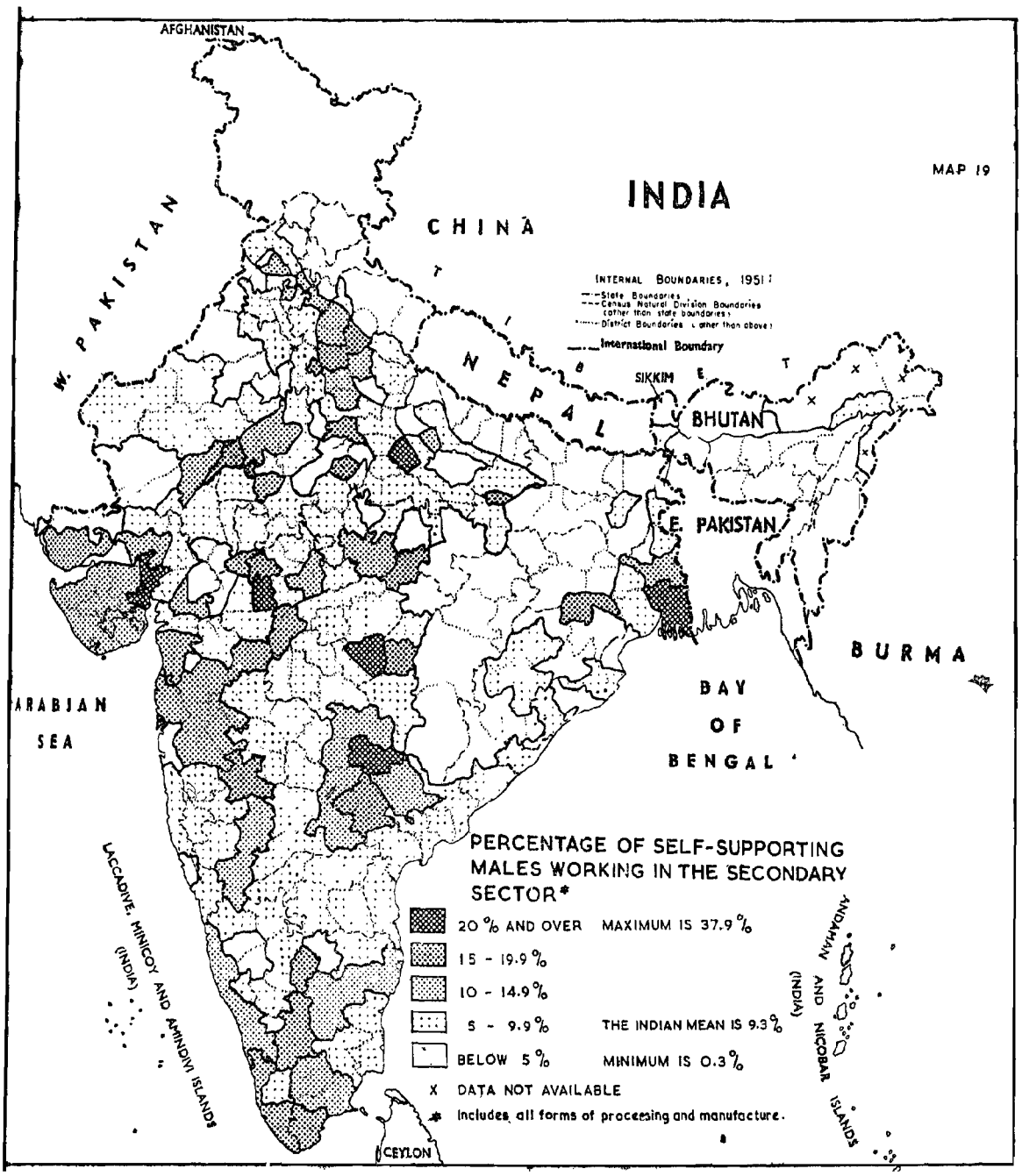
3. The Tertiary Sector[37]: This sector, being compounded of a great variety of occupational categories (including some in which the Census data are subject to

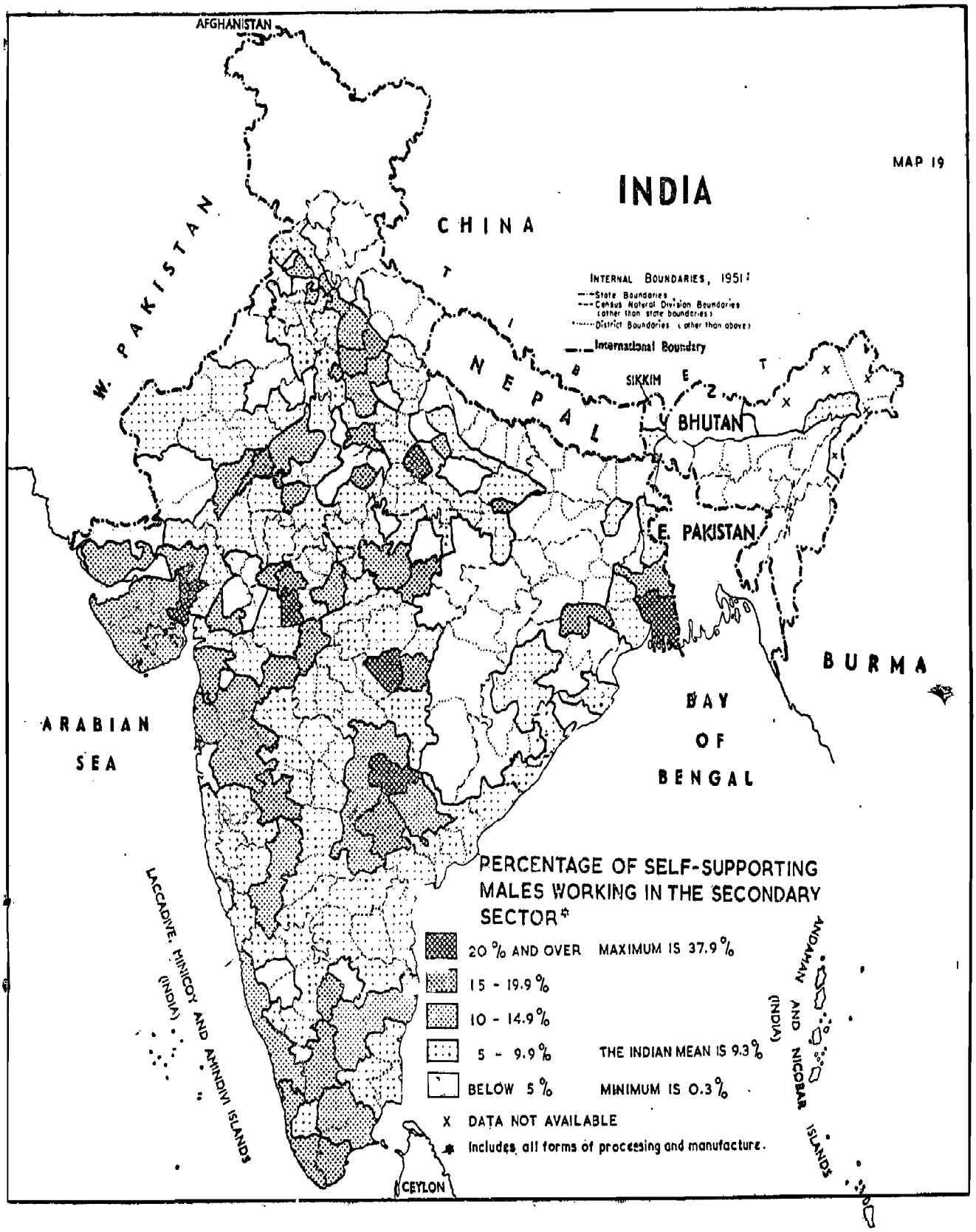
[35]. Consists of self-supporting male workers in agricultural classes I—IV and stock-raising, forestry and collection, hunting and fishing, plantation industries and mining and quarrying (cf. graph 2.).

[36]. Consists of self-supporting males in all forms of "processing and manufacture".

[37]. Consists of self-supporting males in construction and maintenance, commerce, transportation and communication, health, education and public administration and "services not elsewhere specified"


MAP 18
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON
PERCENTAGE OF SELF-SUPPORTING MALES WORKING IN THE PRIMARY SECTOR
65 % AND OVER
75 - 84.9 %
65 - 74.9 %
55 - 64.9 %
BELOW 55.0 %
MAXIMUM IS 95.8 %
THE INDIAN MEAN IS 70·3 %
MINIMUM IS 0·9 %
X DATA NOT AVAILABLE


MAP 19
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
PERCENTAGE OF SELF-SUPPORTING MALES WORKING IN THE SECONDARY SECTOR*
20 % AND OVER
15 - 19.9 %
10 - 14.9 %
5 - 9.9 %
BELOW 5 %
MAXIMUM IS 37.9 %
THE INDIAN MEAN IS 9.3 %
MINIMUM IS 0.3 %
X DATA NOT AVAILABLE
* Includes all forms of processing and manufacture.
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
CEYLON


MAP 19
INDIA
AFGHANISTAN
W. PAKISTAN
CHINA
TIBET
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
PERCENTAGE OF SELF-SUPPORTING MALES WORKING IN THE SECONDARY SECTOR*
20 % AND OVER
15 - 19.9 %
10 - 14.9 %
5 - 9.9 %
BELOW 5 %
MAXIMUM IS 37.9 %
THE INDIAN MEAN IS 9.3 %
MINIMUM IS 0.3 %
X DATA NOT AVAILABLE
* Includes all forms of processing and manufacture.

considerable doubt) cannot be expected to yield a distributional pattern which reflects very closely that of any of its components which have already been examined in this report. On the whole, though, its distribution, as shown by map 20, fairly well resembles that of its largest subdivision, commerce, as shown by map 14. Even closer, however, is its resemblance to the pattern of map 18, on which the areas with the highest percentage of non-primary workers are shown in the darkest tone. This is, of course, to be expected, since the tertiary sector forms over two-thirds of the total non-primary. The only large area in which the patterns of maps 18 and 20 differ markedly is Telangana, which has already been characterized as a region for which the data are unreliable.

4. Ratio of the Secondary to the Tertiary Sector :—Graph 5, on the following page, depicts the employment of self-supporting males by economic sector in India in 1951. Each dot thereon stands for a single one of the 302 districts of India for which the Census of 1951 provides complete occupational data. It is immediately apparent from the graph that a strong correlation exists between the size of the secondary and the size of the tertiary sectors; and that, since the relationship between the two is apparently linear, as one increases the other tends to increase at the same rate. The author has visually plotted on graph 5, the regression line which seems to him best to fit the given distribution. The formula for this line, S=.42T, indicates that, regardless of the size of the primary sector, for any given percentage in the tertiary sector, the secondary sector will be ·42 times as large. This line, then, expresses what might be termed the "normal" relationship between the secondary and the tertiary sectors.

Also apparent from graph 5 is the fact that the great majority of districts of India fall within a rather narrow range with respect to the regression line. What is termed the "normal" range has been arbitrarily established as that in which the size of the secondary sector varies from three-fourths to four-thirds that indicated by the formula given above (*i.e.* where S varies from ·315T to :56T). Districts with occupational distributions falling outside this range have particular secondary or tertiary orientations within their economy, at least where the Census statistics are essentially correct. The boundary between a "moderate" and a "strong" secondary orientation was arbitrarily set along a line where the secondary sector was twice that considered normal (*i.e.*, S=·84T), while that between the "moderate" and "strong" tertiary orientation is set where the secondary sector was only half of normal (*i.e.*, S=·21T).

On map 21, are plotted the districts falling within each of the five ranges indicated on graph 5 and discussed in the preceding paragraph. A fairly clear-cut zonation emerges therefrom, part of it credible, part of it undoubtedly spurious.

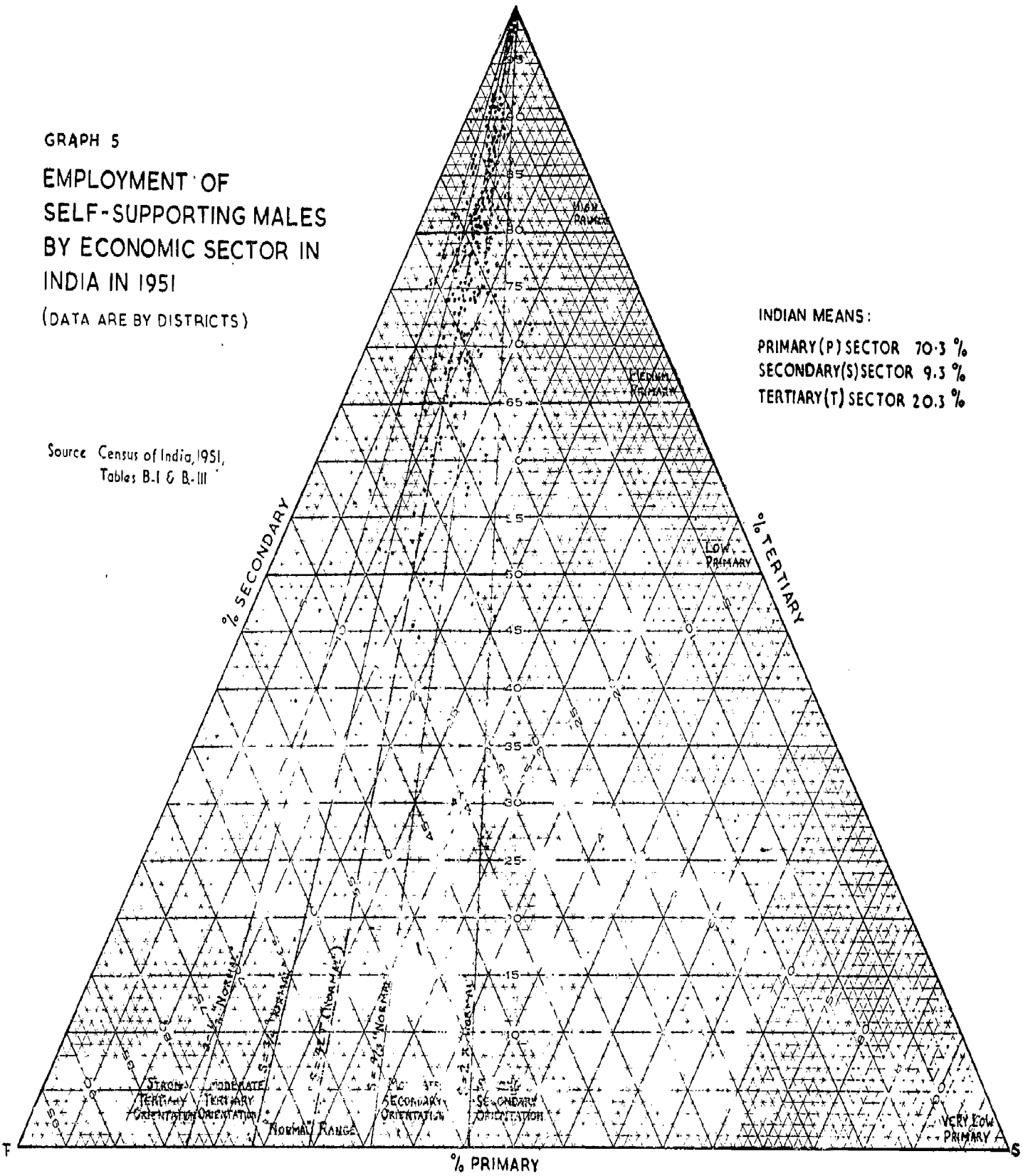
The areas of strong or even moderate secondary orientation generally are not, as one might expect on an *a priori* basis, those characterized by a high degree of development of factory manufacture, although a number of such districts do appear in these two classes (*e.g.*, Ahmedabad, Kanpur, Bombay, Jamshedpur and the three districts surrounding Calcutta, among others of lesser importance. But by contrast, the large territorial block extending through much of Eastern Madhya Pradesh and Telangana is not especially known, for manufacturing even of the small-scale or cottage industrial variety. Since the Census data for this area and some of the adjacent districts with moderate secondary orientations have several times been questioned in this thesis, the reader should attach little or no significance to this part of the total regional pattern. Elsewhere only two other districts exhibit a strong secondary orientation, Sholapur, in Bombay and Salem, in Madras. The former of these is a very important centre for the handloom cotton industry

GRAPH 5

EMPLOYMENT OF SELF-SUPPORTING MALES BY ECONOMIC SECTOR IN INDIA IN 1951

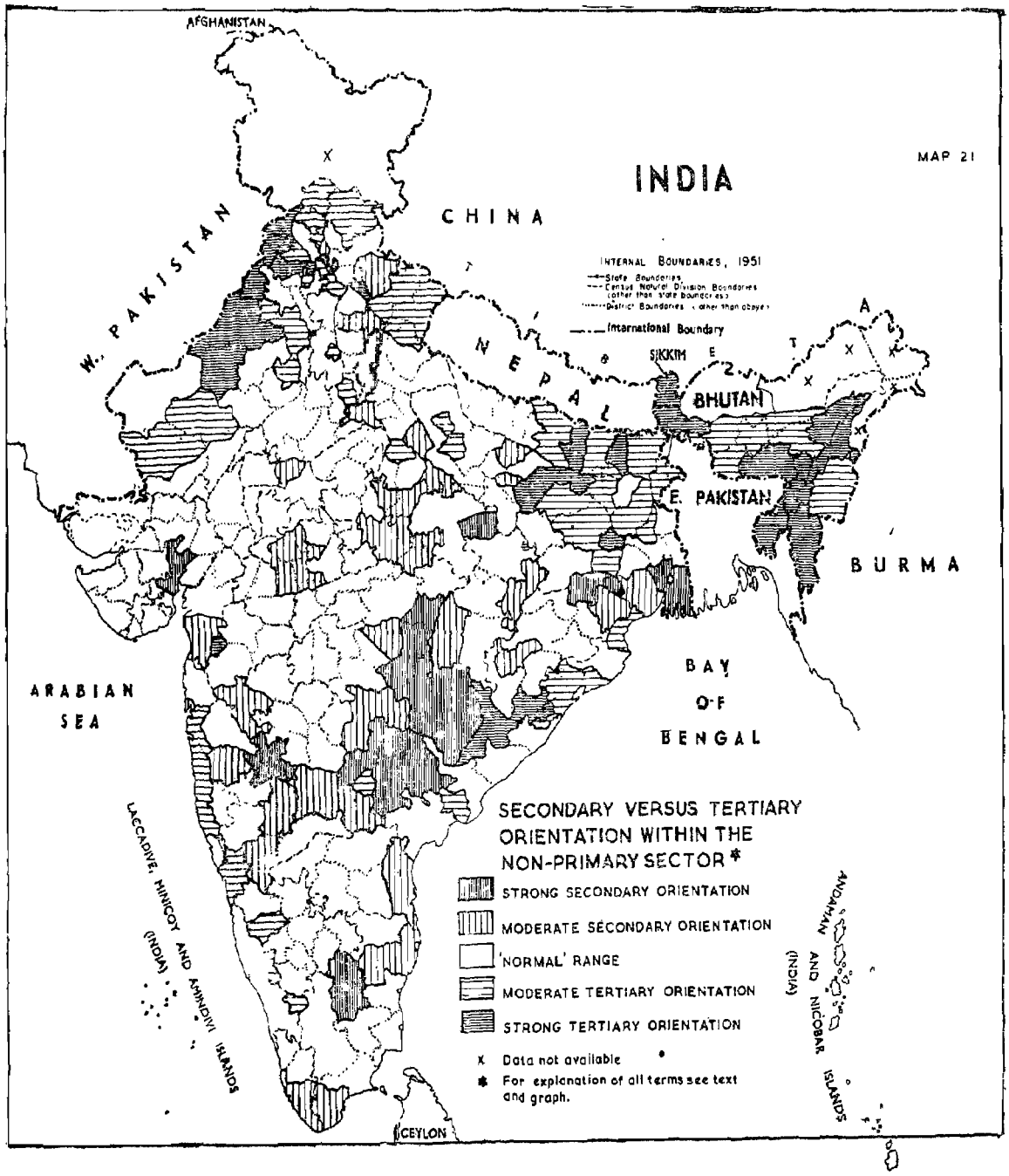
(DATA ARE BY DISTRICTS)

Source Census of India, 1951, Tables B-I & B-III



INDIAN MEANS:

PRIMARY (P) SECTOR 70·3 %
SECONDARY (S) SECTOR 9.3 %
TERTIARY (T) SECTOR 20.3 %


MAP 21
INDIA
AFGHANISTAN
CHINA
W. PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
SECONDARY VERSUS TERTIARY ORIENTATION WITHIN THE NON-PRIMARY SECTOR *
STRONG SECONDARY ORIENTATION
MODERATE SECONDARY ORIENTATION
'NORMAL' RANGE
MODERATE TERTIARY ORIENTATION
STRONG TERTIARY ORIENTATION
X Data not available
* For explanation of all terms see text and graph.

and of considerable importance also for factory manufactures; but the Census figures for Salem, which is a manufacturing center of only moderate importance, are probably grossly in error, for reasons which the author cannot, unfortunately, discern.

The remaining areas of India with moderate secondary orientations include a group of districts in the Bombay Deccan, another centering on Indore and Ujjain in Madhya Bharat, and a third at the southern tip of the sub-continent, in all of which the Census figures are probably correct. A fourth group of districts extends from the hills of south-central Uttar Pradesh, across Vindhya Pradesh, and into Madhya Pradesh; but in this general area the author can see no special cogent reasons for the pattern indicated on map 21. A few other isolated districts are of little importance.

Turning to the areas of tertiary orientation one again notes several fairly well defined regions. The three most important of these are: 1 Northwest India, including much of Punjab and Rajasthan, wherein the present pattern can be largely explained in terms of the already mentioned emigration of Muslim artisans to Pakistan; 2 Assam and Himalayan West Bengal in which the tea plantation areas have a particularly strong tertiary orientation; (The absence of traditional artisans here has already been explained), and 3 The plains of Bihar, in which the traditional artisan trades were presumably largely ruined by a general economic depression and competition from outside centers of manufacturing.

Generically resembling the plantation area of Assam are three scattered highland districts in Southwest India, while three coastal districts in Bombay and three others in Orissa may be generically similar to the area cited in Bihar.

Also of note are the large number of tribal areas along the mountain frontiers of both the Northeast and the Northwest of India, in the Chota Nagpur, in parts of Orissa, and in Dangs, in which a moderate to strong tertiary orientation is evidenced, presumably either due to a lack of manufacturing technology or a lack of specialization in the employment of artisans.

A small number of highly urbanized districts, most notably Delhi, Calcutta, Hyderabad, and Lucknow, display moderate tertiary orientation. All, of course, are important primarily as centers of administration and commerce. Since the manufacturing of the Calcutta area lies outside the district proper, its pattern is quite different from that of the Bombay area, where, as has already been seen, the opposite is the case.

The few remaining districts of moderate tertiary organization have only minor significance. While a few districts within this category may represent erroneous Census enumerations it would appear that there is generally less bias in the reporting of tertiary than in that of secondary activities. The common over-enumeration of "services otherwise unclassified," discussed earlier in this chapter, is, of course, an exception which in certain cases warrants particular attention. Koraput and Ganjam Agency in interior Orissa and several districts of Bihar probably owe their strong tertiary orientations largely to this cause.

Having analysed the areal distribution of the secondary-tertiary ratio, the question which naturally arises is, what interpretation may one give to it? When one considers the exceptional nature of so many of the areas outside the designated normal range: areas of biased enumeration, areas greatly affected by the partition of the sub-continent, areas of tribal organization, areas of plantation industry, and a scattering of districts containing highly specialized urban centres—it would appear possible to make the following generalization: *In the normal, cultivating economy of Hindu India there tends to be a fairly constant balance between the size of the secondary sector, comprising mainly the traditional artisans, and that of the tertiary sector comprising mainly the traditional serving occupations and commercial classes.* The chief, genuine exceptions would appear to be in those areas,

like Bihar, in which the secondary sector is uncommonly depressed.

But is this type of generalization unique for India? Might not some similar generalization be found to be true for the economies of a great many countries when subjected to detailed regional scrutiny? The author can speak with no assurance on this point. Certainly this would *not* appear to be the case in highly developed economies in which a great measure of regional specialization is possible owing to the high degree of mobility of both population and goods.[38] But it may be true of many culturally homogeneous countries at levels of economic development comparable to that of India. Only additional comparative studies can provide a satisfactory answer.

Just why is it that the secondary and tertiary sectors appear to exist in approximately the same proportions regardless of the size of the primary sector? The explanation would appear to be necessarily related to the structure of the demand for goods and services in Hindu society. If, as income increased, the demand for locally-made artisan goods rose at a markedly higher rate than that for services then one would expect to find that those areas of India with higher income and hence higher purchasing power, would have a higher proportion of secondary employment in the combined non-primary sector than the national average. The opposite would be equally true, *i.e.*, if the demand for services rose at a markedly higher rate. But if, as purchasing power rose, the demands for locally processed goods and for services increased at approximately the same rate, then, throughout the country the ratio between the secondary and the tertiary sectors would remain approximately the same.

The actual ratio may change, of course, from one period of a nation's history to the next depending on the level of production technology and the demand structure of the era in question; and, if we think back to the historical discussion of chapter III, we find ample evidence in support of a belief that it has changed in the case of India, considered as a whole. But India is not a homogeneous whole. Thus, it may be that some, or even many, of the marked regional deviations from the "normal" secondary-tertiary ratio may be explained largely in terms of the local stage of economic growth—or decline.

The most common of the genuine deviations, those areas with a highly depressed secondary sector and a consequently high tertiary orientation, are explainable in terms of their having already reached the stage in which access from outside centers of goods production is relatively easy but not yet reached the stage in which improved technology and the creation of agricultural surpluses have resulted in a demand for and the means to revivify the production of locally made goods. The best examples as we have seen, is the plain area of Bihar.

Relationships between Level of Economic Development and Occupational Structure —Table 8 on the following page indicates the coefficients of correlation of selected variables relating to economic development and occupational structure in India. Variables 1 through 6 on that table relate to the level of economic development. (Their cross-tabulated correlations have already been presented and discussed at the conclusion of Chapter II.) Variables 7 through 13 relate to the occupational structure. Variable 14 relates to the degree of urbanization which is rather intimately associated with all the preceding variables. The data employed in deriving the coefficients of Table 8 were by the eighteen state regions depicted on Map 1.[39]

[38]. The author has found that the linear pattern of graph 5 is even more marked when one plots the sectoral data by census natural divisions. But in plotting the equivalent data for the United States by states which are comparable to the Indian census divisions no definite tendency towards linearity of distribution was discernable. Similarly, Gerd Enquist's plotting of sectoral data by minor civil divisions in Sweden (plates 59-60 *Atlas over Sverige*) reveals no indication of a liner distribution.

[39]. The coefficients of correlation were derived using the formula of Arthur H. Robinson in "The Necessity of Weighting Values in Correlation Analysis of Areal Data" in *Annals of the Association of American Geographers*. Vol. XLVI June 1956 pp. 233-236. In this instance, however, the weighting had to be by population rather than by area. The I.B.M. programme was set up and run by Stephen M. Robinson.

TABLE

CO-EFFICIENTS OF CORRELATION OF SELECTED VARIABLES RELATING TO

(Decimal points before each coefficient are omitted)	Overall Development Rating (Weighted)	Overall Development Rating (Unweighted)	Structural Indices (Weighted)	Productivity Indices (Weighted)	Consumption & Welfare Indices (Weighted)
	1	2	3	4	5
1 Overall Development Rating (Weighted) .	..	986	975	981	974
2 Overall Development Rating (Unweighted) .	986	..	971	959	964
3 Structural Indices (Weighted)	975	971	..	936	931
4 Productivity Indices (Weighted)	981	959	936	..	929
5 Consumption & Welfare Indices (Weighted) .	974	964	931	929	..
6 Annual income per capita	890	814	842	883	876
7 % of Self-Supporting Males in Non-Primary Sectors	899	886	912	857	878
8 % of Self-Supporting Males in Secondary Sector .	812	795	838	789	756
9 % of Self-Supporting Males in Tertiary Sector .	883	868	895	828	881
10 % of Rural Self-Supporting Males in Non-Primary Sectors	547	532	631	444	558
11 % of Self-Supporting Males in Commerce .	916	900	918	871	902
12 % of Self-Supporting Males in Health, Education, & Public Administration .	690	696	668	600	775
13 % of Self-Supporting Males in "Services not Elsewhere Specified" minus "Services Otherwise Unclassified." -	773	785	824	737	716
14 % of Population in Urban Places . .	834	838	811	808	829

For more detailed information on variables 1-6 and 14, See Table One (Chapter II). Data for

Coefficients of correlation were derived utilizing the formula of Arthur H. Robinson in "The Necessit
of p. 233-236, (Weighting in this instance was by population rather than by area).

Annual income Per Capita	% of Self-Supporting Males in Non-Primary Sectors	% of Self-Supporting Males in Secondary Sectors	% of Self-Supporting Males in Tertiary Sectors	% of rural Self-Supporting Males in Non-Primary Sectors	% of Self Supporting Males in Commerce	% of Self-Supporting Males in Health,-Education & Public Administration	% of S.S.M. in Service Not Elsewhere specified minus Services otherwise Unclassified	% of Population in urban Places
6	7	8	9	10	11	12	13	14
890	899	812	883	547	916	690	773	834
814	886	795	868	532	900	696	785	838
842	913	838	895	631	918	668	824	811
883	857	789	828	444	871	600	737	808
876	878	756	881	558	902	775	716	829
..	823	740	829	591	853	639	647	698
823	..	941	975	780	937	772	924	915
740	941	..	847	739	809	636	924	869
829	975	847	..	788	962	804	869	874
591	780	739	788	..	711	566	819	545
853	937	809	962	711	..	763	810	860
639	772	636	804	566	763	..	571	812
647	924	924	869	819	810	571	..	783
698	915	869	874	545	860	812	783	..

variables 7-13 are from Tables B-I and B-III of the 1951 Census.

f Weighting Values in Correlation Analysis of Area Data," in *Annals* of the A.A.G., Vol. XLVI, June, 56,

All in all the co-efficients of correlation on Table 8 are remarkably high, when one considers that, with a statistical population of eighteen cases, a co-efficient of correlation of ·456 is said to be significant (*i.e.*, the probability that it is due to chance is only one in twenty), while a co-efficient of correlation of ·575 is said to be highly significant (*i.e.*, the probability of chance occurrence is only one in a hundred).[40] It will be noted that, in general, the weighted overall development ratings are more highly correlated with the occupational variables than are the non-weighted ratings. For this reason, in all subsequent discussion reference will be made to the weighted ratings only.

Of the sectoral variables, 7 through 9, relating to the entire population, the size of the *total* non-primary sector appears to be most highly correlated with economic development though the correlation of the tertiary sector is only slightly less good. The tertiary sector, in fact, is slightly more highly correlated with the consumption and welfare indices of economic development and with annual income *per capita* than is the total non-primary. In the case of all six development variables, the correlations with the secondary sector lag noticeably behind. This would seem to reflect the generally depressed state of the traditional artisan occupations comprising most of the secondary sector, though the results may partially be due to the biases in the enumeration of that sector to which several references have already been made.

The poorest correlations on the whole of Table 8 are with respect to variable 10, the percentage of rural self-supporting males in the non-primary sectors. These include what appear to be the only non-significant correlation and the only five others which are not highly significant, out of a total of ninety-one correlations presented. This requires a word of explanation. In running the correlations of Table 6, the data had to be weighted for population. In the case of all the variables except number 10, the entire population had to be considered. For variable 10 only, the population which should have been considered was the rural population, but, for facility in machine programming, here too the *total* population was considered[41]. Hence, the resultant correlations are weaker than they, presumably would otherwise be, and cannot be accepted entirely at face value. Hence, too, the stated co-efficients with regard to significance categories do not apply. Still, though one cannot be absolutely certain on the point, it is felt that the lowest correlations would have been obtained for variable 10 even if the correct weightings were applied, since, on the whole, the *inter-state* variations in percentage of rural population to the total are not especially great and since the absolute differences between the rural and the total populations are relatively small.

The significance of the above remarks (assuming them to be correct) would appear to be that the existence within the urban population of a large share of the total of non-primary occupations is generally a better guide to the developmental status of a given regional economy than is the existence of non-primary occupations within the rural population itself. But, since the co-efficients of correlation within column 14, relating to the degree of urbanization, are, in all cases but one variable (12), lower than those in column 7, relating to total non-primary employment, it would appear that when one considers urban and rural non-primary occupations *combined*, one has an even better guide to the level of economic development than when one considers the degree of urbanization alone.

[40]. Only one apparently non-significant correlation appears on Table 8 and only five others which are not highly significant. These cases, all with respect to a single variable, number 10, will be explained shortly.

[41]. Since the correlations of Table 8 are not multiple correlations (*i. e.* in which each variable is correlated simultaneously with all the others) but rather a series relating to variables taken two at a time any improper weighting for one will have no effect on the co-efficients of correlation of any two others.

Variables 11, 12 and 13 relate to the more important sub-divisions of the tertiary sector. Of these, employment in commerce shows by far the best correlations, not only with overall level of development, but also with the various major aspects of development (variables 3 to 5), and with *per capita* income (variable 6) and per cent of population in urban places (variable 14). The least good correlations relate to health, education and public administration (variable 12), probably because the degree of employment provided directly and indirectly by the central government tends to be independent of the developmental level of the several states. Not surprisingly, employment in these services correlates more highly with consumption and welfare indices (variable 5) and with degree of urbanization (variable 14) than does employment in miscellaneous classified services (variable 13).

Of the variables relating to various major aspects of economic development (3 to 5) the structural indices have much the highest level of correlation with all the occupational variables. Since several occupational variables were among the fourteen structural indices from which the composite state ranking scores were derived, this is not surprising. In general it appears that the consumption and welfare indices are correlated somewhat more highly with the occupational variables than are the productivity indices.

Of all the developmental variables, income per capita *appears generally to be the least highly correlated with the several occupational variables, while the degree of urbanization appears to be about on a par with the structural indices as having the highest correlations of all.*

Before terminating this discussion of Table 8 several general notes are in order. First, it does not necessarily follow that the correlations which are the highest when working with state data would also be the highest when working with data at the district level, and *vice versa*, even though the *probability* is that such will be the case. (Of course, this observation is partially academic in the absence of quantitative development data at the district level.) Second, it does not follow that the correlations which *appear* to be the best when comparing the several maps of the occupational variables with map 2, showing the level of economic development, *are* the best in fact. For the apparent correlation is a function of the visual stimulus provided by the maps, which in turn is a function of the amounts of *areas* in particular tonal patterns whereas the true correlation is a function of the *population* living in the areas in question. Moreover, the true correlation, unlike the apparent correlation, is independent of the class intervals chosen. Third, in spite of the observations made above, the *geographically most significant correlations* may be closer to the apparent than to the true correlations, since the former may be more indicative of general spatial relationships than the latter. This is especially apt to be the case when the true correlations are highly affected by the presence within a particular statistical areal unit of important urban centers which do not reflect the general nature of the regional economy, but which greatly alter the statistical averages relating to it. In India, as we have seen (cf. map 2), this is not infrequently the case.

The greatest limitation of Table 8, from a geographer's point of view is that while it indicates a great number of general relationships holding more or less true for India as a whole, it hides all individual cases, however exceptional they may be behind a wall of statistical anonymity. For this reason, Table 9 is presented to show the standardized scores and rankings of state regions according to their weighted overall development scores and the seven occupational variables indicated also in Table 8. The eighteen regions and the system of standardization used in preparing this table are the same as explained in chapter II, even in the case of the development scores which

TABLE

STANDARDIZED SCORES AND RANKING OF REGIONS ACCORDING TO LEVEL OF

Notes :
1. All employment data relate to self-supporting males.
2. For peculiarities of ranking system see text.

Region	I Overall Development Rating (Weighted)		II Employment in Non-Primary Sectors, Total Population.		III Employment in Non-Primary Sectors Rural Population.	
	a Score	b Rank	a Score	b Rank	a Score	b Rank
1 West Bengal	100·0	1	100·0	1·5	60·5	3
2 Bombay	87·5	2	94·6	3	41·6	7
3 Punjab & 1/2 Delhi	69·1	3	78·8	5	57·4	4·5
4 Saurashtra & Kutch	63·1	4	98·4	1·5	83·5	2
5 Travancore-Cochin	59·7	5	82·9	4	100·0	1
6 Mysore & Coorg	50·5	6	56·1	7·5	26·1	14·5
7 P.E.P.S.U.	45·7	7	45·0	11·5	28·5	12·5
8 Assam, Manipur & Tripura	39·7	8	28·2	14·5	32·0	10·5
9 Madras	33·8	9·5	66·9	6	56·7	4·5
10 Uttar Pradesh & 1/2 Delhi	32·3	9·5	50·6	9·5	37·5	8·5
11 Madhya Bharat & Bhopal	29·8	11·5	50·9	9·5	30·2	12·5
12 Madhya Pradesh	28·7	11·5	35·1	13	24·4	14·5
13 Rajasthan & Ajmer	26·8	13·5	46·5	11·5	33·7	10·5
14 Hyderabad	25·1	13·5	58·1	7·5	47·4	6
15 Bihar	10·1	15·5	11·6	16·5	9·6	16
16 Himachal Pradesh	10·1	15·5	0·0	18	0·0	18
17 Orissa	3·7	17	27·6	14·5	36·1	8·5
18 Vindhya Pradesh	0·0	18	11·9	16·5	6·2	17

ECONOMIC DEVELOPMENT AND SELECTED OCCUPAGIONAL VARIABLES

IV		V		VI		VII		VIII	
Employment in Secondary Sector		Employment in Tertiary Sector		Employment in Commerce		Employment in Health, Education and Public Administration		Employment in Miscellaneous Specified Services	
a	b	a	b	a	b	a	b	a	b
Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
97·0	2·5	93·7	2	100·0	1	41·8	8·5	87·8	2
96·2	2·5	81·1	4	75·6	4	58·2	3	65·3	4·5
39·1	11	91·5	3	87·8	3	100·0	1	46·9	6
33·5	4	100·0	1	93·9	2	58·2	3	67·3	4·5
100·0	1	69·6	5	61·1	5·5	41·8	8·5	100·0	1
50·4	8	55·6	7	40·0	11	59·7	3	42·9	10
27·1	13	51·1	8·5	61·1	5·5	47·8	5·5	26·5	13
8·0	16	36·7	13	34·4	13	20·9	14	18·4	15
63·2	6	64·8	6	56·7	7	38·8	10	71·4	3
43·6	9·5	51·1	8·5	37·8	17	28·4	13	42·9	10
52·6	7	47·0	12	42·2	9·5	47·8	5·5	44·9	7·5
43·6	9·5	28·9	14·5	28·8	14	31·3	12	22·5	14
36·1	12	48·9	10·5	52·2	8	34·3	11	34·7	12
69·2	5	49·3	10·5	42·2	9·5	44·8	7	44·9	7·5
3·0	17	15·2	16	17·8	15	0·0	17·5	12·2	16·5
0·0	18	0·0	18	0·0	18	1·5	17·5	0·0	18
18·0	14	30·7	14·5	14·4	16·5	7·5	16	42·9	10
12·8	15	10·7	17	13·3	16·5	14·9	15	12·2	16·5

were themselves derived, in the first instance, from a series of standardized development indices. The chief purpose of Table 9 is to provide a means of showing deviations of the various occupational scores of individual states from the "expectations" one would have if there were a perfect correlation between the occupational variables in question and level of economic development.

Before proceeding to the analysis of Table 9, however, an explanation of the *ranking* system employed is in order. First, the chief reason for using ranks is because of the simplicity of working with them, *i.e.*, the facility of making inter-variable comparisons. But the effect of working with ranks is that of making scores equally spaced along a continuum from the highest to the lowest, when, in fact, as a glance at the scores themselves will indicate, this is hardly the case. Occasionally, there is a considerable bunching of scores within a rather narrow range, and in such cases the extremes of this range would appear from a strict system of rankings to be much further apart than they really are. Accordingly, a compromise ranking system was adopted, which, in view of the not very high reliability of the scores to begin with, seemed in order. Whenever two or more standardized scores differed within a total range of two or less, they were considered as tied (*e.g.*, 86·4 would be considered as equal to any other single figure from 84·4 to 88·4 and accorded the same rank).[42] Two or more scores which were considered ties would each be entered in Table 9 with the rank representing the average of the ranks they would have had were they not so considered. (*e.g.*, under variable II, West Bengal, with a score of 100, and Saurashtra & Kutch, with a score of 98·4, were each ranked as 1·5, the average of 1·0 and 2·0).

If one were to add, region by region, on Table 9 all the deviations in rank for variables II through VIII from the ranks indicated for the overall development scores (variable I), he would find an average deviation of 2·8.[43] Yet in only forty-five cases out of 126 do individual deviations exceed this amount (*i.e.*, equal three or more) a fact which indicates that the deviations in excess of the average tend to be quite large. Perhaps even more striking is the fact that two regions alone, Assam, *Manipur and Tripura (region 8) and* Hyderabad (region 14), account for thirteen of the above average cases, leaving only thirty-two cases among the remaining sixteen regions.[44] These thirty-two cases were distributed as follows: four each for Travancore-Cochin, Mysore & Coorg, P.E.P.S.U., and Madras; three each for Madhya Bharat and Bhopal, Rajasthan and Ajmer, and Orissa; two for Punjab and ½ Delhi; and one each for West Bengal, Bombay, Saurashtra and Kutch, Uttar Pradesh and ½ Delhi, Madhya Pradesh, and Vindhya Pradesh. Bihar and Himachal Pradesh had not a single above-average deviation.

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[42] But when three or more figures each differing from one another in the group by two or less exhibited a total range in excess of two they would not all be considered as tied but would be split on an *ad hoc* basis into separately ranked groups, pairs, or single cases, such that the average scores, of each would differ by more than two. For example, in the group 84·4, 85·2, 86·6 and 88·4, the first two figures would be considered as tied at the average score of 84·8 and the last two at 87·5.

[43] To illustrate a single deviation ; West Bengal ranks third (3) in variable III, but first, (1) in overall development rating ; its deviation from expectation then with respect to variable III is 2 (3 minus 1). The total deviation for the state would be the sum of its deviations for variables II-VIII.

[44] These same two regions account for eleven of the twenty-five deviations equal to or exceeding five.

If we examine the patterns of deviation from "expectation" within individual regions, we find that Hyderabad is the most deviant, of all eighteen regions. It shows a total rank deviation of 41·0, as opposed to only 7·0 in the case of the least deviant region, Bihar. In not a single variable does it have a below average deviation, and all its deviations are positive with respect to its development score. Its greatest rank deviation is with respect to the secondary sector, and its second greatest, not unexpectedly, with respect to rural non-primary employment of which the secondary sector formed so large a part. These deviations can be explained largely by the already discussed caste-induced biases felt to be inherent in the Hyderabad statistics.

Assam, which has above average deviations for every occupational variable except one, and scores below the development rank in all seven, has a total deviation only slightly below that of Hyderabad. Its greatest deviation, that in respect to secondary employment, has been touched on previously, particularly in reference to the analysis of the relationship of the secondary to the tertiary sector in the preceding motion of this chapter. Only in regard to rural non-primary employment does it have a slightly less than average rank deviation. The reason for its relatively good showing in this respect is that, in view of its unusually low degree of urbanization (a characteristic, no doubt, of its frontier status), such non-primary employment as is necessary must be generated from within the rural population.

After the two regions just discussed, five others, with three or four above-average deviations each, showed moderately high total deviations, *i.e.*, from 17·0 to 26·5 These are considered in their order of economic development, starting with the highest.

Travancore-Cochin, the state ranking fifth in overall development, stands out as the first ranking in three of the seven occupational variables of Table 9: rural non-primary employment (in which it leaves its runner-up far behind), employment in the secondary sector, and employment in the minor category of miscellaneous specified services. The first two scores are easily understood in terms of the low level of urbanization and high degree of development of rural cottage industries typifying this area.

Mysore and Coorg which are next in developmental level are, unlike Travancore-Cochin, characterized by an occupational structure somewhat less non-primary than one might expect. Its negative deviation from expectation is most striking among the rural population, but also of note with respect to commerce in the population as a whole. No very convincing explanations of these facts occur to the author, who has done no field work in this state.

P.E.P.S.U. also has less non-primary employment than its developmental level might seem to warrant. The deficiencies most noticeable are with respect to the secondary sector, miscellaneous specified services and rural non-primary employment, all of which can be explained largely in terms of the emigration of specialized Muslim castes to West Pakistan.

Madras, though several notches down in the development scale from Travancore-Cochin, is remarkably like that state in the pattern of its rank deviations on Table 7, scoring generally above expectation, especially in regard to miscellaneous services and rural non-primary employment. Perhaps there is some suggestion of a Southern regional occupational pattern different from that of the nation at large in this similarity, though the data for Mysore certainly exclude it from being included within such a pattern.

Orissa, the region ranking next to lowest in development, is included in the group of regions under discussion largely because of its unusually high score for rural employment in non-primary production and, to a somewhat lesser extent, for its good showing with respect to miscellaneous services, which are, of course, largely rural. The explanation for this pattern would appear to stem from the region's general isolation, which has allowed it to keep the traditional rural order intact. Moreover, in the absence of many towns, non-primary production must come largely from the rural population, as in Assam. Finally, strong biases in the reporting of "services otherwise unclassified" have greatly swelled the rural non-primary sector.

The eleven remaining regions conform, on the whole, quite well to the expectations based on the established correlation between level of economic development and the seven occupational variables of Table 9, the total regional rank deviations within the group varying in the narrow range from 7·0 to 18·5. Starting again with the most developed region and working down to the least, the following paragraphs point out only the most significant deviations.

West Bengal, the most developed region of India scores remarkably low in employment, in health, education and public administration; but just why is not clear. Bombay, scores quite low in rural non-primary employment, probably because the high degree of commercialization, without attendant prosperity, as in Punjab or Saurashtra, has caused a marked retrenchment of the traditional rural occupations. In Punjab and ½ Delhi, the particularly poor showing in the secondary sectors probably stems from the post-partition exodus of Muslim artisans. Saurashtra is noteworthy for its overall good showing, its first place rank in the tertiary sector and its tie for first place (under the ranking rules outlined above) in total non-primary employment.

Skipping six places, the tenth-ranking region of Uttar Pradesh and ½ Delhi is an almost perfect "fit" to the expected pattern. Madhya Bharat and Bhopal is noteworthy only for its high showing in health, education, and public administration. Madhya Pradesh too is an almost perfect fit. Rajasthan and Ajmer merits attention because its rank in every occupational variable exceeds its rank in regard to development. Its highest rank of all is in commerce, a situation which, it has been suggested, may be attributable largely to the need for occupational specialization in this field because of the relatively great distances between settlements and between producers and markets. Bihar, ranking fifteenth in a field of eighteen, is the best fit of all eighteen regions to the occupational pattern one would expect of it. Himachal Pradesh and Vindhya Pradesh, ranking sixteenth and last respectively, are also cases of very slight, overall deviation.

No detailed analysis of Table 9 need be made on a variable-by-variable basis, but two short comments are in order. First, the deviations in ranking, summated for each occupational variable reflect strongly though not perfectly, their co-efficients of correlation with the overall development rating as presented on Table 8. Second, with specific respect to rural employment in the non-primary sector, for which the correlations of Table 8 were lowest and open to some doubt, the total deviations of Table 9 were higher than for any other variable. Hence, the relative standing of the co-efficients of correlation for that variable tend to be confirmed despite the somewhat improper weighting procedure involved in deriving them.

CHAPTER V

LOCAL ANALYSES OF OCCUPATIONAL STRUCTURES

Introduction

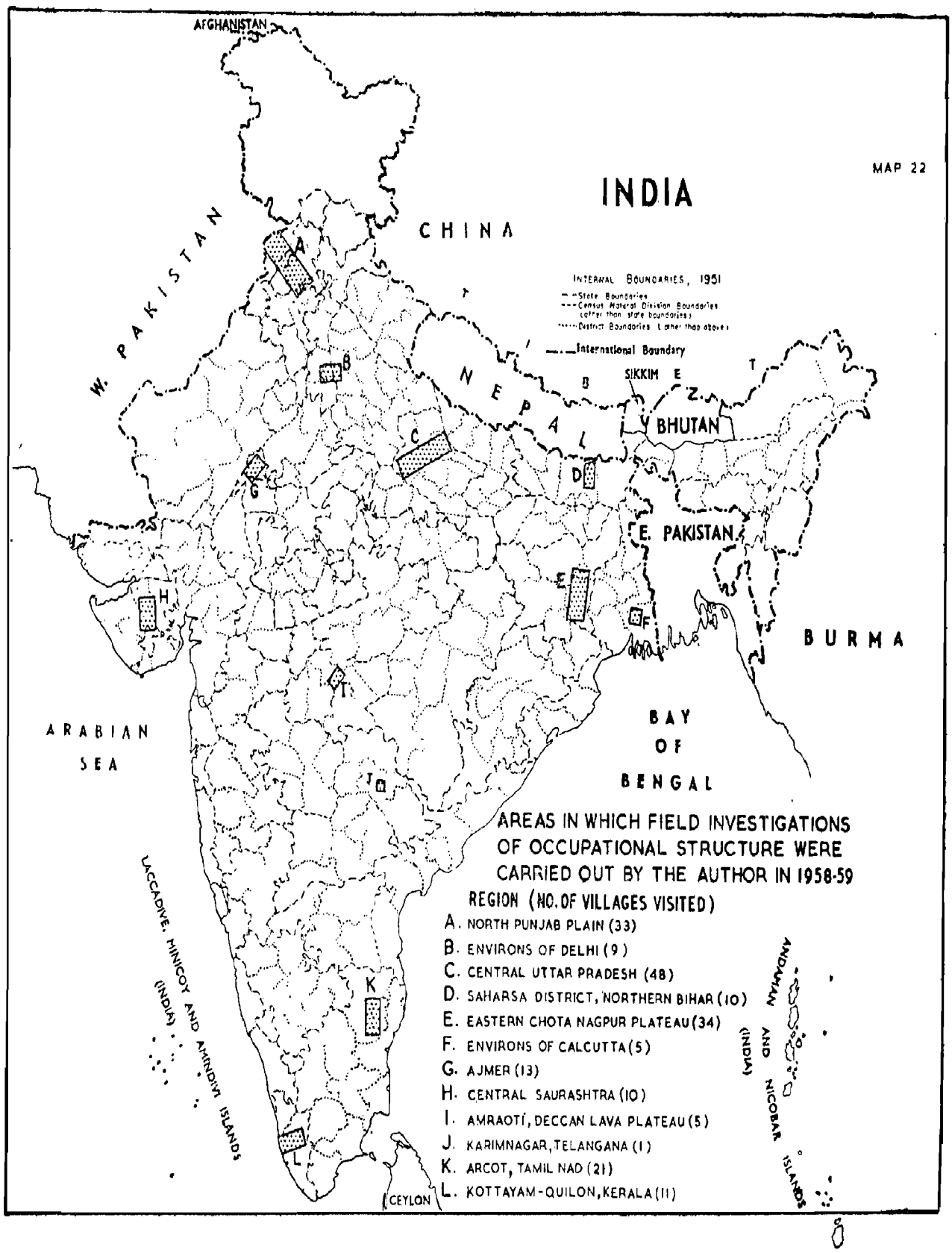
The purposes of the Field Work.—There are a great many things about the occupational structure of an area that the Census does not—indeed cannot—tell us. Even if there were no biases in the enumeration, there are three basic reasons why the Census of 1951 can only afford a very rough approximation of a small part of reality: first, because it dealt with areal units set up on a primarily administrative basis which often had little meaning in economic terms; second, because it dealt with discretely defined occupational categories which corresponded very poorly to the real-life situation in India; and third, because it had necessarily to deal with just a few major aspects of the situation, *i.e.* primary and secondary sources of livelihood and dependency status.[1] In order to find out what the Census could not tell about the occupational structure of India the author spent eight months in extensive field investigations in the academic year 1958-59.

The sorts of questions to which the author sought answers in the field included the following: How is the region internally organized with regard to occupational distribution? Which occupations tend to be more or less evenly diffused over the countryside and which highly concentrated, either in urban centers or specialized villages? By what market mechanisms do goods and services reach the ultimate consumer, especially in cases when those persons who provide them are highly concentrated? Which occupations tend to be practised by specialists therein rather than as mere subsidiary undertakings? What, within the village, were the determinants of the demand for non-agricultural employment? What were the socio-economic determining factors behind individual—or household—decisions with regard to occupational choice? In particular, to what degree does choice conform to the ethos of the caste-based *jajmani* system and the traditional village order? What job alternatives are normally present when a break with the old order is, or is not, made? What work do people engage in outside the village, while continuing to maintain a household within the village and where do they find outside work? What are the chief agencies of occupational change and just how is change brought about?

Wherever possible answers to these questions were sought in quantitative terms, not with any presumption that the responses would be highly accurate, but with the idea that they would reflect the general order of magnitude of the variables much more closely than if reliance were placed on non-quantitative responses. The representativeness and accuracy of the information gathered in the field is discussed in the following paragraphs.

Method of Field Investigation and Reliability and value of the Information Gathered.—The twelve field areas in which work was carried out (Map 22) are not sufficiently numerous to afford one a complete typology of regional variations in the Indian occupational structure, though it is

[1] The 1951 Census also classified all self-supporting non-agriculturists according to employment status as employers, employees, and non-earning dependents' but this question is not taken up in this monograph.


MAP 22
INDIA
AFGHANISTAN
CHINA
W. PAKISTAN
NEPAL
SIKKIM
BHUTAN
E. PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
ANDAMAN AND NICOBAR ISLANDS (INDIA)
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries (other than above)
International Boundary
AREAS IN WHICH FIELD INVESTIGATIONS OF OCCUPATIONAL STRUCTURE WERE CARRIED OUT BY THE AUTHOR IN 1958-59
REGION (NO. OF VILLAGES VISITED)
A. NORTH PUNJAB PLAIN (33)
B. ENVIRONS OF DELHI (9)
C. CENTRAL UTTAR PRADESH (48)
D. SAHARSA DISTRICT, NORTHERN BIHAR (10)
E. EASTERN CHOTA NAGPUR PLATEAU (34)
F. ENVIRONS OF CALCUTTA (5)
G. AJMER (13)
H. CENTRAL SAURASHTRA (10)
I. AMRAOTI, DECCAN LAVA PLATEAU (5)
J. KARIMNAGAR, TELANGANA (1)
K. ARCOT, TAMIL NAD (21)
L. KOTTAYAM-QUILON, KERALA (11)

felt that as a whole they are more or less representative of conditions existing over the greater part of the sub-continent. The areas in which work was carried out were not chosen at random; nor were they selected as a matter of convenience.[2] Rather they were selected primarily on the basis of one of two criteria: (a) because they exemplified or posed a particularly interesting problem (*e.g.*, in working in Central Uttar Pradesh the problem was to find out in what differing ways did the two large, but greatly contrasting cities, the industrial center of Kanpur and the not very distant capital, Lucknow, influence the surrounding countryside); or (b) because it was felt that the region would be more or less typical of or epitomize a much larger area. In introducing each region in the following sections of this chapter the reason for its selection will be made clear to the reader.

Within each study region information was gathered in several ways, not the least important of which was personal observation as the author cycled through the Indian countryside or walked the streets, alleys and lanes of the towns and villages he visited. The great bulk of information was, however, derived from interviews. The interviews were of several types:

(1) Interviews with Government officials.—especially those in the Community Development Administration, who were engaged in prolonged, and often intimate, contact with a large number of villagers from a reasonably compact area within that in which the author was working.[3] These interviews were usually conducted in English; and, while some were quite illuminating, others were very disappointing. The information sought was general background information of a more local and up-to-date nature than could be obtained from the appropriate district gazetteer or the *Imperial Gazetteer* where there was none for the district. Among the causes of poor interviews were the desire of the petty functionary to make a favourable impression on the visiting foreigner (for any of a number of reasons, personal and otherwise); the interviewee's lack of familiarity with the social and economic conditions of the area to which he was assigned—sometimes, but not always, because he was new in his post; the non-availability of the types of statistics normally collected within the community development blocks; and the author's occasional failure to establish proper rapport.

(2) Random, spot interviews.—From time to time, when the opportunity arose, random interviews were made, according to no fixed pattern, with such individuals as factory owners and personnel managers, village artisans, shopkeepers, and itinerant workers of various kinds, simply to round out the author's knowledge of his subject. These followed no pre-conceived format and were in no way systematically planned or subjected to quantitative analysis. They varied in length from a few minutes to over an hour in length. Notes were often recorded only after the interview was complete. The information obtained is assumed to be fairly accurate.

(3) Interviews at the village level.—In each of the nearly two hundred villages which the author visited an interview was conducted with some person or group of persons presumably familiar with the entire village and qualified and trusted to give reasonably reliable responses. Wherever possible it was sought to deal directly with the Village Headman (the *Sarpanch* or the *Pradhan*). These individuals almost inevitably cooperated with us if they could be reached; but, if for some reason they

[2]The single exception is the Delhi area in which field work was conducted primarily on an experimental basis in order to develop a standardized questionnaire, to improve the technique of interviewing, and to become aware of some of the problems apt to be encountered in other areas in order to discuss them beforehand with various staff members of the Delhi School of Economics.

[3]A community development block normally contains in the neighbourhood of one hundred villages with an average total population of about 75,000.

could not be found, or pleaded more pressing business or inability to answer correctly, some other member of the village council (*Panchayat*), or the revenue clerk (*Patwari or Karnegar*), village school master, village postmaster, or village watchman (*Chowkidar*), or simply some respected elder could usually be relied upon. Generally, group interviews were encouraged, even though they tended to be much more drawn-out affairs. In such cases one person usually did most of the answering, while the others present chimed in or were queried themselves by that person on matters on which they were more authoritative. Not infrequently representatives of each major caste or caste bloc were represented.

The interviews covered a rather wide range of subjects and lasted anywhere from half an hour at the minimum to seven hours at the maximum depending largely on the size and complexity of the village. The average length was perhaps two-and-a-quarter or two and a half hours, a time which may seem inordinately long to busy Americans, though not so to most Indians. (Interviews were often interrupted for meals, tea, sweets, baths and even naps; but this time is not rackoned in the estimates given above).

Many of the questions concerned the village as a whole (*e.g.*, which goods and services were supplied to other villages or to towns and cities and which had to be obtained outside the village? Which crops were grown? How much land was under cultivation or irrigation? What types of implements were used in cultivation? What amenities were locally available? What occupational changes occurred in the last decade or so? *etc.*); but in point of time most of the questioning was directed at learning about a single caste at a time. There were several reasons for adopting this approach. First, it is a type of questioning which conforms to the Indian village mentality, which tends to conceive of issues in terms of their caste dimensions. Second, it provided a way of breaking down a large block of people into meaningful components, each small enough as a rule to be viewed as a whole. Third, in asking caste by caste how many households were engaged in the caste occupation (whatever it may have been), primarily, subsidiarily, or not at all, one avoided the possibility of having the caste occupation reported as the actual occupation since the two *names* are commonly identical. Thus, were one to ask how many households of barbers (*Nais*) there were in a given village he would almost surely be told the number belonging to the *Nai* caste, whereas if one were first to ascertain the number in that caste, he could then ask how many of that number were actually doing their caste work.[4]

Virtually all the interviews were conducted through interpreters, though on a few occasions villagers with a very good command of the English language were encountered. (One even had a master's degree in sociology). But even though the author worked through interpreters, one fluent in Hindi, Urdu and Punjabi, the other fluent in Tamil and Malayalam, a number of areas were visited in which the local language was different from any of those in which the interpreters were proficient. In some cases, as in Northern Bihar or Rajasthan, the difference amounted to little more than a change in dialect from standard Hindi, which was easily mastered, especially in regard to the key words. But, in Gujarati-speaking Saurashtra the Marathi-speaking area of the Deccan Lava Plateau, the tribal areas of the Chota Nagpur and West Bengal, English or Hindi-speaking informants or intermediaries had to be found. Fortunately, schoolmasters, *ex*-soldiers, *ex*-factory workers, merchants,

[4]The purpose was no tmerely to find out the degree to which caste-work was being pursued. Once having ascertained that some non-caste work was being pursued, whether, on a subsidiary, primary ,or exclusive basis the informant was questioned as to the number of households or individuals pursuing each kind of such work the place in which they engaged in that work, *etc.*

and the like could always be found to serve in the required capacity. It is not felt that the language barrier greatly affected the accuracy of the field findings, though it protracted the interviews considerably in some instances. Posed with a difficulty, we generally wrestled with it until mutually convinced that we understood one another.

The questionnaire which was used in eight of the twelve study areas was developed only after initial experimental interviews on a non-standardized basis in nine villages in Delhi State and its environs. As a result of that trial experience the major lineaments of the interview procedure were firmly established and only minor details were altered as the field work proceeded. Apart from the Delhi area, non-standardized interview techniques had to be resorted to in the vicinity of Calcutta, where only a hastly reconnaissance was intended; in Telangana, where the author was temporarily without an interpreter and in Travancore-Cochin, where the general absence of nucleated villages made the established interview form unworkable.

Each of the village interviews was assigned a subjective reliability rating by the author, in consultation with his interpreter, immediately after its termination: excellent, very good, good, fair, or poor. Of the 175 villages is the eight areas in which standardized interviewing procedure was employed, 40 yielded excellent results, 66 very good, 43 good, 17 fair, and only 9 poor. A rating of "excellent" indicated that in our view the results of the interview could be relied upon to yield a picture of the village occupational structure which was correct in all qualitative essentials and, in all probability, only slightly inaccurate quantitatively (*i.e.*, with errors generally within 15% of correct values). A rating of "poor", by contrast, indicated that the results of the interview could be trusted only in the broad, general outline, but that many details were probably highly inaccurate.

By and large the areas did not differ greatly from one another in the reliability scores of the villages studied therein. The areas in which the best scores were obtained were the Deccan Lava Plateau, followed closely by Punjab, while in Tamil Nad the scores were slightly worse than in the other regions. The latter case is partly attributable to the size and complexity of villages in Tamil Nad—small villages generally received better scores than large throughout the sub-continent—and partly to the factor that the author was working here with a new and inexperienced interpreter.[5]

[5]A word about the author's two interpreters is in order. The first, with whom the author worked in nine study areas (160 villages in all) was himself, a low caste Hindu villager a holder of a B.A., and the veteran of three years of experience in village survey work in connection with the investigations of the Delhi School of Economics through whose aid his services were obtained. A person of simple habits, boundless good cheer, energy, and obvious sincerity, he had extremely little difficulty in establishing rapport wherever we went. Where doubts arose as to the motive of our investigation he was quick to sense and dispel them; and in those occasional instances when evasive answers were given, that fact was always reported to the author so that by a process of cross questioning the closest possible approximation to the truth could be ascertained. In relatively little time we were able to work efficiently together as a team with a minimum of wasted words and motion. As an illustration of the spirit of the first interpretor it may be noted that after being bed ridden for several days with an improperly diagnosed case of typhoid, he tried to insist on getting up in order that we might jointly get on with the job so great was his concern for the success of the undertaking.

The second interpreter, a Brahmin son of a teacher of high school literature, was no less well-intentioned than the first, but had far less aptitude for field work. Although he received his B.A. with Honours from a Catholic Mission College, of very good standing, he had very little knowledge of village life or insight into village problems Fortunately, the author's experience with the first interpreter enabled him to a great degree to make up for many of the deficiencies of the second, even allowing or the language barrier and the strangeness of certain aspects of the South Indian Socio-economic setting. When an interview was not going well, the author somehow sensed the fact and often the cause as well and was able to suggest the necessary corrective measures.

The method of selecting villages to be visited warrants some attention. No attempt was made at choosing villages in a completely random manner or at deriving a sample of a predetermined size of which the statistical meaningfulness could be determined with some pretensions of accuracy. Such a procedure would have been quite impracticable, since choosing a meaningful random sample of villages within the selected study areas would have imposed logistical difficulties of such a magnitude as greatly to slow down the work and greatly reduce the total coverage of villages.[6] The conscious choice made was to sacrifice depth and precision in favour of breadth, variety and a search for generality.

In practice the villages were selected in such a manner as to seek to ensure the following: (1) That all parts of the study area were reasonably well represented; thus the network of villages covered was such that very few villages covered lay further than ten miles from another village covered, while the average spacing of villages was well below ten miles. (2) That all types of villages normally found in the study area were represented at least once, while the more common types were more frequently visited. This required continual on-the-spot checking on the types of villages found roundabout the ones we were in. Thus were studied villages in all size categories; of all sorts of caste (and/or tribal) structures; with and without irrigation; close to, moderately removed from, and remote from towns and cities or main roads; with and without markets or local artisan specialties; *etc.* The choice of the exact village to go to next was normally made only just prior to actually going there; and often only a general locality was decided on and the particular village chosen as a matter of "pot luck".

Organization and Scope of the Chapter.— The remainder of this chapter is devoted to an individual study of each of the field areas visited, beginning with the areas which are considered, on the whole, the least developed and concluding with those which are considered the most developed. In Chapter VI the findings relating to the several areas will be compared, with respect to a variety of factors relating to occupational structure and economic development and some important summary generalizations will be offered.

The reason for the selection of each area is explained at the outset of each of the following discussions and a brief background description of the most important characteristics of the region or regions of which it is a part is given.[7] (A map is provided, in most cases, to facilitate following this discussion.) Any recent events of particular significance to the area's

[6] The presumably "scientific" sample of 812 villages selected for the Agricultural Labour Enquiry of 1951 was sufficient to engage a field staff of 474 individuals, *not* counting persons who worked for less than three months. Counting the author and his two interpreters the field work for this thesis consumed only sixteen man-months for 198 villages, concentrated in twelve small areas covering not more than twenty thousand square miles in all, or less than two per cent of the entire country. V.M. Dandekar argues vigorously and convincingly in favour of surveys based on studies of selected "organic clusters" of villages in relatively small areas. "The study of regional variations is greatly facilitated," he states, "when the investigation is concentrated in a few regions. ..... [rather] than when it is scattered all over the country." ("Rationale for Regional Variation," in *Rationale of Regional Variations in Agrarian Structure* of India, pp. 102-108, quote from p. 108). Thorner also argues against the pseudo-scientific manner in which the A.L.E. was conducted. "The ruination of the Enquiry may," in his opinion, ..."be said to be an obsession with the theoretical virtues of random sampling coupled with an indifference to the formidable problem involved in its application." He concludes by stating that "At this stage of our knowledge it would appear that one of the research methods most difficult to apply to the study of India's involved landlord-peasant-labourer relationships is the nation-wide sample survey. . . A dozen or two research officers possessed of common sense, training, and some insight in the rural scene would perhaps have been enough" ("The Agricultural Labour Enquiry: Reflections on Concepts and Methods, "*Economic Weekly*, Bombay" Vol.VIII, 23 June, 1956, pp. 759-776, quote on pp. 765-6.)

[7] Unless otherwise specified all the background data presented in the regional descriptions are derived from the various District Census Handbooks, the District Gazetteers, the *Imperial Gazetters*, or information gathered first-hand in the field.

economic history are cited. Following this introduction, the occupational features common to most of the villages in the area are discussed, and then those unique features by which individual villages or village groups may be distinguished. The conclusion of each regional discussion summarizes the significant relationships of occupational characteristics to the level of economic development on a village-wise basis, utilizing the author's subjective rating of each village on the basis of its level of progress and prosperity. (Four ratings only were used: "A" for far above the regional average, "B" for noticeably above, "C" for about average, and "D" for noticeably below). For a few regions, which were not studied in the standard manner, a most abbreviated treatment is resorted to.

The overwhelmingly rural orientation of the following discussions is in part a matter of necessity, in part a matter of choice: of necessity, because it is exceedingly difficult using the interview techniques employed in the villages, or any other short-cut techniques known to the author, to get a very trustworthy picture of the occupational structure of a town of over 5,000 people; of choice, because India is 83% rural to begin with and because, while the towns and cities tend to be quite similar from one area to another, the really significant regional differences stem it is felt, from the varying modes of organization of rural society.[8]

Northern Bihar
(Map 23)

General Background.—As was seen in Chapter IV, there is a tier of districts stretching across the entirety of the Tirhut Plain of Northern Bihar and westward along the Nepali border to Central Uttar Pradesh in which there is an unusually high proportion of agriculturists, always in excess of 85% and in a few districts in excess of 90%. In no other part of non-tribal India are comparably high figures attained. The reasons for the unusual depression of non-agricultural activities in this region, taken as a whole, have already been outlined and need not be repeated here. Rather, it is the author's intention to scrutinize within this general region one small and particularly depressed area presumably epitoizing the larger region of which it is a part. The area in question is in the district of Saharsa, which was separated from Bhagalpur District (now restricted almost entirely to the area south of the Ganges) just prior to the taking of the 1951 Census.

One cannot think of Saharsa District without thinking also of the Kosi, the river which at one time or another in the last century or two has swept over and ravished almost all of that ill-fated area. Draining the entirety of the Everest Massif and the adjacent area of the Himalayas as well, it pours more water (and undoubtedly more sediment) over the North Indian Plain than any other river between the Brahmaputra and the Indus[9]. Its floods are the most devastating in the whole of North India, and the swaths of infertile sand and gravel which bear testimony to their occurrence have spelled the ruination of many once highly productive agricultural tracts and disaster for their inhabitants. The river has been migrating steadily westward, since 1934 at an average rate of a half mile per year. Whereas it used to lie along the eastern boundary of what is now Saharsa it now flows close to the opposite border of the district. In between is a striated landscape of intertwining seasonal water

[8]The occupational structure of India's cities (accounting for 26 millions of India's 62 million urbanites) is moreover, already adequately treated in a doctoral dissertation by Amrit Lal, *some Characteristics of Indian Cities of Over 100,000 Inhabitants with Special Reference to Their Occupational Structure and Functional Organization.* Ph. D. Thesis, Indiana Univ., May 1958) See also his article "Some Aspects of Functional Classification of Cities and a Proposed Scheme for Classifying Indian Cities in *The National Geographical Journal of India*, Vol. IV, Part I, March, 1959, pp. 12-24. Many of Lal's observations with regard to cities will also apply to large towns, while many of the observations made in this thesis with regard to villages should be valid also for small towns.

[9]Henry Hart, *New India's Rivers*, p. 263. The Kosi River and plans to control it are discussed on pp 263—7

MASTER LEGEND SHEET
FOR MAPS 23 THROUGH 32

BASE MAP INFORMATION

BOUNDARIES (as of 1951)

NATIONAL

STATE

DISTRICT

SETTLEMENT

TOWNS & CITIES OF OVER 20,000 POPULATION (1951 pop. is indicated to nearest thousand below the name.)

TOWNS OF UNDER 20,000 (and selected villages with town functions)

HILLS & MOUNTAINS

(Mountains only in Kerala, where hill-lands are left in white)

TRANSPORT

RAILROADS

IMPORTANT ROADS

SECONDARY ROADS

DRAINAGE & ASSOCIATED FEATURES

IMPORTANT RIVERS

SECONDARY RIVERS

CANALS

EMBANKMENTS

DAMS

RIVERINE SANDS

ANNUALLY FLOODED BACK-WATER AREA (Kerala only)

OCEAN (Kerala only)

SAMPLE VILLAGE DATA

EXAMPLE: 21-B ○

470 / 14

225 JAT

110 CHAMAR

20 | 30

15 | 25

(10) | (15)

INTERPRETATION:

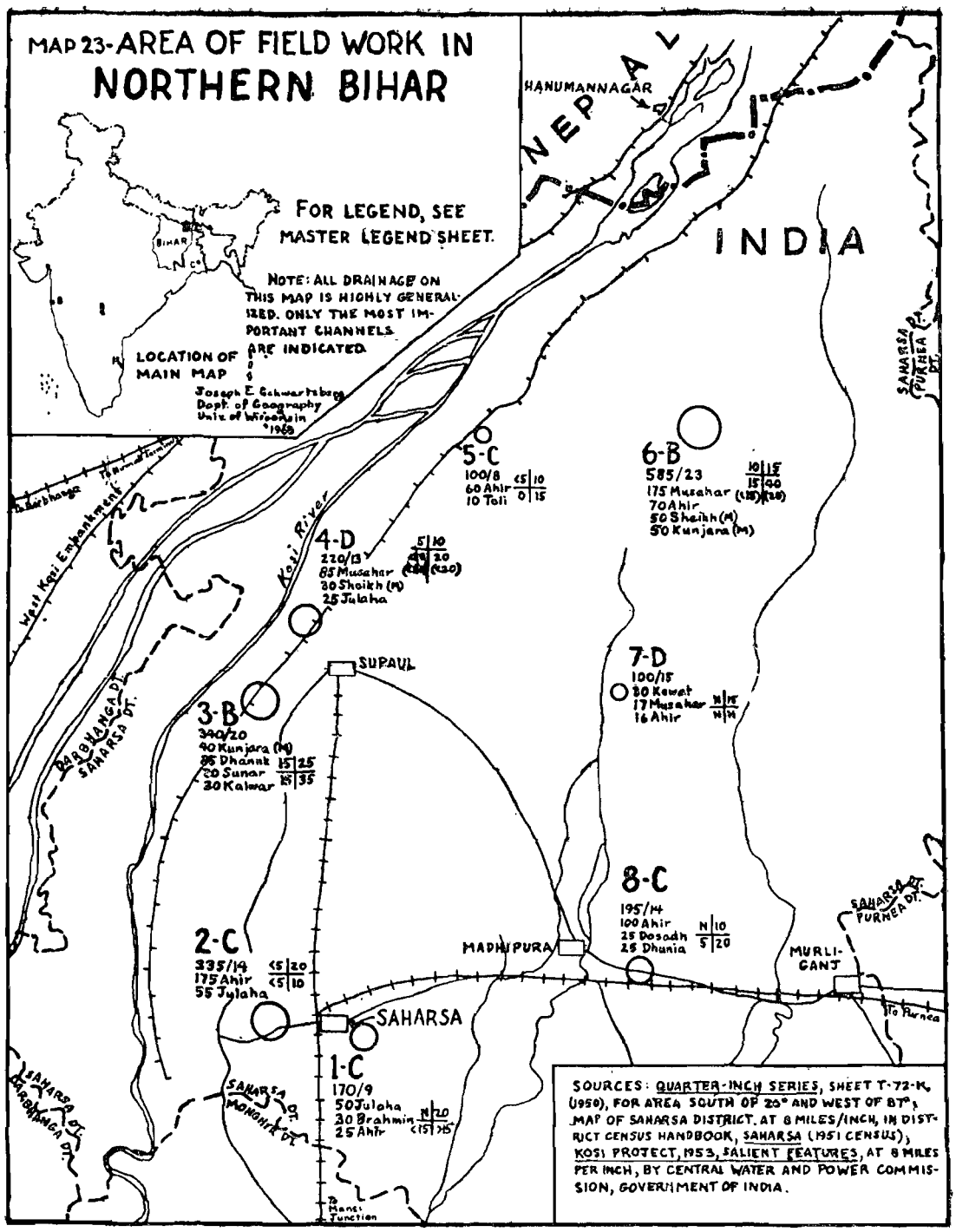
1. 21 is the key number of the village.
2. B is the development rating. (A = very much above average; B = conspicuously above average; C = about average and D = conspicuously below average.)
3. The circle indicates the location and size range of the village, i.e. no. of households.

○	○	○	○	○	○	○	○
50 or below	51 to 100	101 to 150	151 to 200	201 to 300	301 to 500	501 to 750	over 750

4. 470 is the approximate number of households in the village.
5. 14 is the number of castes in the village.
6. 225 Jat and 110 Chamar are the approximate numbers of households in the major castes of the village. All castes with over 20% of the village population are shown, and in most cases all castes with over 10% as well. (M) = Muslim (C) = Christian (T) = Tribe.

7-12. These figures relate to percentages of all households in some way dependent on non-agricultural occupations. (Hunting, fishing and collecting and marketing of the primary production of one's own household are counted along with agriculture.) Percentages are normally rounded off to the nearest 5 percent. > means greater than, < means less than, N means negligible. Items 11 and 12 shown only when equal to or greater than 10%.

7. 20| relates to primary dependence and to work pursued within the village.
8. |30 relates to primary or subsidiary dependence and to work pursued within the village.
9. 15| relates to primary dependence and to work pursued outside the village.
10. |25 relates to primary or subsidiary dependence and to work pursued outside the village.
11. (10)| relates to primary dependence and to work pursued outside the village by persons residing outside the village.
12. |(15) relates to primary or subsidiary dependence and to work pursued outside the village by persons residing outside the village.



Based upon Survey of India map with the permission of Surveyor General of India.

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courses *dhars,* sometimes miles across, barren sandy tracts, barely negotiable by ox-cart and frustrating in the extreme to the highway engineer. (At the time of the author's visit Saharsa still had more elephants than automobiles). Malarial swamps abound in some parts of the *dhars;* yet, paradoxically drinking water is in many areas hard to find in the dry season.

Despite repeated disaster, Saharsa District supported in 1951, a rather dense, unevenly distributed, entirely rural population. Though the district average was 610 persons per square mile, one *thana* (a minor civil division) had a density of only 121 while another had 880. The lowest densities are in the areas of the northwest most recently affected by floods. Owing to a combination of floods, disease (malaria, epidemic cholera, and endemic typhoid and dysentery) and emigration, population growth over the last two generations has been relatively slow. The population depends almost entirely on a subsistence-type agriculture for its livelihood. Rice is by far the largest crop, though relatively few households manage to grow salable surpluses. Formerly, however, much of the produce was appropriated as "taxes" by the *zamindars,* who were said to have been especially oppressive in this area. Without a surplus to sell or barter, it is little wonder then that the local demand for traditional artisans' goods and services sank so low. Prior to the turn of the century indigo was a rather important crop and the dye was locally manufactured prior to transport to Calcutta. But, as elsewhere in India, the industry died out in the face of competition from the burgeoning German chemical dye industry. Jute has replaced indigo as a cash crop to only a small degree and owing to the high cost of transport, can compete on the market with the crop grown in the Gangetic Delta only by being sold at a price scarcely worth the effort of growing it. A little sugarcane is grown for the local market.

Until a few years ago there was not a single metalled road connecting Saharsa District to the rest of India and even today only a few tens of miles at most have been firmly surfaced, with interruptions at the *dhars.* Bus service in the district is also but a few years old and is still both expensive and very limited in extent. The single-track, narrow gauge loop of the Northeastern Railroad traversing the district provides an outlet for goods, but the stretch of track between Saharsa and Murliganj is frequently out of commission due to floods.

The pattern of settlement in the area is one characterized by central villages having, more often than not, one or more outlying hamlets, or *tholas,* which may be occasionally made up of a single caste. The central villages are almost always multi-caste in make-up. Much of the housing in many of the *tholas* is of bamboo with thatched roofs, rather than of mud, suggesting its probable recent construction and the fact that the population has recently shifted due to floods. The size distribution of villages appears to be almost utterly random and lacking in a central place orientation, which a more commercialized economy might develop. A scattering of isolated farmsteads are operated by the Anglo-Indian descendents of the former indigo-planters, many of whom still own large tracts of land. Several towns have been created since 1951, of which Saharsa, the capital, and Madhipura, the chief trading center, are the largest.

By far the largest caste in the area as well as in Bihar in general, are the Yadavas also called Goalas (the same as the Ahirs of Uttar Pradesh), traditionally cowherds, and fairly low in the caste hierarchy. They may originally have come to this area to graze their herds on the grasslands flanking the *dhars,* but the great majority have long since become primarily cultivators. This caste was the only one found in all eight of the villages visited in the field, and was the leading caste in three villages, second in one other, and third in two others. It is

doubtful, however, if they form as much as a fifth of the total district population.

Significantly, there is no single dominant traditionally cultivating caste as is the case in so many parts of India. Other than the Yadavas, eight castes of cultivators and agricultural laborers were encountered (out of a total of thirty-eight) the largest of which, the Musahars, an agricultural laborer caste, are said to be semi-Hinduized aborigines, as are many of the Yadavas and a number of other local castes which the Censuses up to 1931 returned as Hindus. (A few tens of thousands of truly tribal Santals are found in the district mainly to the east of the area in which field work was carried out). The Musahars were the largest group in two villages, second in another, and third in still another. One Moslem cultivating caste, the Kunjara, perhaps better designated as a gardening caste, was found in every village but one, and was the leading caste in one case. Several castes who are traditionally known in this area as independent cultivators are, significantly, associated with the role of agricultural laborers in areas further to the west where they are held in very low esteem (*e.g.*, Pasi, Dhanuk and Rai).

The number of high-caste Hindus (Brahmins, Kayasths, Rajputs and Banias, as well as a few others) and Muslims (Sheikhs and Moghuls) is relatively small, probably not over a tenth of the total; and these groups tend to be quite concentrated, though not necessarily mutually exclusive, even across religious lines. Thus, four out of the sample of eight villages had each from 30 to 130 high caste households, while the other four had a total of eleven.

Of the artisan and serving castes encountered, the goldsmiths and Moslem butchers were highly concentrated, the potters moderately so, and the carpenters, blacksmiths, weavers (by far the most numerous group) cotton-carders, oil pressers, sweetmakers, barbers and leather-workers rather diffuse. For some unknown reason there were extremely few washermen. In all, this entire group of castes probably made up not quite a third of the total population.

The locus of economic power is always an interesting problem in rural India. Here it does not appear to be entrenched among any special group. But much of the land, it appears, has fallen into the hands of Marwari traders and moneylenders who live mainly in the towns, especially Madhipura. The indigenous Banias (the merchant caste) being rather few in the area, the Marwaris, who came shortly after the establishment of East India Company Rule in the 1770's, soon gained a leading position in commerce. Possessed of capital, they were able to buy up much land in times of flood when it was quite cheap or to gain possession through the extension of loans at the customary usurious rates of interest. Most of the original and remaining zamindars, however, were Rajputs and Brahmins.

This district, it may be noted, appears slated for a better future due to the joint creation by the Indian and Nepalese governments of the Kosi flood-control and irrigation project, work on which began in 1954. The river is now contained within two enormous embankments up to forty feet high and more than fifty miles in length. These lead south from the Hanumannagar Barrage, just inside Nepal. (There were, incidentally, at the time of the author's visit, no border formalities in the Kosi Project area). From that point much of the surplus flow will soon be diverted through a system of canals which will eventually irrigate thousands of square miles of Saharsa, Purnea and Monghyr. (Further north in Nepal another diversion system is also under construction to irrigate a smaller section of that country's *tarai* or pre-Himalayan foreland). But no large scheme of power development is included in the Project; and it will be a long time before there is any real market for power in this area. (Only two towns and no villages had electricity in 1959. The first electricity was generated in the district, by diesel power, only in 1955). A higher

priority task is the establishment of an effective system of communications so that such local agricultural surpluses as can eventually be grown may be sent to outside markets.

Analysis of the Occupational Structure.— Saharsa District, according to the Census is 94·0% agricultural. Of this figure, nearly 41% are said to be owner-cultivators and landlords, while over 52% are tenants (29%) and agricultural laborers (23%). Of the 6% non-cultivating workers 0·7% are in miscellaneous primary industries, mainly stock-raising (a rather low figure considering that Yadavas are the largest caste), 0·7% in all forms of manufacturing (*i.e.*, artisanry). 1·1% in construction and maintenance, 2·7% in commerce, 0.2% in transport and communications, 0·4% in health, education and public administration, and 0·7% in other services, including 0·3% in "services otherwise unclassified." Only one of the five census sub-divisions of the district had under 94% of the working force in agricultural pursuits, namely that containing the rapidly growing new district capital. Here 81·4% were in agriculture, 7·5% in construction, 5·5% in commerce, and 0·4% in health, education, and public administration. In the author's opinion, the Census figures are probably essentially correct, as of the year 1951.

The more important occupational data for the eight villages in the field sample are shown on Map 23. In three of these it will be noticed that a negligible proportion (*i.e.*, below 1·5%) of the households are mainly dependent on non-agricultural pursuits, whereas in three others the percentage is below 5% (actually from 1·5% to 3·5% according to the author's reckoning). But two villages (Nos. 3 and 6 on the map) have nearly 15% and 10% respectively of non-agriculturists. Of these, only the former had any genuine non-agricultural development of note; long a marketing center for villages roundabout, it had by far the greatest village concentration of merchant caste families encountered in the area. The latter village, much the largest of the eight visited, and a center of many relatively wealthy Brahmin households and several other fairly well-off castes, does not really have a proportion of non-agriculturists much in excess of what one might expect. Still, one local artisan activity, basketry, is developed to a moderate extent.

It is clear that for the area as a whole, which is probably around 40% non-agricultural in its *caste* composition, the ability for one to pursue his caste calling is greatly limited. Moribund though it may be, however, the *jajmani* system is far from dead, as is evidenced by the figures on non-agricultural pursuits pursued on a subsidiary basis. These range from 10% to 25%. (As we shall soon see also many non-agriculturists also pursue their callings outside their villages). It should be noted, furthermore, that one-fourth of the non-agriculturists (by caste) in the sampled villages were weavers, much of whose work traditionally lay outside the system; and over an eighth were Brahmins, only a small fraction of whom normally performed priestly duties. Thus, the showing is not as low as it seems at first sight. (Of the more than 150 households of Julahas [weavers] encountered, not one was still engaged in its caste work in the village though about a fifth had taken to basketry as a subsidiary source of income.)

The figures for non-agriculturists working outside the village, show some surprisingly high totals, especially in regard to the totals for main plus subsidiary dependence. While four villages have 5% or fewer of their households dependent on outside labor, the remaining four villages (1, 3, 4 and 6) have from 15% to 20% in that category. These merit closer examination.

Village number one, on the outskirts of Saharsa, has benefitted greatly from its location next to a rapidly expanding job market. Almost all of its outside workers are petty clerks and other minor government functionaries, and, not surprisingly, well over half come from the village's thirty Brahmin households.

In villages 4 and 6 the great majority of those primarily dependent on outside work were Musahars doing earthwork on the Kosi Project (which had not yet begun in 1951). From villages 3 and 5, by contrast, very few workers left to work on the Kosi Project even though they were just as well located with regard to the work as villages 4 and 6. This reflects a characteristic feature of Indian employment policy whenever large numbers of labor are needed, namely, the mass recruiting by a labor contractor (working on a commission) from specific villages and usually from specific caste groups therein, including very commonly the caste to which he himself belongs. In the case of earth-moving, which is a menial task which not even cultivating castes (as opposed to agricultural laborers) would take to willingly, very low castes are usually engaged. The Kunjara, we have seen, are not far beyond the tribal state and a natural choice for the work in question. Villages 4 and 6 are, incidentally, the two in which they were the largest single caste.

Village 3, as previously noted, is a commercial centre. It is not surprising to note then that of the households depending on outside workers, 27 were those of itinerant goldsmiths (all the Sunar caste), and 15 of itinerant grain-dealers (12 Kalwars, to whom trading is a caste occupation, and 3 Telis, traditionally oilpressers, but often taking to grain-dealing when forced to leave their caste work). Also working outside, but on a subsidiary basis, were itinerant cotton-carders from some 20 households (all of the Dhunia caste) and itinerant vegetable-hawkers from around 25 households (all Kunjaras, the Muslim gardening caste). A phenomenon not uncommon in Indian villages, that of economic imitativeness, without or with little respect to caste differences, appears here to be at work.

Some final random incidental notes.—The subsidiary outside work not yet accounted for includes a great deal of carting for hire (especially in villages 5, 6 and 8) a type of work which virtually any caste, including Brahmin, feels free to do; some casual work in brick kilns; and very little else. Most of the outside workers from village 2 are in the Jharia Coalfields, though none have gone there from any other village. Extremely few outside workers from any caste or village have found work in cities. An important subsidiary source of income for several low castes in villages 4 and 5 is the selling for fuel of a woody reed that is gathered along the Kosi. (This engaged over 30% of the households in each of these two villages; but the occupation was not counted in the statistics given on Map 23).

Counting all the above (including reed-gathering and selling) the percentage of households with more than one occupation varied from 30% to 65% in seven of the eight villages and was but 15% in the eighth (village 7). That this was so is primarily a function of the fact that the great majority of households mainly dependent on non-agricultural work were also subsidiarily engaged in agriculture in one or another tenure capacity. In two village (1 and 8) not a single household was reported to have no stake at all in agriculture, while in three others (2, 5 and 7) the number was negligible. Village 3 reported the maximum of 10% of all families with no direct agricultural ties whatsoever.

Occupational Structure and Economic Development.—While no village of the study area would be considered as highly developed, even by Indian standards, two villages numbers 3 and 6 (marked B on the map), do appear to stand out as being noticeably better off than the rest in terms of wealth, amenities, available agricultural equipment, etc., while two others, 4 and 7, (indicated by a rating of D) are probably somewhat worse off than average. (Village 6, incidentally, possessed the only source of inanimate energy in the entire eight villages, a diesel-powered rice-mill).

Occupationally, the level of development or prosperity would appear to be best reflected by the percentage of caste non-

agriculturists still following their traditional work on a primary basis: averaging over 30% for the two B-villages, 7·5% for the C-villages and only 5% for the villages rated D[10]. The B-villages had 11% of their households primarily dependent on non-agricultural work within the village, while the other two groups averaged only about 2% each. Counting both primary and subsidiary forms of non-agricultural activity within the village, the averages were 20% for the B-villages, 15% for the C-villages, and about 12·5% for the D-villages. With regard to non-agricultural work outside the village, averages are not very significant because of the large amount of temporary construction work on the Kosi Project; yet even in this regard, the two most advanced villages exhibits far higher percentage than the average of the remaining six. The percentages of each village group in high castes is also of note, though not entirely in line with expectations, averaging 25% for the B-villages, 6% for the C-villages, and 9·5% for the D-villages.

In all the above occupational comparisons the differences between the B-villages and the C-villages is much greater than that between the C and the D villages. The same is true with regard to apparent development. The explanation is that the villages of the area as a whole are so depressed and so minimally supplied with *non-agriculturists* that it is not physically possible to get much below the local average and still survive. Whether the degree of development more closely reflects the *occupational* structure of the several villages sampled or the *caste* structure, with which it is intimately related, is, in the author's mind, a moot question. His sample was not large enough to permit him to arrive at a definitive answer.

Eastern Chota Nagpur

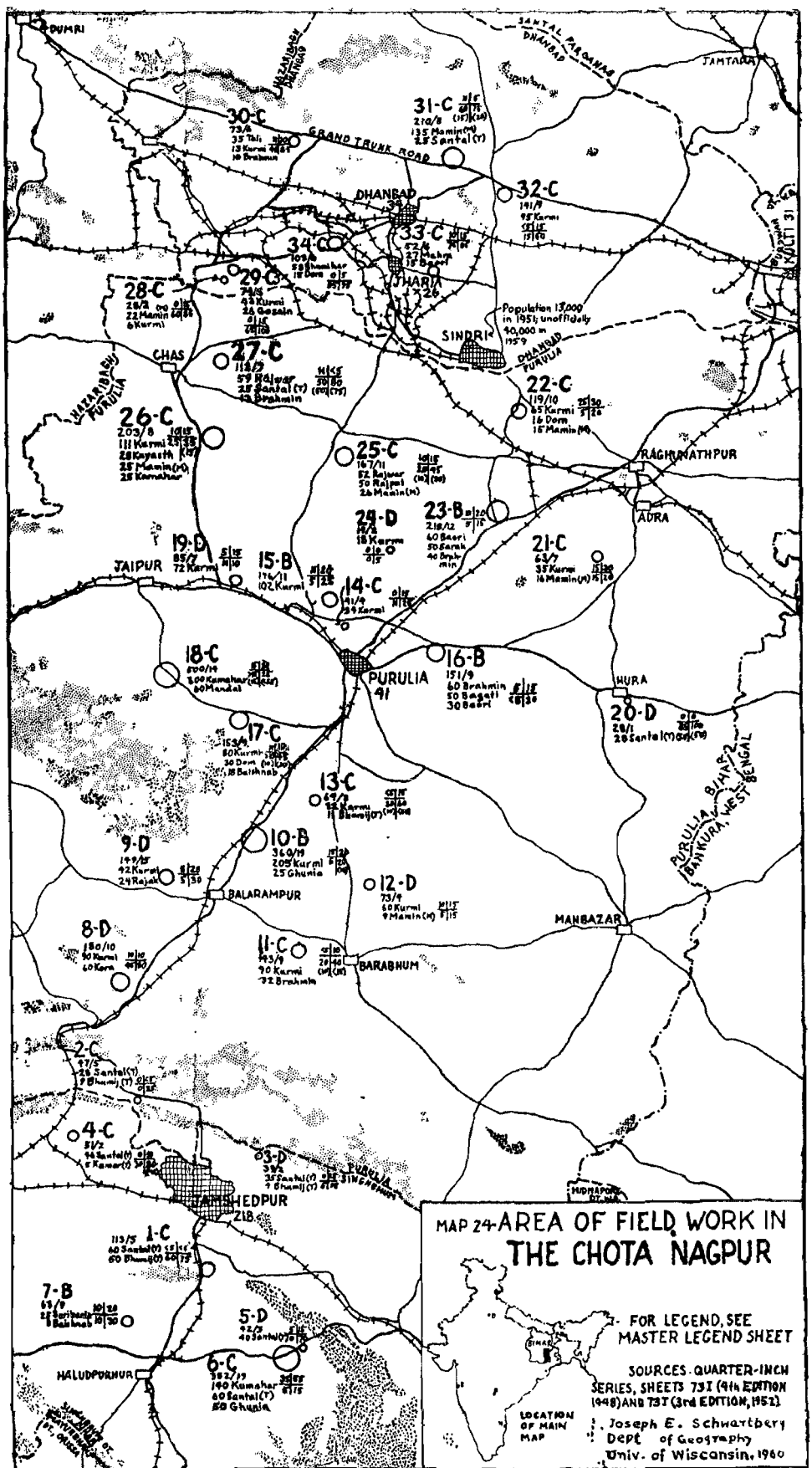
(Map 24)

General Background.—It seems paradoxical, perhaps, to place an area of India containing the nation's largest iron and steel complex, its most productive coalfield, and its largest center for the production of heavy chemicals close to the bottom of the developmental ladder. Nevertheless, most of the area, when measured in terms of population or territorial extent, is, in fact, quite underdeveloped. Such modern development as exists has been superimposed only in relatively recent times on an economic base of tribal and subsistence peasant economy, which, for the most part, (except around the coalfields), has not yet been radically altered. Moreover, the part of the population with which we are here most concerned is the rural population toward which the author's field work was primarily directed.

What the author was most interested in finding out in the study area was: (a) What sort of impact did the location of the iron and steel works at Jamshedpur have on the occupational structure of the largely tribal area roundabout? (b) What sort of impact did the growth of the mining industry in the Jharia Coalfields and the chemical industry at nearby Sindri have on the surrounding primarily peasant subsistence economy? and (c) What was happening in the meantime to the fairly extensive and still overwhelmingly agricultural area in between?

In providing in the following paragraphs a background description of the study area, all of which forms a part of the eastern Chota Nagpur Plateau (a misnomer since there is little in the terrain there to suggest

[10]The averages of village data in this chapter, unless otherwise stated, are *not* weighted for the population of the several villages concerned. Using the map data the reader may check the differences between weighted and unweighted averages if he chooses to do so. One reason for not weighting the data by villages size, apart from the obvious reason of economy of effort, is that in reality there are a great many more small than large villages, whereas the author's sample is biased to include a somewhat larger proportion of relatively large villages. Since large villages are usually more varied than small villages, in order to get representation of all the major types of villages normally found in an area, a larger proportion of the former had to be included in the sample. But to average all the sampled villages on a weighted basis would give a misleading picture for the area as a whole.



MAP 24-AREA OF FIELD WORK IN THE CHOTA NAGPUR

FOR LEGEND, SEE MASTER LEGEND SHEET

SOURCES: QUARTER-INCH SERIES, SHEETS 73I (9th EDITION 1948) AND 73I (3rd EDITION, 1952).

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Dept of Geography
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LOCATION OF MAIN MAP

Based upon Survey of India map with the permission of Surveyor General of India

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this type of landform), it will be best to consider a three-fold regional sub-division. The three sub-regions are the predominantly tribal area around Jamshedpur in the eastern Part of Singhbhum district and the southern fringe of Purulia, the predominantly Hindu peasant agricultural area comprising most of Purulia, and the coal-mining area of Dhanbad overlapping slightly into northern Purulia.

a. The Area Around Jamshedpur.—The steel city of Jamshedpur is located at the confluence of the Subarnarekha and its tributary the Kharkai at the northern fringe of a basin rimmed by classical examples of low folded mountains, verdantly wooded in deciduous forest, and with a local relief varying from about a thousand to nearly two-and-a-half thousand feet. Through the mountains the Subarnarekha flows *via* a series of water gaps which also provide some of the chief points of egress and ingress for rail and motor traffic. But until recently the area maintained a high degree of isolation, and the infusions of Hindu settlers into the region were negligible. It was never conquered by any of the Moghul or Maratha generals and escaped pacification by the British until the 1830's.

The dominant group of the overwhelmingly tribal population are the Santals (often called Manjhi) who practice a sedentary form of agriculture, devoted almost exclusively to the production of rice and carried on during the rainy season only, without the aid of irrigation.[11] Hunting, fishing and the gathering of wild fruits such as the flower of the ubiquitous mahua tree supplement the native diet. The only other tribal group found locally in appreciable numbers is the Bhumij, said to be more Hinduized than the Santals, though not differing noticeably from them so far as the author could discern. Both groups live amicably side by side, often in the same village. In addition to the tribals, however, there is now a moderately large rural Hindu minority concentrated in a relatively small number of villages, generally much larger in size than those of the indigenes. No single caste appears to be very large. Contact between the cultures has resulted in many of the tribal men's learning to speak the local dialect of Bihari, though women usually remain unilingual.

With the creation and steady expansion of Jamshedpur, beginning in 1908, many of the tribals found seasonal work in various construction jobs to which they take quite readily, especially in the dry season. Many also took to seasonal work in nearby mines. But relatively few have sought or accepted permanent employment in the mills, though they respond readily to calls for day labor.[12] The vast majority of the population of Jamshedpur consists of outsiders from all parts of India. They consider themselves, moreover, permanently tied to their new home, where industrial working and living conditions are among the best in the country. This is in sharp contrast to the situation in many other industrial cities in which the umbilical ties of the worker with his maternal village are rarely completely severed.

b. The Purulia Area.—North of the mountains, most of Purulia is an undulating plain, incised by a system of streams of moderate width flowing generally eastward to the Damodar or onto the flat delta lands of West Bengal, and irregularly punctuated with low, isolated hilly outliers of the more rugged parts of the Chota Nagpur lying to the west. There are no physical barriers to communication with the delta; but to the west are encountered a number of escarpments marking the edge of the tableland of Ranchi District.

While the vast majority of the area is topographically suited for cultivation, a minority of the land is actually under crops, owing largely to the fact that over much of

[11] Slash and burn agriculture (locally called *tangia*) was practiced until quite recent times. It is now however, banned by law.

[12] Based on an interview with the Public Relations Officer of the Tata Iron and Steel Company.

the land there is surficial hardpan which the wooden ploughs locally in use cannot penetrate. Due to a combination of poor technology and deeply incised water courses little of the land can be irrigated, and generally one crop of rice per year is all that is grown, but for very small patches of vegetables. The mahua fruit and very occasional fish and meat round out the diet. (The Hindus here are generally not strict vegetarians). Subsidiary income is also derived from the collection of lac and wild silk *tasar* in the forest. Considering the general infertility of the lateritic soil, and the limits within which it is used, the population density of over 450 persons per square mile (90% of them agriculturists) is quite high.

Settlement is mainly in small, rather evenly dispersed, nucleated villages, laid out without much apparent regard to the system of improved roads which, for the most part, is a quite recent development. (One trunk road did, however, traverse the area from east to west even in pre-Moghul times). The towns and a few large trading villages which developed at road junctions account for but a small part of the population. Purulia, the capital and the only fair-sized town, had under 42,000 inhabitants in 1951. The only other town with more than 10,000 inhabitants is Adra, a "railroad town", which contains one of the principal service and repair yards of the Eastern Railroad. Altogether, the urban population constituted but 6% of the district total.

The most important ethnic group by far in this area are the Kurmis (also called Mahatos) a Hinduized group of predominantly aboriginal origin, who function as the cheif yeoman caste of the area. (They are rather rare in the area of Singhbhum). This group formed the leading caste in fourteen of the twenty villages visited in this area, usually to the total or nearly total exclusion of all other cultivating castes. In thirteen of those villages they formed an absolute majority of the total and in four of those five-sixths or more of the total. But in the six remaining villages, not one Kurmi household was encountered, and the usual pattern of a single, numerically dominant, cultivating caste is not especially pronounced. No other cultivating caste approaches the Kurmis in importance, though there are signs that their hegemony grows weaker as one goes north and east. Pastoral castes and castes traditionally engaged in agricultural labor (Bhuiyan, Baori, and Kora, among others) are conspiouously rare in this area, and are most often encountered in the non-Kurmi villages. Though the great majority of Kurmis own their own lands many migrate eastward to work also in the planting and harvesting seasons, on the farms in Bankura District, where the monsoon begins somewhat earlier than in Purulia. There has long been considerable contact between the two areas, and Bengali castes have been gradually infused into Purulia. The Bengali language has spread even further. with the result that with the states reorganization of 1956, most of the district was ceded by Bihar to West Bengal, while the southwest and northwest went to Singhbhum and Dhanbad Districts respectively.[13]

High castes are generally few in the villages, probably not amounting to more than 5% of the total rural population; and they tend to be concentrated in a fairly small number of villages, generally not those dominated by Kurmis. (Seven of the twenty villages sampled, including five of the six non-Kurmi villages, contained well over nine-tenths the total high-caste population.) Brahmins appear to comprise the great majority of the high caste population. Merchant castes

[13]As evidence of the processes of cross-acculuration at work in this area is the fact that almost all castes and several tribal groups encountered have at least two names.

are singularly rare, having been encountered in only three villages. Sixty of the total of eighty households met with, in fact, were in a single non-Kurmi village, where, after the potters (Kumbhakars), they formed the second largest caste.

While virtually every village has some households of artisan and serving castes there is no clear pattern to their distribution. The most evenly diffused groups appear to be the blacksmiths (Kamar), and barbers (Nau or Napit) who are respectively found in fifteen and fourteen of the twenty sampled villages, while the much more numerous weavers (Tanti or Mamin), found in thirteen villages, are the second largest group in two cases and third largest in several others.[14] An untouchable group, the Doms, whose caste work is basketry and music-making on ceremonial occasions, are found in eleven villages, usually among the Kurmis, and in two villages are the second largest group. Various other untouchable groups (mainly sweepers and leather-workers) were found in a majority of villages, generally in small numbers, and, for some unexplained reason, overwhelmingly in the south. Oil-pressers (Gorain or Kulu) were found in half the sampled villages, forming the second largest caste in one. Potters, the only other artisan caste of note, were found in only five villages. In one of these, however, they comprised three-fifths the total population of around five hundred households while in another they accounted for approximately twenty-five households of a total of about two-hundred. We see, then, that among certain specialized castes, (including Brahmins and trading castes) there is a marked tendency toward concentration, while even among the castes which are more widely distributed, the tendency towards clustering is more marked than in other parts of India.

Several tribal groups are found in the area under view, and it is probable that a majority of villages will have at least a few tribalists living therein, mainly working as small owner-cultivators, or as agricultural laborers and quite frequently as both. The Bhumij are the most numerous group, followed by the Santals, while a few other groups with craft specialities also exist in very small numbers. One very a typical village (number 20), encountered on the outskirts of the small town of Hura, consisted exclusively of Santals who immigrated there two generations ago from Bankura. But, apart from this case, nowhere else (in the sampled villages) do tribalists, taken all together, account for as much as a fourth of a village's population, while in only a few cases do they equal or approach an eighth.

c. The Coalfields Area.—There is no sharp boundary between the area just described and the coal-mining sub-division of the Eastern Chota Nagpur study area. True, the great majority of collieries are concentrated north of the Damodar; but a few are also found on the right bank, while the zone to the south of the river, from which mine labor is extensively drawn, extends over a considerably wider area. Kurmis, the overwhelmingly dominant caste of Purulīā, though also important in Dhanbad to the north, may actually be outnumbered there by the Tantis (weavers).

The terrain north of the Damodar, generally more steeply rolling and more verdant than the territory to the south, gives way along the northern border of Dhanbad District to a discontinuous range of mountains culminating in Parasnath Peak (the site of some magnificant Jain Shrines), some 4,500 feet above sea level. Agriculture is practiced in much the same manner as in the area to the south, but is a bit more diversified. There is, however, no apparent supplementary collection of lac and wild silk.

[14] Actually, there are two district blacksmith groups calling themselves Kamar, one of the tribalists who have taken to that work, and the other Hindu, though perhaps of recent tribal origin. The former accounted for five and the latter for ten of the fifteen villages. Both groups do a bit of carpentry as well as blacksmithing.

The great difference in the economy of the two areas is, of course, that stemming from coal mining and the coke and chemical industries based thereon. Coal-mining is carried out in two rich and separate fields, the larger and more productive of which, the Jharia Field, occupies much of southwest Dhanbad and overlaps slightly into Purulia and, on the west, Hazaribagh. The Raniganj Field extending into southeast Dhanbad and Purulia from the Burdwan District of Bengal lies just outside the study area.

The area of coal workings can be inferred fairly accurately, on Map 24, from the location of the dense rail network. Mining was unimportant prior to 1894 when the first rail link to the area was completed. The industry has grown steadily ever since and today hundreds of collieries support well over 100,000 workers, more than a third of all the coal miners in India. These miners, a large number of them women (who may, by law, only work above ground), are mainly from the district of Dhanbad itself. Many commute from villages some distance from the coalfields, often in pickup trucks and buses provided by their employers, while others live in barracks-like company *bustees* among the collieries proper, their villages having been engulfed by the spreading mine complex. The number of immigrant workers, largely tribalists, living at the mines is also considerable.

Four coking plants have been opened up in the Jharia Field. These plants also produce a variety of chemical by-products.[15] In addition, shortly after independence India's largest chemical complex was begun at Sindri on the Damodar. Production began in 1951, and today it is the largest fertilizer plant in all of Asia, as well as a large producer of cement and a wide variety of other chemical products. Expansion is going on apace. Virtually all skilled and semi-skilled labour is brought in from other areas of India, as is the case at Jamshedpur. The local job-seeking population has had to content itself largely with menial jobs and sundry day labor, and formed only about a fifth of the more than 10,000 persons regularly employed at the time of the author's visit.

Still another of the rapidly growing exportable goods of the study area is electric power, the production of which is largely in the hands of the Damodar Valley Corporation (D.V.C.), often referred to as India's T.V.A. This corporation was chartered in 1948 as an autonomous body to provide for flood-control, irrigation, navigation, and power development in the Damodar River Basin, and, so far as power is concerned, in adjoining areas as well. Its integrated transmission grid has already reached north to Patna, capital of Bihar, south to Jamshedpur, and southeast to Calcutta. One of the principal generating plants (thermal) is at Sindri itself, while two others, at Maithon and Panchet Dams, also shown on Map 24, are already or are soon to be put into operation. For the most part, the benefits to be reaped from the D.V.C., including all the irrigation, will be downstream from the study area. How cheap power will eventually alter the economy within the study area is uncertain; but as of the time of the author's visit the visible effects were negligible.[16]

With regard to the ethnic composition of the area it has already been noted that the weaver caste (Tanti) appears to rival the Kurmi for numerical superiority. Though encountered in only three of the seven villages, they formed a large majority in two; and local enquiry convinced the author that these were not mere chance cases. Kurmis, who were found in five

[15] There are no iron and steel industrial units in the area of the Jharia Field, but in the Raniganj area of Eastern Dhanbad are a re-rolling mill and fabrication plant, while even larger units are found further east in Kulti, Burdwan. A large iron and steel complex is located also at Durgapur, Burdwan and another mill is projected for Bokaro.

[16] The D.V.C. is discussed at length in Hart's *New India's Rivers*. There are too many citations to list individually; but the book is well-indexed.

villages, formed a majority in two and in two others ranked as poor seconds to the leading caste, while in the fifth village they were represented by but a single household. High caste groups were poorly represented, just as in the area to the south. No village was found with over ten Brahmin households, a fact which could well be attributed to chance; but in one village, the Bhumihars, a caste with pretensions to Brahmin status, were an absolute majority. In addition to weavers, the artisan castes of oil-pressers (Gorains) and sweet-makers (Mera, or Modak) were well represented. The former, found in four villages, was the largest caste in one and second in another, while the latter though only encountered in two villages comprised a majority of one and was tied for a poor second place showing in the other. For some reason, not known to the author, the serving castes are very poorly represented. The barber caste, for example, was met with in only two of the seven villages. Agricultural laborer castes were also poorly represented, and pastoral castes accounted for but a single household. Tribals, mainly Santals, were found in only three villages, in one of which they ranked as the second largest group. Probably their numbers increase greatly in the hill country just to the north.

In summary, the caste composition of the area appears to be rather devoid of pattern and quite unlike that of any other region which the author studied in India. Much of the confusion in the general picture may, of course, be due to the disruptive effect of the mining industry on the traditional economy and the movements of population which it has necessitated. What does seem clearly note-worthy, however, is the marked tendency towards concentration of particular artisan castes in a few villages. This was apparent also, though to a lesser degree, south of the Damodar; and, as shall be pointed out subsequently, is probably even more pronounced on the Gangetic Delta. Quite likely Dhanbad is part of a transitional zone, with regard to caste structure, between a region to the west, where artisan castes tend to be dispersed, and West Bengal, where they tend to be concentrated.

Analysis of the Occupational Structure.—Table 10, below, shows the occupational structure, according to the 1951 Census, of some of the significant divisions included wholly or partly within

TABLE 10

OCCUPATIONAL STRUCTURE OF SINGHBHUM, PURULIA AND DHANBAD DISTRICTS OF BIHAR, 1951

(All figures, except for column 1, are percentages of self-supporting male workers)

	No. of Workers[1] (1,000's)	Agriculture[2]	Mining and Quarrying	Processing and Manufacture	Commerce	Transportation and Communication	All Other Services
	1	2	3	4	5	6	7
Singhbhum	351	70·6	2·1	15·3	3·5	1·8	6·7
Rural	269	89·9	0·9	4·2	1·1	0·9	3·0
Urban non-city	17	25·5	29·5	6·5	13·4	9·2	15·9
Jamshedpur	65	1·2	0·1	64·0	10·7	3·3	20·7
Purulia	389	90·1	1·0	1·9	1·9	1·6	3·5
Rural	369	93·2	0·9	1·3	1·1	0·6	2·9
Urban	19	26·3	2·5	13·7	15·8	20·9	20·8
Dhanbad	237	35·1	40·1	4·0	6·2	4·3	10·3
Rural	203	39·8	45·4	3·1	3·0	3·0	5·7
Urban[3]	34	7·2	8·7	9·2	24·9	12·5	37·5

[1]Self-supporting males only.

[2]Includes primary industries not elsewhere specified, which in no case exceeds 0·8%.

[3]Includes only Dhanbad, Jharia and Sindri even though there were seven other places, listed under villages with over 5,000 population which were overwhelmingly non-agricultural in character.

the study area. The author has no reason to doubt the essential correctness of most of these data. Two unusually high figures. 29·5% for mining and quarrying in the urban non-city population of Singhbhum and 20·9% for transportation and communication in the urban population of Purulia, may occasion some surprise. The former is explained by the presence of several mining towns among the urban places covered, the latter by the overwhelming transport orientation of the railroad town of Adra. Otherwise the figures are about what one would expect. The figure of 9·2% in processing and manufacture may seem low for the urban population of Dhanbad; but the plant at Sindri was probably not quite yet in operation at the time of taking the 1951 Census. Rather striking are the very low proportion of workers in commerce and the high proportion of agriculturists in the so-called urban populations of Purulia and Singhbhum (excluding Jamshedpur).

Turning from the data of Table 10 to the data of the sample villages shown on Map 24, we begin with an analysis of the non-agricultural population working within the village. In general, as one would expect, this population is rather low. Considering only those households mainly dependent on non-agricultural pursuits, we find that in six out of seven villages of the southern sub-division of the study area sixteen out of twenty in the middle subdivision and all seven of the northern subdivisions the percentage of such households is ten or fewer and that in three villages of the southern, six of the middle and five of the northern sub-divisions the percentages were zero or negligible.

In only five villages out of thirty-four were more than 10% of all households mainly dependent on non-agricultural pursuits carried on in the village. Villages 6 and 18 were specialized potter's villages in which a large part of the caste clung to its traditional occupation. Village 10 is a large roadside village which has developed into a fairly prominent market and center of artisanry for caste weavers, potters and rope and basket-makers. Villages 21 and 22 are also characterized by the high degree to which artisan castes have adhered to their traditional callings, (Weavers in both cases and several other castes as well in the latter).

When one considers subsidiary as well as primary dependence on non-agricultural occupations within the village, the percentages of course, rise considerably. Still in only four villages, 6, 18, 21 and 22, all of which were discussed above, were 25% or more of all households so involved. In these villages many families of the already cited artisan castes, though unable to pursue their traditional work as a main source of livelihood, do follow it on a subsidiary basis. In five other villages 20% of all families were primarily or subsidiarily dependent on non-agricultural pursuits. Four of these were in the central sub-division of the study area, while the fifth, number 7, a high caste village, was in the south. These relatively high percentages were almost always mainly attributable to the pursuit of caste work, but in at least two villages significant numbers of women were engaged in the manual husking and subsequent sale of rice (which they bought up in their own and in surrounding villages).

Not counted in the non-agricultural work was the collection of wood in forests relatively close to the village proper and its sale in the market towns. This was an important activity in several villages. Similarly, hunting, fishing, and miscellaneous collection of lac, wild silk cocoons, etc. were not counted. Some or all of these activities were important in all the tribal villages and a number of others in Purulia as well.

The picture which emerges from a study of the data for non-agricultural work carried on outside the village is fairly complex. At first glance it may appear that the number of households involved is so

great in Purulia District as to be irreconcilable with the occupational statistics of the Census. But it should be borne in mind that the Census enumerated workers at their place of residence while at work, whereas the author enumerated households in the villages regardless of where the principal earner happened to reside. Moreover, the author's system of tabulation often involves double counting when a household has one or more subsidiary sources of income, outside of agriculture. Thus, if a given household has one member engaged in weaving within the village and another working for the railroad outside it was counted twice, which appears to swell the figures on non-agricultural employment.

The most important of the sources of outside labor is, of course, the collieries. In Dhanbad District mine work was the main source of livelihood for between 40% and 85% of all households in five of the seven villages sampled, and a subsidiary source of income for a clear majority of the remaining households. It was relatively unimportant only in villages 31 and 32, which were somewhat removed from the mines; but work on the railroad (mainly gang labor) and day labor, largely in the town of Dhanbad, were quite important in both these cases. The villages in Purulia from which much outside labor is employed in the collieries include numbers 27, 26, 18, 17, 16, 13 and 8. In several of these cases mine work accounts for the great majority of all the workers living outside the village. A striking aspect of the distribution of these villages is that some of them, 8 and 13, for example, are quite far removed from the mines, whereas others which are much closer, village 22, for example, have exceedingly few mine workers. Eight households in village 22 do, however, send commuters to Sindri. (This was the only village in which the author encountered workers employed in Sindri). No village visited in Singhbhum was found to have any workers in the coal mines, though a number of workers in village 6 were employed in nearly copper mines.

Since the market for unskilled labor in Jamshedpur is much more restricted than that in the collieries it is not surprising that its local influence is less far-reaching. Outside Singhbhum District, only villages 8 and 11 send any significant numbers of workers to that city. Of the seven villages studied within the District, only village 1 was heavily dependent on work in Jamshedpur (mainly day labor on various construction projects), while village 7 was the only other one to send any workers at all on a regular basis. A rather large number of workers (all tribal, as in village 1) from village 4 did, however, do factory work, both full-time and seasonal, in the nation's largest glassworks at Kandra, only a mile away. Of the five overwhelmingly tribal villages studied in Singhbhum, numbers 2, 3, and 5 were, so far as their main sources of income were concerned, still very much tribal in their economy, but some households from each indulged in subsidiary seasonal manual laborer, mostly as workers in road building crews (especially village 7).

Railway work, in the yards at Adra or as gang coolies, provided still another major source of outside labor, especially for villages 10, 21, 23, and 25, (note that village 25 is quite remote from any railroad) in Purulia, as well as in the aforementioned villages 31 and 32 of Dhanbad. Road work was important for villages 5 (already mentioned) and 25; and the carting of stones, largely in connection with road work, was important in village 8 and 9, both in easy reach of quarry sites in the hills. The extensiveness of all forms of transport construction and maintenance work can largely be attributed to the heavy wear to which both roads and railroads are locally subjected due to the steady haulage thereon of coal, iron and steel. The Census figures on construction and maintenance (of all kinds) are, however, incredibly low, 0·2% in Purulia, 0·6% in Dhanbad, and 1·0% in Singhbhum; and it is difficult to believe that even in 1951 so few workers in the study area were so employed. In all likelihood the Census

listed a great many construction and maintenance laborers, not according to their most remunerative occupation (as it should have done), but rather according to their habitual work, which in most instances was farming.

Just beyond the limits of Map 24 is another area to which many workers from the sample villages were drawn, namely the heavy industrial area of Burdwan District in West Bengal. The villages most affected are 18 and 20, from which many construction laborers left to aid in the construction of the new steel plant at Durgapur and 9 and 17, from which workers have gone to work in already established factories.

In passing, mention might be made of several additional outside-the-village activities in which significant numbers of households are engaged, usually on a subsidiary basis. Foremost among these is petty trading. Numerous castes, in addition to those normally associated with commerce, are involved in this activity: Kurmi women in the buying up and selling of petty consignments of rice (which they often husk in their own villages), Tamolis (betel growers and sellers in other parts of India) in dealing in grain and lac, Ghunia (a fishing caste) in the hawking of fish and salt, Hari (traditionally sweepers and horse grooms) in the selling of fodder, Kumbhakars (potters) in the hawking of grain as well as pots, Kulus (oil-pressers) in the hawking of grain and oil, etc. It is fairly common in India for a household of an artisan caste or one associated with some form of specialized primary production to continue to deal commercially with the product with which that caste is traditionally associated long after having given up its production. This accounted for a substantial part of the petty trade in the present study area. Also of note are itinerant genealogists (Baishnabs), priests (Brahmins), musicians (Doms) and few itinerant healers (Vaidyas), as well as a not inconsiderable number of beggars from various castes traditionally associated with this activity. Finally seasonal work in brick-making was an important activity for numerous tribal families.

In considering the status of the *jajmani* system in the study area it is important to recognize that it probably was never as highly developed here as in most other parts of India. The reason for this hypothesis is that the locally dominant Kurmi caste (over most of the area) appears to be only relatively recently removed from the tribal state and would, therefore, not yet have had the time or achieved the hierarchical status required to develop a highly ramified complex of demands for the goods and services provided by specialist castes. While non-agricultural occupations, where followed in the village economy (except for petty trade), were almost always on strictly caste lines and while a majority of the non-agricultural caste workers in the villages appear to be engaged to some degree in their caste work, there was virtually nothing in the pattern of distribution of serving and menial castes or the work they performed to suggest a well developed system of fixed *jajman-kamin* relationships. The author, however, is not quite sure what the rationale of the system of providing goods and services may be, insofar as it differs from the normal supply and demand market system practiced in modern economies. That customary agreements and payment in kind, and to a lesser degree, in perquisites are the general rule in intra-village exchange is not doubted; but how binding these are, over how wide an area they normally extend, and whether or not they are heritable are questions requiring much more research.

With regard to work outside the village economy, whether in coal mines, or steel mills, or for the railroad, caste does not appear to be an important factor in the willingness to accept available work. This is particularly true in proximity to the coal mines in Dhanbad where the traditional

economy seems almost totally to have disintegrated. As a general rule, however, high caste workers, who are usually much better educated than the Kurmis, low caste, or tribal groups, succeed in obtaining the more skilled and responsible positions. What is perhaps surprising is that they can now work day to day in such close contact with low caste groups as underground mine labor requires and then return each night to their villages without the important question of bodily pollution becoming a vital issue.

A related tendency noticeable within the study area, one suggestive of a tribal rather than a caste ethos, is that of a particular occupation's cutting across caste lines on what approaches a village unit basis. This is not necessarily to imply that a majority of the village population need be engaged in the occupation in question, but rather that it is developed for no obvious rational reason, as a significant village specialization, unlike that of any neighbouring villages. Thus, in village 26, for example, twenty-six households, of the Kurmi and the Kumbukar castes derived their livelihood mainly from the sale of rice-straw in Jharia for some undiscovered use in the coal-fields. In no other village was that occupation encountered. Similarly, many of the seasonal migrations in search of construction work often appear to be on a village and not on an exclusively caste basis, though high castes are not apt to participate. Finally, despite the usual Hindu abhorrence of hunting and violence, in a number of villages of Purulia and Singhbhum it was reported that during a certain week each spring *all* castes participated in a mass village, or multi-village, hunt and shared jointly in the division of the kill.

Occupational Structure and Economic Development.—*Table 11, below, indi*cates for the sampled villages of the study area the relationship of selected occupational and caste variables and village size to economic development according to three classes subjectively determined by the author. From the table it is apparent—if our sample is reasonably representative—that there is a definite positive correlation between level of economic development and variables 1, 2, 3, and 7, all of which rise with an increasing level of economic development. The relationship between caste structure and economic development, as suggested by variable 7, is particularly striking; and the relationship of village size to economic development is probably in part a function thereof, since high caste groups show a very marked tendency to cluster in large villages. There is no apparent relationship of variables 4, 5, and 6 to economic development. The reason why variables 4 and 5, relating to non-agricultural work

TABLE 11

*THE RELATIONSHIP OF SELECTED VARIABLES TO LEVEL OF ECONOMIC DEVELOPMENT IN THIRTY-FOUR SAMPLE VILLAGES IN THE EASTERN CHOTA NAGPUR**

Variable	Level of Economic Development		
	5 "B" villages	21 "C" villages	8 "D" villages
1 Size of Village (*i.e.*, number of households)	188	134	77
2 % of households mainly dependent on non-agricultural work pursued within the village	7·8	6·7	4·6
3 % of households mainly or subsidiarily dependent on non-agricultural work pursued within the village	19	15	8·8
4 % of households mainly dependent on non-agricultural work pursued outside the village	5·2	31	18
5 % of households mainly or subsidiarily dependent on non-agricultural work pursued outside the village	23	53	40
6 % of households of non-agricultural castes primarily dependent on caste occupation	27	20	42
7 % of households in high castes	22	6·8	1·9

*All figures are averages unweighted for village size.

outside the village, score so high among the "C" type villages is because all the villages in the coal-mining area happen to fall within that category. The "D" type villages score higher than the "B" type because of their relatively much higher dependence on outside construction labor, often on a seasonal basis, or sundry day labor, Variable 6, at first glance, is rather puzzling. Although the figures for the "B" and "C" villages seem to bear the proper relationship to one another, the figure of 42% for the "D" villages seems much too high. There would appear to be two reasons for this: first, the number of households in non-agricultural castes in these generally overwhelmingly tribal and Kurmi villages was very low to begin with, so that a high percentage of such families in their traditional caste work would still be a small number in absolute terms; and second, a fairly large proportion of the non-agricultural castes in the villages concerned possessed such traditional, poorly remunerated occupations as basketry and weaving, the demand for which does not reflect prosperity and high demand within the village proper, since the products of both are hawked about the countryside.

Central Uttar Pradesh

(Map 25)

General Background.—This study area contained much the largest sample of villages of any visited by the author in India, 48 out of the total of 198. The particular problem which was of interest here was that of determining the effects the two large and greatly varying cities of Kanpur and Lucknow had on the villages of the surrounding relatively homogeneous terrain of the middle reaches of the Gangetic Plain and of explaining any contrasts found. Kanpur (1951 population 705,000), the major industrial center of all North Central India, dominates the southwestern half of the study area, while Lucknow (population 497,000), the capital of India's most populous State, Uttar Pradesh, is the focal point of the northeast. Each city owes its existence, not to the productivity of its immediate hinterland, but rather to the fact that it serves a vastly greater area. No other large town (*i.e.*, with over 50,000 population) or city lay within the study area or even sufficiently close to exert a strong independent urban influence. The only other towns of any note were the district headquarters of Unnao (25,000) and Bara Banki (or Nawabganj) (23,000), located approximately ten and fifteen miles respectively from Kanpur and Lucknow. All four places are strung along a major road transverse to the general trend of the drainage (Ganges, Gogra, Jumna and Gumti Rivers), the Grand Trunk Road, and the Main Line of the Northern Railroad.

Apart from the obvious factors of degree of urban proximity and ethnic composition, which will be discussed shortly, the most important differentiating characteristics of the area relate to drainage (including irrigation) and soil. In general, areas bordering the major streams are susceptible to annual flooding, sometimes of serious proportions, during the rainy season but are not susceptible to canal irrigation, while the opposite holds true in each case for most of the remaining terrain. For much of its length in the study area the predominantly sandy riverain along the Ganges is separated from the older alluvium by a steep bluff, as much as a hundred feet high. Elsewhere and along other rivers, the transitions are less abrupt. Severe gullying back of the riverain edge has in many areas given a badlands aspect to the terrain. (The largest area of highly dissected terrain lies near the Jumna at the southwestern extreme of the study area.) On the broad, flat to gently undulating *doabs* comprising the greater part of the study area, soils vary from sand on the swells, through loams on the level stretches, to clay in the swales. Fairly large tracts of relatively barren soils (*usar*), on which a sparse scrubby forest (*dhak*) is allowed to grow are mixed among the generally fertile loams. These are commoner and somewhat greater in extent in the less humid southwest than in the north-

east, where stately village groves of fine mangoes and other deciduous trees are a more characteristic and appealing feature of the landscape.

Rural population densities in the study area increase gradually with rainfall from southwest to northeast: 520 per square miles in Kanpur, 564 in Unnao, 641 in Lucknow, and 686 in Bara Banki, all well below the phenomenally high figures attained in most of the North Bihar Plain and the Gangetic Delta. There is still, fortunately, some room for expansion, most notably by the extension of irrigation (canal irrigation probably has approached its limits, but well irrigation still holds considerable promise), increased double cropping and cash cropping, and reclamation of *usar* and once irrigated lands which have become excessively saline. Happily, too, the area is one with a high degree of independent ownership of land, especially since the enactment of the Zamindari Abolition Act of 1952.

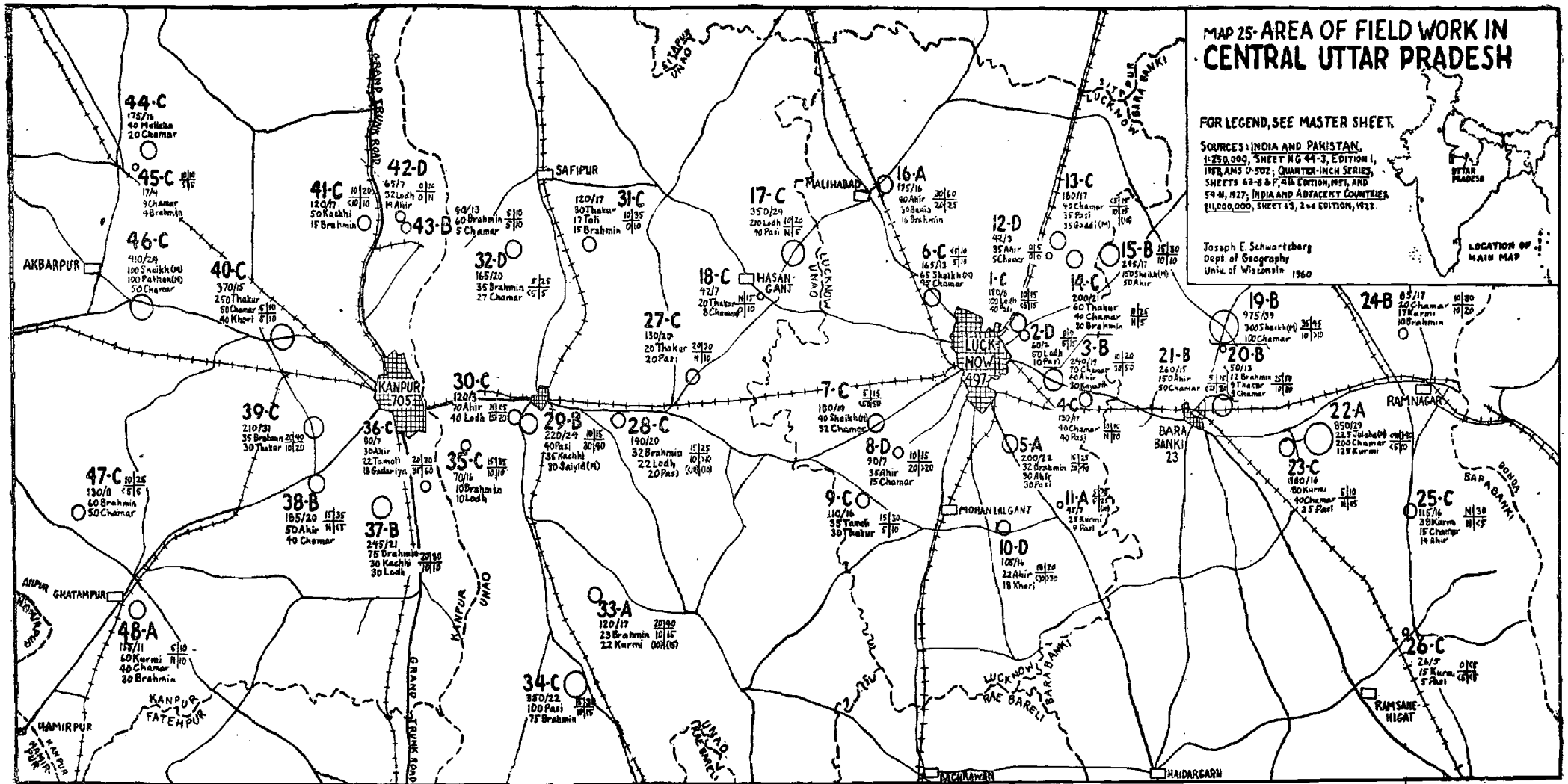
The area is thus, not one of great land hunger; nor is it one in which agriculture is highly commercialized. The amount of surplus grain produced is far short of that required to supply the needs of the urban population. Although the area has among the most diversified cropping patterns in India, cash crops are fairly limited. Sugarcane, the most important of these, is grown in sufficient amounts to support two fair-sized mills in Bara Banki District (there were no others in the study area at the time of the author's visit); oil seeds are grown in modest amounts for sale; market gardening has some importance near the cities: and several small, rather specialized areas of high quality mango and guava cultivation exist not far west of Lucknow.

Agricultural technology is on the upgrade. Iron ploughs and chaff cutters and motorized flour mills, canecrushers, and oil-expellers are increasingly in use. Co-operative societies for the extension of rural credit, the purchase of improved seed, and marketing (of dairy products, among others) are being actively and successfully fostered by the Community Development Administration.

Villages with important non-agricultural specialities are rather rare. In a few, some old artisan trade such as weaving or brass-making has persisted or been resuscitated through government aid; but at no time in the recent history of this area do such specialized villages appear to have been very numerous. Formerly, however, specialized embroidery of luxury cloth for the court of Lucknow and for the more affluent landowners provided an important subsidiary source of income for numerous villages east and southeast of that city.

The pattern of settlement is one of well-spaced, highly nucleated, predominantly adobe villages. The average village population is only around 600; and well over half the total have fewer than 500 inhabitants. Villages with over 2,000 inhabitants account for only about six or seven per cent of the total number and about a seventh of the rural population, the proportion being least (about a tenth) in Kanpur District. Larger villages often have moderately important commercial functions especially those in which a weekly or bi-weekly open-air market (*mandi*) is held. Smaller villages, too, however, occasionally contain large numbers of trading households. The town population, outside of the four district capitals, is virtually negligible.

In terms of religion the study area is overwhelmingly Hindu. The Muslim population varies from about a tenth of the total in Kanpur District to about a fifth in Lucknow and Unnao. In Bara Banki they comprise about a sixth. The proportions are much higher, however, in the cities and towns than for the entire districts: 30 per cent in the city of Lucknow and 22 per cent in the city of Kanpur. Relatively few Muslims emigrated to west



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Pakistan since partition; but over 75,000 displaced persons entered the area in the same period, nearly two-thirds settling in the city of Kanpur and the great majority of the remainder in the city of Lucknow. Among these are a significant minority of Sikhs. The entrepreneurial element among the displaced persons is quite important.

The caste composition of the area is exceedingly articulated and there is no single pattern common to the entire region. Nor was the author able to discern any clearly defined subregional patterns. It is possible, nevertheless, to state a number of generalization relating to the study area as a whole:

First, and probably most important, is the fact that over no extensive zone within the area does there appear to be any clearly dominating group(s) in terms either of absolute numbers or of concentration of economic power. Out of a total of sixty-eight castes encountered in the area, no fewer than fourteen were the largest group present in at least one of the forty-eight sample villages. These included castes in the high, middle and low ranges of the caste hierarchy, and castes of both Hindu and Muslim persuasion.

Second, the average number of castes per village, relative to village size, was usually quite high, definitely higher than in any other study area. The average for the entire sample was eighteen.

Third, the great majority of households of the principal high castes, Brahmins, Kayasths, Thakurs, and, less importantly, Banias, and, among the Moslems, Sheikhs, Pathans and less importantly, Saiyyids, tended to be clustered in a relatively small number of villages. Still *some* Brahmins were found in thirty-seven of the sampled villages forming the largest group in ten. Thakurs (Rajputs, traditionally warriors and landlords) were found in twenty-four villages, of which they were the largest group in five. High caste Muslims were the dominant caste in five villages, of which two (19 and 46) are quite large.

Fourth, the most-important castes of menials and agricultural laborers, namely the Chamars and the Pasis tended to be ubiquitous. These were found in forty-seven and thirty-eight villages respectively. The Chamars are much the most numerous group in the study area, forming about an eighth of the entire population. One of the most numerous castes in the whole of India, they occupy a somewhat ambivalent position in the caste structure, though their degraded hierarchical status is not in doubt. Traditionally leather workers, removers of carrion and flayers and tanners of hides, they are much too numerous in most of the areas in which they are found to derive much of their livelihood from such occupations. Hence, in practice they are mainly agricultural laborers and have been so for so long that one is now tempted to state that, that is their true customary occupation. Chamars were the most numerous caste in four villages and the *second* most numerous in twenty-one others.[17] Pasis were the largest group in three villages and second largest in seven.

Fifth, cultivating castes (as opposed to agricultural laborer castes), taken as a whole, were ubiquitous, though no single caste was found in more than half the sample villages. The largest and most widely distributed of these castes, the Lodhs, and the second ranking, more concentrated, and, incidentally, much more prosperous group, the Kurmis, tend to be mutually exclusive. Where one is found in large numbers the other is usually absent or represented by only a few households.[18]

[17] The second rank in the village is a position which the Chamars (or their local equivalent under a different regional name) tends to occupy in all areas of India in which the writer has met with them, although they are not infrequently first.

[18] Mutual exclusiveness of yeoman castes is also characteristic of other areas of India, apparently increasing to the Northwest. The writer has, however, never come across mention of this phenomenon in the literature.

Gardening castes, including the betel-growing Tamolis and the diligent, skilled Malis, among other, were found in thirty-one villages; but rarely were of much numerical importance.

Sixth, traditionally pastoral castes tend to be ubiquitous. Of these castes, the most important by far are the Ahirs (cowherders) who were met within thirty-four villages, in eight of which they were the most numerous caste. While they still engage normally in their caste occupation, they are now, as in other parts of India, primarily cultivators. Gadariyas and several other minor shepherd castes, also now largely cultivators, were found in sixteen villages, and, for some unfathomed reason, only two of those were villages in which Ahirs were not also present. (The author doubts that the availability of pasture is the chief determinant.)

Seventh, relatively few artisan and serving castes tend to be ubiquitous. The most commonly encountered of these, in addition to the Chamars, who were discussed above, were Nais (barbers), in forty villages; Telis (oil-pressers), in thirty-five; Dhobis (washermen), in thirty-two; Barahis (carpenters), in twenty-five; Bhurjis (grain-parchers), in twenty-three and Kumhars (potters), in twenty-two. Goldsmiths, blacksmiths, weavers, cotton carders, tailors, confectioners, and bangle-makers, were each found in from nine to eighteen villages, enough so that no part of the study area was out of reach of the services they supply, or, in some cases, formerly supplied. Villages dominated by an artisan-caste are exceedingly rare (again excluding Chamars). In only one village in the study area (number 22, a weaving village) was an artisan or serving caste the most numerous group, while in only one other case (village 31, in which oil-pressers formed a seventh of the population) did any even rank second. In the study area, incidentally, most Hindu artisan castes have their Muslim equivalents, though the latter are far less numerous and tend to be concentrated in towns and the larger villages, where the formerly dominant Muslim landlords also lived and still do, to a large degree.

Eighth, and last, a majority of villages, thirty out of forty-eight, have representatives of one or more beggar castes, of which the Muslim Faqirs form the great majority. In only three of the sample villages did these groups count over ten households. Occasionally, entertainment, drum-beating, and/or prostitution are, along with begging, considered as traditional occupations. Most of the households of the castes in question seek their livelihood in villages near to, as well as in, their own. Not uncommonly women and children do the begging while the men do agricultural labor, or even work petty holdings of their own.

Analysis of the Occupational Structure.—Table 12, shows the occupational structure, as per the 1951 Census, of some of the significant divisions included wholly or partly within the study area. The data are assumed to be essentially correct. There are several note-worthy facts borne out by the table: (a) the extraordinarily high degree of similarity between the occupational distributions in each of the following pairs: the rural populations of Unnao and Bara Banki, the rural populations of Kanpur and Lucknow, the urban-non-city populations of Kanpur and Lucknow, and the urban populations of Unnao and Bara Banki. (b) The small, but significant, differences between the urban non-city populations of Kanpur and Lucknow on the one hand and the urban (also non-city) populations of Unnao and Bara Banki on the other. And (c) the great internal dissimilarity between Kanpur and Lucknow cities. These observations strongly suggest that, despite the differences between the two cities, their external effects appear to be very similar, and that beyond the

TABLE 12

OCCUPATIONAL STRUCTURE OF KANPUR, UNNAO, LUCKNOW AND BARA BANKI DISTRICTS OF UTTAR PRADESH, 1951

[All figures except for column 1, are percentages of self-supporting male workers]

	No. of Workers (1,000's)[1]	Agriculture[2]	Processing and Manufacture	Commerce	Transportation and Communication	Health, Education and Public Administration	All Other Services
	1	2	3	4	5	6	7
Kanpur	584	47·8	21·9	9·6	3·4	4·0	13·2
Rural	344	79·6	5·6	2·7	0·7	1·5	9·9
Urban Non-City	4·3	34·8	12·8	18·2	4·2	7·1	22·9
Kanpur (City)	235	1·3	46·4	19·6	7·2	7·5	18·0
Unnao	279	81·7	5·6	3·2	0·7	1·7	7·4
Rural	265	84·9	4·9	2·5	0·3	0·7	6·6
Urban	14	23·1	18·5	15·9	5·4	17·9	19·6
Lucknow	324	44·1	13·0	9·6	5·6	8·7	19·0
Rural	172	79·6	5·8	2·5	1·0	2·2	8·5
Urban Non-City	6·0	32·8	13·3	17·3	3·4	6·3	26·1
Lucknow (City)	146	2·4	21·5	17·6	11·2	16·5	31·0
Bara Banki	364	81·9	6·4	3·0	0·5	1·3	6·7
Rural	342	85·7	5·2	2·1	0·4	0·9	5·5
Urban	23	23·0	22·9	16·1	4·0	7·1	26·7

[1] Self-supporting males only.
[2] Includes all other primary industries, which in no case exceed 1·0 %.

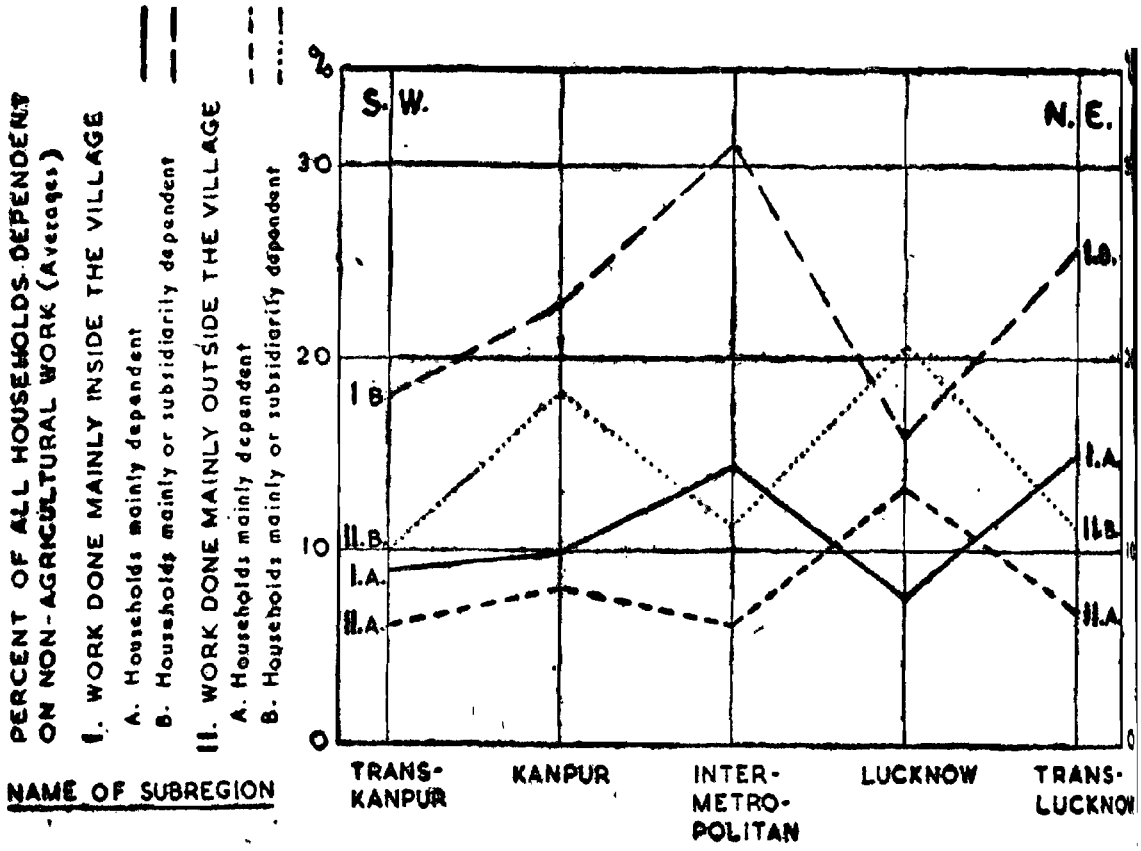
range of their strong influence a fairly homogeneous occupational pattern prevails.

To determine the degree of influence of the two cities on occupational structure of the villages, the latter were grouped in five sub-regions of the study area, established according to the criterion of proximity either to Kanpur or Lucknow and ordered in a southwest-northeast direction. All villages within two-hours cycling time from Kanpur or Lucknow were classified in the sub-regions of those cities, respectively. (Cycling time was figured at eight miles per hour on metalled roads, or somewhat less, depending on the nature of the road or terrain). All villages further away were placed in the appropriate one of the other three sub-regions. The data depicted on Graph 6, relate to the five sub-regions indicated above. They appear, on the whole, to bear out the validity of the suggestion made at the close of the preceding paragraph. Only the Trans-Kanpur sub-region deviated in part from what might be expected on theoretical grounds.

The graph suggests a definite effect of the cities on the extent of non-agricultural work within the villages in their vicinity. We note that the villages of both the Kanpur and Lucknow sub-regions have considerably fewer non-agricultural workers (whether one considers main source or livelihood or main and subsidiary sources combined) than two of the three sub-regions which are further removed from urban influence. Overlooking for the moment the exceptional Trans-Kanpur sub-region, three reasons are suggested for this pattern: (a) the availability of goods and services in Kanpur and Lucknow exercises a depressant effect on the demand for their production within the villages; (b) proximity of the large urban markets

GRAPH 6

METROPOLITAN PROXIMITY IN RELATION TO OCCUPATIONAL STRUCTURE AND SELECTED OTHER VARIABLES IN A SAMPLE OF FORTY EIGHT VILLAGES IN FIVE SUB-REGIONS OF CENTRAL UTTAR PRADESH.*



	TRANS-KANPUR	KANPUR	INTER-METROPOLITAN	LUCKNOW	TRANS-LUCKNOW
NO. OF SAMPLED VILLAGES	5	11	10	14	18
AVERAGE DISTANCE FROM CITY CORE (Cycle Hrs.)	3.8	1.5	3.0	[illegible]	4.1
AVERAGE VILLAGE SIZE (No. of Households)	177	159	170	151	203
% HIGH CASTE (Households)	32	27	30	19	17
AVERAGE DEVELOPMENT RATING (See Text)	1.4	1.3	1.3	1.1	1.9

* All averages are unweighted for village size.

of Kanpur and Lucknow and the higher purchasing power of city dwellers lures many artisans, hawkers, and other non-agriculturists away from the villages; and (c) the diffusion of urban modes of thought into the villages roundabout has somewhat weakened the traditional system of ties therein between *jajmans* and non-agricultural *kamins*, thereby forcing many of the latter to seek supplementary outside urban work.

The author is not sure why the five villages of the trans-kanpur sub-region did not show a rise in non-agricultural workers over that of the Kanpur sub-region. It is reasonably certain from the data given below the graph that it cannot be explained by reference to the caste structure or to the average degree of development prevailing within the villages proper, or to the average village size. What is most likely is that the small, strung-out sample of villages (numbers 44 to 48) was simply not representative of the region as a whole. (Of course, one cannot be sure that the larger samples for the other areas *were* representative, though the conformity of results to expectations leads on to conclude that such is the case).

The data for households dependent on non-agricultural work *outside* the village are remarkably in accord with what one might expect on an a *priori* basis. In the Kanpur and Lucknow sub-regions the percentages rise above those of the remaining three sub-regions. What may, however, occasion some surprise is the fact that the rise for the Lucknow sub-region, especially with regard to the main source of livelihood, is considerably greater than that for the Kanpur sub-region, even though the metropolitan foeus of the latter area is the greater of the two. Several reasons for this may be cited: first, the sampled villages in the former area were appreciably closer to the city on the average than in the latter(1·1 *versus* 1·5 hours away). Second, a much larger share of the factory workers of Kanpur are outsiders (*i.e.*, from distant locales) now permanently resident in housing provided by the mill-owners than is the case among government employees who form the backbone of the labour force in Lucknow. Third, Kanpur's double factory shift, one beginning quite early in the morning and the other ending late in the evening, renders commuting extremely difficult, whereas the short government work day beginning at 10 A.M. facilitates commuting.

A final word on the comparison of villages in the several sub-regions: from all considerable variety for reasons other than the graph seem to be clearly related to village size, percentage of households in high castes, or average development rating, tor which the figures are also given. This is not to say that those variables are irrelevant, but rather that their effects, when measured against the effect of urban proximity, tend to be obscured.

Considering the area as a whole, the occupational structures of the villages show considerable variety for reasons other than that of proximity to Kanpur or Lucknow. We may conveniently begin with non-agricultural work performed mainly within the village as a principal means of livelihood. Households deriving their principal income from such work numbered between five and fifteen per cent in two-thirds of all villages sampled. In eight the percentage was higher and in the eight remaining the percentage was lower. The unweighted average for the entire sample was around eleven per cent.

In seven of the eight villages with low percentages this was simply due to the shortage therein of the artisan and serving castes whose services are most universally in demand. In the eighth case (village 25), the low proportion of households mainly dependent on non-agricultural pursuits was more than made up for by the high percentage subsidiarily dependent.

The reasons for an unusually *high* percentage of village non-agriculturists were more varied. Villages 16 and 19 were important commercial centers; the latter, the largest village in the entire sample, had practically the status of market town while the former specialized in grain dealing, an occupation in which the locally important commercial caste of Banias were predominantly engaged. Village 22, second largest in the study area, and least dependent of all on agricultural pursuits was the only one in the entire sample to have a really important artisan speciality namely weaving, practised by the dominant Muslim Julaha caste. Though lacking any speciality, village 39 could be considered a minor center of mixed artisan occupations. The remaining four villages with a high proportion of non-agriculturists (20, 27, 33 and 37) all had a relatively high proportion of households engaged in service occupations, *i.e.*, barbering, laundering and the like. In each case a substantial proportion of the households so employed catered largely to a clientele outside the village proper, even while deriving most of their income from within.

By and large the proportions of households which were in any way dependent on non-agricultural work performed within the village (*i.e.*, on either a main or a subsidiary basis) closely followed those for households mainly so dependent. The reasons for a large or small proportion in both cases tend to be about the same.

The correlation of degree of non-agricultural work (mainly subsidiary) within the village with village size is not especially good, being clearly evidenced only towards the high and low extremes of the size continuum. At the high extreme, villages tend to take on some urban characteristics and to specialize (as in the cases of villages 19 and 22), while at the low extreme, villages tend often to be low more than hamlets dominated almost completely by cultivating or pastoral castes and dependent on larger villages nearby for most goods and services.

Much clearer is the correlation between degree of non-agricultural work within the village (especially when main and subsidiary means of livelihood are considered together) and the percentage of high caste households. But even in this respect numerous villages deviate greatly from expectations. Sometimes the reason is simply that the specialized artisan and serving castes whose services the high castes most require are not available in sufficient numbers. This is especially true when the high castes equal fifty per cent or more of the total village population, in which event they and other *jajmans* will have to receive the requisite services from nearby villages. Sometimes, too the high castes do not exert the economic leverage normally expected. In other areas of India where their numbers are few, their average wealth *per capita* is apt to be far greater than the regional average but in the present study area, where in ten instances out of forty-eight they number fifty per cent or more of the total village population, this can scarcely be the case.

With regard to non-agricultural work performed outside the village (about 8.5 per cent of households are mainly so dependent), the deviations from the average for the entire study area are much greater than in case of work performed within the village. This appears, incidentally, to hold true also on a sub-regional basis especially in the case of the Lucknow and Kanpur sub-regions. Thus, village 1 which is merely a quarter of an hour's cycling time out of Lucknow has only a few per cent of its households mainly dependent on outside work, whereas village 7, which is three quarters of an hour away, has the phenomenally high percentage of nearly 50 per cent of its households mainly dependent on outside labor, engaged for the most part in the railway workshop lying well outside the built-up portion of the city.

Most instances of low dependence on outside labor appear to reflect a high

degree of village conservatism and a concomitant lack of enterprise, coupled with the absence of a really compelling "push factor", just as in the study area previously discussed. In at least one village (number 48) the very favorable man-land ratio is such that ample work is provided for all.

More varied are the reasons for a *high* dependence on outside non-agricultural labor. In ten sample villages 20 per cent or more of all households lived mainly from such work. In several instances (villages 3 and 5 near Lucknow and 29 near Unnao) large numbers of households, mainly of high castes, were able to secure government employment, often, perhaps, through nepotic practices. From two quite poor villages (8 and 10) most of the outgoing workers, mainly of low castes, were engaged in construction labor including canal digging, Wood cutting and selling, hawking, carting and day labor, accounted for most of the outside labor from villages 21, 36 and 46. (Wood-dealing was very important among the Sheikhs and Pathans of village 46). Work in nearby factories provided most of the outside work for villages 7 (in the aforementioned railway workshop) and 29 (mainly for Chamars in a bone-meal fertilizer factory in Unnao). And, finally, grain dealing and transport engaged many Banias, and other castes' members as well, from village 16.

In respect to *subsidiary* non-agricultural work outside the village, the reasons for the varied village patterns are many and not subject to simple generalizations.

It is very difficult to discuss in meaningful, quantitative terms the degree of adherence to or deviation from traditional caste occupations in the study area. The subject matter is too complex. A number of generalizations can, however, be made:

1. The agricultural (including pastoral) castes are still overwhelmingly engaged in cultivation, almost always as a main source of livelihood. Those with some specialized calling within agriculture (*e.g.*, growing betel, gardening, gathering water chestnuts, or stock-raising or herding) usually continue to perform such work, even if only on a subsidiary basis. But the agriculturists have no objection to seeking work (including factory work) in cities, provided that work is not beneath their station, and in the village itself they may also take up such non-agricultural pursuits as petty shopkeeping, the operation of motorized flour mills and oil-presses (which requires considerable capital), the repair of bicycles, and similar new occupations which are ritually neither high nor low because they are exotic to the traditional economy.

2. The high castes although also primarily tied to the land, often merely as landlords, have been much more prone to send their young men to work outside the village, most often to government work, commonly to clerical work in private firms, and not uncommonly even to factories. Within the village they manage to secure most of the teaching and petty clerical posts but even Brahmins may also take to trade milling and money-lending.

3. The Chamars, Pasis and other unskilled menial and agricultural labor castes were rarely found in non-agricultural pursuits within the village other than those with which they were traditionally associated: though they frequently sought day labor and construction work outside. Only a very small minority of Chamars were found to be still engaged in leather work in the village, a fact which is due both to the competition from the great leather factories of Kanpur and to their own excessive numbers.

4. Other artisan and serving castes have been much more successful at adhering to their caste occupation even if only on a

subsidiary basis, though some, like the castes of weavers, cotton carders, and oil-pressers have been severely hurt by outside competition.[19] While a majority of the households of artisan and serving castes have some connection with agriculture, as petty owners, tenants, or laborers, many, who have not found ample work in their traditional occupations, have taken to other forms of related non-agricultural activity. Thus, many of the weaver caste have become tailors, of the potter caste, masons, etc. A rather remarkable phenomenon relating to this area is the large-scale emigration of Dhobis (washermen) to Bombay and also to the oilfields of the Middle East where they usually continue to pursue their caste work, sending home regular remittances to their families.

[19]The one specialized weaving village was the home of a prominent Moslem Cabinet Minister, Mr. Rafia Kidwai, who threw in his lot with India after partition. Since his death the government has gone to considerable pains to better the economy of that village, by extending electric power for the looms, helping in the formation of a marketing cooperative, etc.

3. Occupational Structure and Economic Development.—Table 13 below indicates for the sampled villages of the study area the relationship of economic development to selected occupational and caste variables and to village size. The data appear to show a definite correlation between economic development and variables 1, 2 and 3 relating respectively, to village size and to non-agricultural work pursued within the village and performed as a main and as either a main or a subsidiary source of livelihood. Less strong correlations are noticeable with regard to variables 5 and 6.

Variable 4, relating to primary dependence on non-agricultural work performed outside the village does not appear to be at all correlated with economic development. This is probably due to several causes. The relatively high percentage for the "D" villages can be explained in part by the "push" factor of economic distress which has caused many of their workers to seek whatever outside jobs they could find. The relatively low figure for the "A" villages can, conversely, be largely attributed to a lack of "push" factors due to the prosperity of agriculture or, in one case, of weaving. Moreover, the industrious Kurmi caste, who are the chief cultivating group in four of the six "A" villages, the largest group of all in two, and virtually tied for first place in a third, are, as a group, exceedingly loath to leave the plough.

TABLE 13

*THE RELATIONSHIP OF SELECTED VARIABLES TO LEVEL OF ECONOMIC DEVELOPMENT IN FORTY-EIGHT SAMPLE VILLAGES OF CENTRAL UTTAR PRADESH**

Variable	Level of Economic Development			
	6 "A" Villages	10 "B" Villages	26 "C" Villages	6 "D" Villages
1 Size of the Village (No. of households)	260	265	165	85
2 % of households mainly dependent on non-agricultural work pursued within the village	19	14	9·7	5·0
3 % of households mainly or subsidiarily dependent on non-agricultural work pursued within the village	30	26	21	16
4 % of households mainly dependent on non-agricultural work pursued outside the village	10	13	8·4	12
5 % of households mainly or subsidiarily dependent on non-agricultural work pursued outside the village	21	18	14	14
6 % of households of non-agricultural castes primarily dependent on caste occupation	34	33	21	12
7 % of households in high castes	21	34	24	8·3

*All figures for variables 2-7 are averages unweighted for village size.

Variable 7, relating to the percentage of households in high castes, also seems not to be well correlated with economic development. In part this is due to the importance of the prosperous, but not high caste, Kurmis in the "A" villages. In part too it stems from the fact that Brahmins and Thakurs, the two leading high castes, are averse to many of the jobs connected with cultivation. Ploughing, for example, is beneath their dignity. Hence, where these castes are most numerous there is either insufficient labor to go around or the wages to labor (often supplied from nearby villages) are bid up to the point where relatively little profit remains for the landowner. Hence, such villages are often not as prosperous as one would expect. Apart from the low proportion of high caste households in the "A" villages, however, variable 7 also seems to correlate well with the level of economic development.

Telangana[20]

In January, 1956, the author spent several days walking with Vinoba Bhave through the land-hungry villages of Telangana in Nalgonda District east of the city of Hyderabad. The impression he formed at that time was one of an area of rather dire poverty. Hence, when he later viewed the Census occupational statistics for that and surrounding districts he was quite surprised to learn that a large proportion of non-agriculturists were to be found in the region. The number of rural workers in processing and manufacture in particular was exceedingly high, a fact which Gosal stated was attributable to the development of "such activity as handloom industry, bidi industry (indigenous cigarette industry), forestry, processing industries based on cotton, oil seeds, and leather, etc."[21] When the author first read this explanation (as it was put forward in Gosal's doctoral dissertation of 1956) he did not doubt it. And, when he later began to think of the Clarkian thesis relative to the correlation between economic development and occupational structure, it occurred to him that if any area of India were to provide evidence contrary to that thesis it would surely be Telangana. This, then, provided the impetus for going there. The aim was to examine the occupational structure and the mechanisms whereby so many workers could be maintained in non-agricultural work in so poor a region.

Of all the districts in Telangana the one in which the aforementioned occupational characteristics were most pronounced was Karimnagar; and it was presumed that this was the core area of the singular region in question. The author, therefore, decided to focus his attention there in the limited time and with the limited means at his disposal (he was temporarily without an interpreter).

The Census percentages of self-supporting males under various occupational categories in Karimnagar District are as follows: agriculture—58% (close to half of whom were agricultural laborers and tenants), other primary industries—5·8%, processing and manufacturing—22%, commerce—3·4%, and all other services—10%. Since the district was 91% rural, the Census figures for the rural population only were but little different from those cited above for the total population. Suspiciously odd aspects of the data were the low proportion of workers in commerce to workers in the secondary sector and the facts that the reported percentage of urban workers in the secondary sector was but a fraction of a per cent higher than for the rural population, while 23% of all urban workers were classified as agriculturists.

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[20] For reasons which will presently become clear the usual tripartite breakdown of the regional sections of this chapter will not be followed here.

[21] G. S. Gosal. "The Occupational Structure of India's Rural Population—A Regional Analysis," *The National Geographical Journal of India*, Vol. IV, Part 3, Sept. 1958, pp. 137-148, quote from p. 141.

The area of Karimnagar is one of moderately fertile, sandy soils, on most of which it is possible to grow two crops annually. There is a modest and expanding development of tank and well irrigation. In addition to the food crops (notably rice and *jowar*), in which the Karimnagar area has a considerable salable surplus, there is sufficient acreage in cash crops (mainly ground nuts and castor) to warrant classifying much of the area as one of advanced commercialization (*i.e.*, by Indian standards). Natural resources of a non-agricultural nature are, however, exceedingly meagre. Transportation facilities are only moderately well developed; and there is no important city and exceedingly little factory moderately well developed, and there is no some slight development of primary processing industries and the normal rural complement of artisans doing work ancillary to agriculture and providing household goods, one would not expect other forms of manufacturing to be strongly developed. Furthermore, without going into the details of the well ramified caste structure of Karimnagar, the main elements of which are indicated in the district gazetteer (1940), it seems safe to assert that it is in no way particularly a typical or of such a nature as would lead one to expect a high proportion of non-agricultural workers.

The author's field experience in Karimnagar was limited to interviews with the District Magistrate, one Block Development Officer of the Community Development Administration and several members of his staff, several officers of cooperative societies, and a handful of artisans, all in the district headquarters, and a visit to one very large village (1,100 households) six miles away which was said to have an unusually high degree of development of artisan activities. During most of his time in the area, as well as on his single village excursion, he was accompanied by an English speaking Cottage Industries Development Officer from the Community Development Block. This person himself had carried out an industrial survey of thirty-seven village and one town in the Block over a four-month period in 1958, and so was able to speak with considerable authority on his area. Much of what follows is based on discussions with him.

The author's principal conclusions concerning the area are: (1) The Census returns cited for Karimnagar are grossly inaccurate, owing presumably to the reporting of caste occupation instead of actual occupation. (Some of the evidence for this, deduced from the Census itself, has already been presented in Chapter IV.) (2) The study area is, nevertheless, one with a moderately high and currently increasing degree of development of non-agricultural and especially artisan activities. (3) This increase is largely due to an increase in all-around productivity and consequent prosperity (above the average levels for Telangana as a whole), and partly also to the development of effective co-operative marketing agencies for locally made cloth and sundry other products (Karimnagar's cloth, excellent silver filigree work, tanned hides and skins, and some brasswork are marketed in Hyderabad, whence they are reshipped to many parts of India.) (4) Within the villages of Karimnagar the *jajmani* system is generally adhered to. (5) Karimnagar probably is not as the Census makes it appear to be, the core area of a Telangana region of unique occupational structure. Warangal, to the east, and Nizamabad, to the West, were thought to be at least as prosperous, and the former of those two districts was thought to have an even higher proportion of workers in the secondary sector.

The author's *guesses* as to the approximately correct proportions of workers in the three principal economic sectors are as follows: primary 70—75%, secondary 10—12% and tertiary 15—18%. Weaving probably accounts for the largest single sub-head under the secondary sector and tanning the second largest. The making of shoes and other leather goods, pottery, carpentry, blacksmithing, oil-pressing and metal craft work are also of some importance.

Tamil Nad

(Map 26)

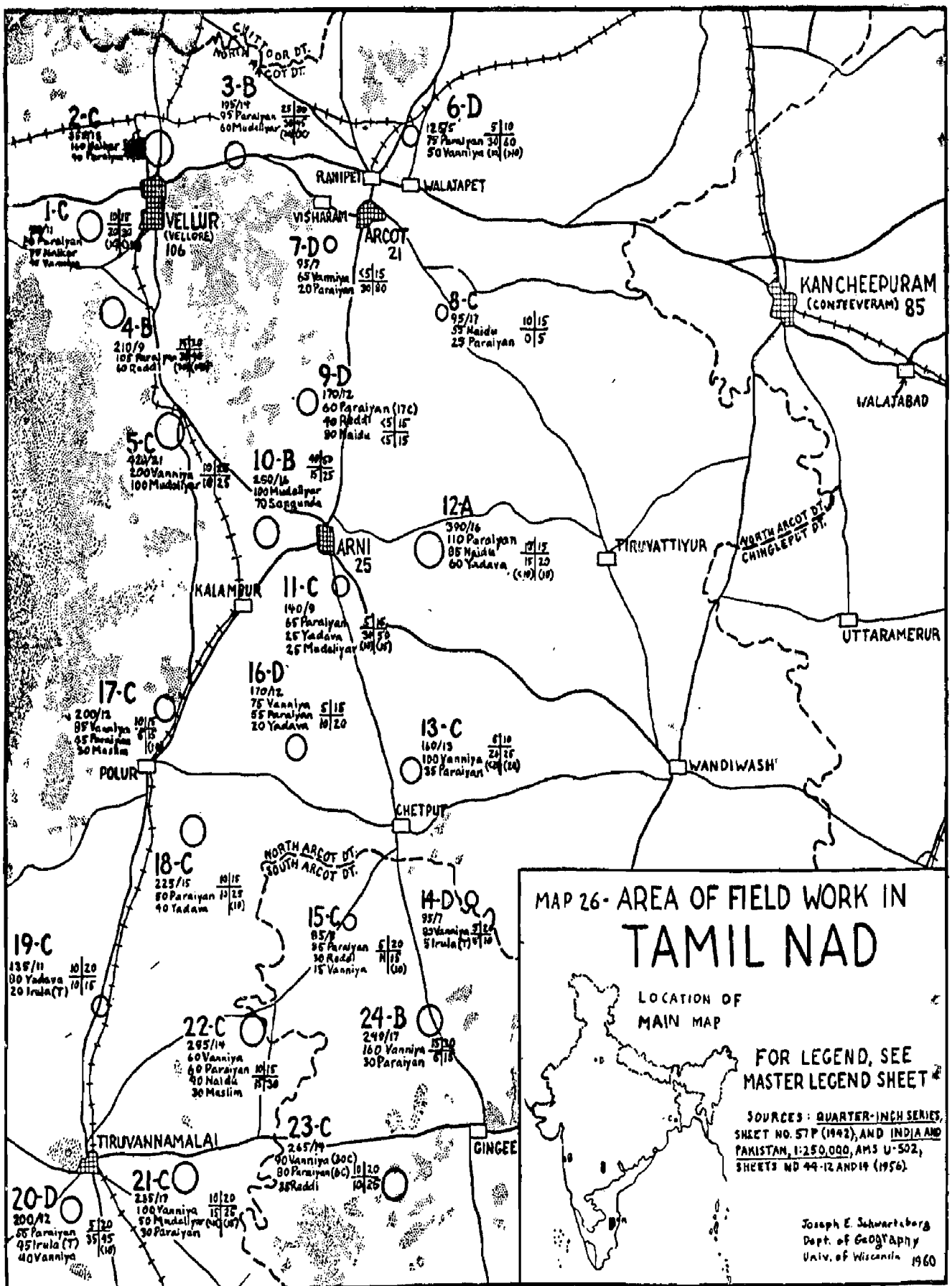
General Background.—In choosing the study area portrayed on Map 26, the author had two special aims in mind: First, to study an area of predominantly Tamil culture since Tamil Nad is generally regarded as the culture-hearth, as well as the most important region, of South or Dravidian, India, as opposed to the so-called Aryan North. Second, within Tamil Nad an area was sought with a fairly broad range of non-extreme conditions the findings for which would probably have their analogues over many parts of Southern India. (That they really do is a supposition which, of course, cannot be proved). Thus, the study area is one in which the degree of urban influence varies from moderately strong to rather weak; in which the level of manufactural and artisan activity varies from moderately high to quite low; in which the degree of commercialization in agriculture varies from appreciable to slight; in which the rainfall is only moderately high; in which the population density, though high, is not extreme; and, finally in which are found both open coastal plain and plains intercalated among the interior hill-lands.

The northern and more-developed end of this north-south trending study area lies barely athwart the main rail and road artery connecting Madras with interior Bangalore and with Cochin on the West Coast. This route parallels the Palar River as it makes its way through the depression between the Eastern Ghats and the outlying Javadi Hills, whence it flows close to another hundred miles across the coastal plain to the Bay of Bengal.

The chief and only real city of the study area, Vellur (Vellore), with a 1951 population of 106,000, lies in a strategically situated break among the Hills close to the point where the river meets the open plain, and to the Katpadi intersection of the minor narrow-gauge north-south line of the south Indian Railway and the Madras-Bangalore trunk line noted above. The site of a famous Dravidian temple and fort, an important seat of Christian missionary activity centering largely on the reknowned Christian Medical College and Hospital, the administrative headquarters of North Arcot District and an important center of trade, Vellur has very little in the way of manufactures apart from the numerous Muslim-managed *biri* "factories" employing up to one hundred workers each.

To the east, on the plain proper, straddling the Palar, is a cluster of towns, Arcot, Ranipet, Walajapet, and Visharam, none very prominent in itself, but together forming a center of industry of some importance. The tanning industry, centered at Visharam, is numerically the most important source of employment, but the Parry's & Co. fertilizer, chemicals, and ceramics plant at Ranipet is much the largest single industrial concern in the study area employing an average of about 1,300 workers. Silk and wool weaving is of note in Walajapet, and *biri*-making in Ranipet. Arcot is primarily a grain-market rather than an industrial center (and, incidentally, the site of Clive's brilliant victory over his French besiegers during the Carnatic Wars of the mid-eighteenth century).

As one proceeds south from the Palar, industry diminishes markedly, the degree of commercialization in agriculture falls off, and the overall level of development appears to decline. An important exception is provided by the town of Arni and the surrounding villages, within a radius of seven or eight miles, in which cotton and silk and handloom weaving is highly developed. The industry was begun in Arni, in the seventeenth or eighteenth century when the then ruling Marathi dynasty planted communities of Saurashtra weavers in a number of South Indian towns. Today, thanks to governmental assistance and the formation of purchasing and marketing cooperatives, the industry is flourishing and



Based upon Survey of India map with the permission of Surveyor General of India

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expanding; and in the last few years several small power-loom mills for the production of rayon have also been started. Polur, still further south, also has a moderate development of cotton hand-loom weaving. But Tiruvannamalai, near the southwest corner of the study area and the second largest town therein (population 41,000), has virtually no industry at all other than the essential artisan crafts and such simple food processing as milling and the making of articles for immediate consumption.

Agriculture is rather intensive and highly dependent on the services of agricultural labor in the busy seasons. The rural population density, despite the relative infertility of the soil, averages slightly over five hundred per square mile; but, were one to consider the plains areas only, the average would be well over 600 and in the *taluk* of Arni it exceeds 800, a situation made possible only by the prevalence of weaving in the villages. Because of the high pressure of population on the land, the area has, for several generations, experienced a considerable emigration of laborers to Madras, the Kolar Gold Fields, Bangalore, and the plantations of the Western Ghats.

Thanks primarily to the development of irrigation, double cropping is very extensive and a wide variety of crops can be grown, of which rice is the most important. Irrigation is of several kinds: tank irrigation from the hundreds of shallow, embanked (and now largely silted) depressions with which the plains are studied; well-irrigation, which is rapidly increasing, especially with the spread of diesel and electric powered pumping sets; and, near the Palar and Cheyyar Rivers, *anicut* irrigation, based on the diversion of river water during periods of spate. Cash cropping is not especially important. Groundnuts are the chief cash crop, while tobacco, sugar, chillies and a little sesame are also raised. A number of small oil-mills in the towns process most of the groundnut crops; but for lack of a sugar-mill in or near the study area, the cane must be processed into crude brown *jaggery* in the local country presses.

For an analysis of the rural settlement pattern, the Census figures for this area are of little value, since they relate to administrative villages, as constituted for the purpose of levying land revenue and do not accord with the realities of actual settlement. On the whole the settlement pattern, is rather complex, being compounded of central villages in which most of the shops and services are found; outlying hamlets, designated as *palayams*, composed as a rule of just a few castes, usually agricultural, or perhaps only one, which more often than not are found also in the central villages; and other outlying hamlets, designated as *cherris*, in which live virtually all the untouchable castes, and usually they alone. Scarcely any village is without its *cherri* or *cherris*, though many have no *palayams*. And a given *cherri* sometimes serves more than one central village and/or *palayams*. The total complex is generally rather large averaging well over two hundred households and not very discrete, so that it is sometimes difficult to tell to which central village a particular *palayam* or *cherri* is linked (economically it may be linked mainly to one while administratively it is tied to another), or whether a given settlement ought to be classified as a *palayam* or a village center in its own right. The various elements of the total complex, though usually in sight of one another, may be separated from other elements by distances sometimes exceeding a mile.

In deciding in the field what was or was not to be considered a part of the village under study all decisions were made on an *ad hoc* basis, giving priority to the economic functional inter-connections and considerations of distance. In retrospect, the author is not sure that he always chose correctly; particularly since he has noted that in three cases out of twenty-four (numbers 10, 14 and 19) he had completely excluded *cherris* from the coverage because of their distance from the parent village.

By contrast with the complexity of the settlement pattern, the caste structure is, on the whole, fairly simple, and more or less uniform from one village to the next. The great majority of the population of virtually all villages is made up of but two castes: the dominant cultivating caste (of which about half a dozen are well represented in the area) and the formerly untouchable Paraiyans (now called Harijans) who do the bulk of the agricultural labor. The former were the largest single group in fourteen out of the twenty-four sample villages and in only one case ranked as low as third; while the Paraiyan were the first ranking group in all but one of the remaining villages and also rank third in but a single case (not counting the three villages in which the author failed to count in the *cherris*). In addition to these groups, every village encountered had at least a few representatives of several of the five or six most common artisan, serving and pastoral castes. What remained to round out the total caste composition was rarely of much significance. No sample village, however, had fewer than seven castes, while the largest of all, with 420 households had the sample record of twenty-one.

The largest by far of the cultivating castes, the Vanniyas (formerly called Pallis and today also known as Gounders) were the most numerous group in eleven villages, second in one other and absent in only three. This caste, is sometimes classified traditionally as an agricultural laborer caste and sometimes as independent cultivators. While they are quite frequently in the former occupation in practice, they were even more frequently in the latter. Two other much smaller groups, the Naikers, who were the largest group in one village and second in another, and the formerly tribal Irulas, originating in the Javadi Hills, who were second in two villages, also straddle the independent cultivator-agricultural laborer boundary line, but, by and large, seem properly to fall into the later category. The Irulas are also associated with the gathering and selling of wood. The Gramani caste, traditionally toddy-tappers (found in five villages only), are a final group who in practice can be considered as agricultural laborers.

Of the four undisputedly yeoman castes, the Mudeliyar and the kindred Vellala are Tamil castes, while the Naidu and Reddi are Telugu-speaking.[22] (The predominantly Telugu-speaking District of Chittoor now a part of the newly formed state of Andhra, lies just north of the study area.) The two Tamil castes and the two Telugu castes show some signs of being mutually exclusive, though any may be found in close association with larger numbers of Tamil-speaking Vanniyas. All four groups tend to be internally rather gregarious, *i.e.*, each concentrated in only a few villages. At one extreme the Vellala are found in but three villages while at the other the Mudeliyars, though found in fourteen villages, have nearly seven-eights of their population concentrated in only five. This group and the Naidus are each the largest caste in one village, while they or the Reddis are second in five others.

There is only one traditionally pastoral caste of consequence in the area, the Yadavas (Mandiri) who were found in two-thirds of the sample villages, leading in one, and ranking second in another and third in several more. Yadavas further north in India are normally associated with cow-herding, whereas in this area they are associated with the breeding of sheep and goats, which, in practice most still do, in addition to their own cultivation.

The Paraiyans, in addition to performing the bulk of the agricultural labor in the area, also remove carrion from the village premises and do tanning. A not insignificant minority of them have become

[22] *The Imperial Gazetteer* (Vol. V. p. 408) makes mention only of the Vellalas as the main "landholding" caste among the Tamils and makes no mention at all of the Mudeliyar, who today appear to be much more numerous. Presumably, for some reason, the majority of the Vellalas in the recent past chose to adopt a new name, on the occasion of some casteschism, which then left a minority with the old name.

Christian (Christavas) but the change does not seem to have altered their status in the eyes of their co-villagers, nor to a very great extent the type of work they are apt to do within the village. On leaving the village, however, often after being exposed to a bit of education, they take to many kinds of new work. Among the few small castes commonly living in the *cherris* along with the Paraiyans are the Chakaliyas (Arundadiyas), the cobbler caste, who were encountered in twenty villages (not exclusively in cherris, however); the Oddas, a Telugu-speaking earth-worker caste, found in ten villages; and a handful of Velluvas, who act as priests for the untouchables only.

At the opposite range of the hierarchy, high castes were unusually few in numbers in the sample villages which may suggest either or both of the following: (a) that they are overwhelmingly located in the towns, especially, in the case of Brahmins, at the sites of important temples in which this part of India abounds; or (b) that many have left the region altogether to settle in the larger cities like Madras or Bangalore. Except for two villages, in which high caste Muslims represented between 10% and 15% of the population, in no case did all high castes combined form more than 5% of all the village households, while in six villages not a single high caste family was found. Muslims, incidentally, were, with the exception of a very few beggars, all considered here as being of high caste, though caste distinctions do not appear to exist, or, at any rate, to be of much consequence among them in this region. The study area is roughly 6% Muslim, but the great majority of that number live in the towns. Brahmins were met with in only six villages and in only one constituted as many as three households: But the Karnegam (Pillai), a caste of accountants, were found in half the sampled villages, though they numbered up to five households in only one. Business castes, the Tamil Chettivars and the Telugu Komati, were found in but nine villages, the maximum representation being around ten households in two cases.

Of the artisan and serving castes, apart from the highest and lowest which have already been mentioned, the following are very widespread: the Acharis (Karma Acharis are blacksmiths and Thatcha Acharis are carpenters; but in some villages no distinction is made and there appears to be a tendency for the two to intermarry), who were found in eighteen villages; and the Navidas (Pariharis), or barber caste, and the Dhobis (Vannars), or washerman caste, each found in all but three villages. None of these groups was represented by more than seven families in a single village. Other artisan castes of note include the Thattars, or goldsmiths (in eight villages); the Udaiyars, or potters (in ten villages); the Shikaris (Vettaikaras), or basket-makers and temple attendants (a strange combination), who, though found in only four villages, accounted for about forty families in one (number 12, the largest in the study area); and finally, the Sengundars, or weaving caste, found in but two villages in one of which (number 10), their seventy households made them the second largest group, and in the other of which (number 2), with thirty households, they were also a rather important group. Apart from the few instances just cited, no artisan caste accounted for more than ten households in a single village.

Completing the caste picture were insignificant numbers of a variety of castes, seemingly randomly distributed: petty temple attendants, pig breeders, Muslim poultry breeders, fishermen, messengers, garland makers, beggars, conch-blowers and other funeral attendants, musicians and fortune-tellers (said to be Gypsies), and, in a single village, around ten households of Jain traders.

Analysis of the Occupational Structure.— Table 14, indicates for North Arcot, selected components thereof and all-rural, adjacent Gingee Taluk of South Arcot, the

TABLE 14

OCCUPATIONAL STRUCTURE OF NORTH ARCOT DISTRICT SELECTED COMPONENTS THEREOF, AND GINGEE TALUK OF SOUTH ARCOT DISTRICT, MADRAS, 1951.

(All figures except for column 1, are percentages of self-supporting male workers)

	No. of Workers (1,000's)[1]	Agriculture	Processing and Manufacture[2]	Commerce	Transportation and Communications	Health, Education and Public Administration	All Other Services
	1	2	3	4	5	6	7
North Arcot . . .	570	69·5	11·5	6·2	1·7	3·3	8·0
Rural Population Northern Part of Study Area[3] .	166	77·1	10·1	3·7	1·1	2·3	5·8
Southern Part of Study Area[4]	126	87·4	5·4	1·9	0·1	1·3	3·7
Urban Population City of Vellur	21·3	5·1	26·8	22·8	7·7	16·6	20·7
Five Northern Towns[5] .	15·5	16·5	26·4	25·6	5·6	7·6	17·8
Five Southern Towns[6]	18·2	25·3	13·5	16·5	4·8	8·7	31·2
Gingee Taluk South Arcot[7] .	45	88·8	4·3	3·5	0·2	1·6	2.5

[1]Self-supporting males only.

[2]Includes all other primary industries which in no case exceed 2·4%.

[3]Includes rural populations of Gudiyatham, Vellur, Walajapet and Arni Taluks, wholly or partly within the study areas.

[4]Includes rural populations of Polur, Wandiwash, and Tiruvannamalai Taluks, wholly or partly within the study areas.

[5]Includes Walajapet, Ranipet, Sholingur, Arcot, and Visharam ; data for Arni Town are not separable from data for other towns outside the study area and are hence excluded from this table.

[6]Includes Polur, Kalambur, Chetpet, Wandiwash and Tiruvannamalai.

[7]Entirely rural.

occupational structure as determined from the 1951 Census. The principal point emerging from the table is that, regardless of whether the rural or urban populations are considered, the northern part of the study area has an occupational structure indicative of a much more diversified and developed economy than does the southern. With regard to manufacturing and commerce in particular, the former scores percentages about twice as high as those of the latter. And, judging by the proportion of agriculturists, the towns of the north are more truly urban in character than are those of the south. The proportion of 31·2% of workers in "all other services" in the southern towns is unusually high. Of that figure, 18·3% are in "services otherwise unclassified," a classification one can interpret in this instance as representing the "floating" population of generally unemployed day-laborers. In the northern towns, the equivalent percentage is 10·7% out of a total of 17·8% for all other services. Within the North, five lesser towns differ from the city of Vellur not only in their greater proportion of agriculturists, which is to be expected, but also in their greater ratio within the non-agricultural population of workers in manufacturing and processing to workers in service occupations, a reflection of Vellur's relative specialization in health, education, and public administration.

Table 15 evenly divides the field sample of twenty-four villages into subgroups representing the northern and southern parts of the study area. The results are in line with one's expectations in the light of the Census data already presented. But, several important facts not derivable from the Census are also brought out:

TABLE 15

*OCCUPATIONAL STRUCTURE AND SELECTED OTHER VARIABLES IN TWO SAMPLE GROUPS OF TWELVE VILLAGES EACH IN NORTH AND SOUTH ARCOT DISTRICTS OF TAMILNAD**

	Variable	Northern Villages	Southern Villages
1	Size of Villages (no. of Households)	221	189
2	% of Households Mainly Dependent on Non-Agricultural Work within the Village	12	8·5
3	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work within the Village	21	16
4	% of Households Mainly Dependent on Non-Agricultural Work outside the Villages by Workers Living in the Village	13	5·7
5	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work outside the Village by Workers Living in the Village	21	13
6	% of Households Mainly Dependent on Non-Agricultural Work outside the Village by Workers Living outside the Village	8·7	6·3
7	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work outside the Village by Workers Living outside the Village	17	8·7
8	% of Households in High Castes	2·0	4·0

*All figures for variables 2-8 are averages unweighted for village size.

First, with regard to non-agricultural labor, the differences between the northern and southern villages are much greater with respect to work done *outside* the village by workers living *in* the village (variables 4 and 5) than is the case with work done within the village (variables 2 and 3). This suggests that the essential differences between the two sub-areas is not so much in respect to the internal organization of the traditional village economy as it is in respect to the existence or non-existence of alternative sources of employment in non-traditional, or external, market-oriented, industries. The fact that the caste structure in both areas is, for all practical purposes, identical also tends to make for overall similarity in the internal village organization.

Second, with regard to households *mainly* dependent on non-agricultural work *outside* the village, the difference between the northern and southern sub-areas is much less in respect to variable 6, relating to workers living outside the village, than it is in respect to variable 4, relating to workers living within the village. This appears to suggest, that even though opportunities for work within commuting distances of the southern villages are relatively slight as compared to the situation in the north, the economic distress in the south pushes out almost as many workers in search of employment in more distant locales. But a comparison of variables 5 and 7 somewhat weakens this hypothesis, since, when *subsidiary* dependency on outside work is also considered, the difference between the North and the South is somewhat greater in the case of workers living outside the village (variable 7) than in the case of workers living within (variable 5). Complicating the situation is the fact that the percentage of outside workers living outside their native villages is not merely a function of the degree of distress at home; but also of the awareness of outside job opportunities. This one would naturally expect to be greater in the

north than in the south, since the former area is under much greater local urban influence, under much greater Christian mission influence, much closer to main transport routes, and much closer to the metropolitan centers of Madras and Bangalore.

Third, neither village size (variable 1), nor the percentage of high caste households (variable 8) appear to be important factors in explaining the North-South differences, since the northern villages are not significantly larger on the average than those to the south and since the South, which in all other respects lags behind the North, actually has a somewhat larger proportion of high castes. (But neither sub-area has a significant number of such families; and most of those in the South are, incidentally, Muslim, rather than Hindu).

Examining now, in greater detail, non-agricultural work done mainly in the village, we note that in only four cases (three of them in the North) out of twenty-four (villages 2, 3, 10 and 24) does the proportion of households so dependent exceed 10% and in only one of these (village 10) does it exceed 25%. Villages 10 and 2 are weaving villages. These are the only two villages in the area in which the weaving caste of Sengundars were encountered. But the population actually engaged in weaving included not only the great majority of Sengundars in the former village, and all in the latter, but also representatives of four and five other castes respectively. Even more surprising is the fact that the non-Sengundars were overwhelmingly from cultivating castes, including such yeoman groups as Naidus, Reddis, and most important, Mudeliyars. Most of the weavers in village 2 came there within the past decade or so, attracted largely from villages further south, in order to capitalize on its location near Vellur and the Katpadi rail junction. In village 3, the majority of non-agricultural work was performed by Paraiyan, Muslim, and Arundadiya (cobbler caste) tannery workers in a tannery owned by an absentee Madrasi Muslim. About seventy people in all worked in the tannery, including women and children, and a number of workers from nearby villages. Stone quarrying, practiced exclusively by a group of immigrant Naikers, also accounted for a significant part of the non-agricultural work. Village 24 had no particular non-agricultural speciality, but was remarkably self-sufficient in terms of essential goods and services, some of which it supplied also to nearby villages. The considerable wealth of its ten Jain households (all primarily cultivators) probably explains the unusually large numbers in the traditional artisan and serving occupations. The only other village with a noteworthy non-agricultural speciality pursued as a primary occupation was village 1, in which thirteen Paraiyan households lived mainly from the quarrying and sale of lime.

When subsidiary sources of income from non-agricultural labor are also considered, we note that all but four northern villages (2, 3, 5 and 10) have proportions of dependency ranging from 10% to 20%. Villages 2, 3 and 10 have already been discussed and require no additional explanations. Village 5, the largest in the entire sample, has no particular specialization, but does serve as a varied market and service center for several other villages roundabout.[23]

An occasionally important main or subsidiary occupation which was not included in the figures of non-agricultural workers was the casual gathering and selling of wood for fuel, which was of significance in at least six villages.

[23] Among the services it offers (subsidiary occupations included) are those of 11 stone-massons, 9 tailors, 3 brick-makers, 2 tea-stall operators, 2 cycle-repairmen, 2 specialized cloth shopkeepers, 2 rice-millers, *biri* wholesalers, 2 medical practitioners (1 homeopath and 1 *hakim*),1 oil-press renter, 1 garland maker, and a good number of the more common traditional occupations like carpentry, blacksmithying, potting, barbering and clothes-washing.

The proportions of households mainly dependent on non-agricultural work performed outside the village, varied from a minimum of none to a maximum of 40%. In seven out of twenty-four cases (including only one case in the south) the proportion equalled or exceeded 30%, and in only two others was as high as 20%.

When subsidiary sources of dependence were also considered, the proportions of dependency on outside non-agricultural work varied all the way from 5% to 80% equalling or exceeding 50% in four cases (all northern) and 30% in five others (three northern). Of course, a very large share of the outside work was done by workers who no longer live in the villages, but send regular or casual remittances to their families. The proportion of households so affected approached half of all those with a dependence on outside labor.

The outside work performed was quite varied and the places in which it was done very far-flung. In terms of absolute numbers of workers, day labor and seasonal construction work were probably the most important sources of employment, especially in the South, though the remuneration for this type of casual work was usually rather slight. Carting and itinerant hawking were also of some importance, the former only in several southern villages. (That carting was not of importance in any northern village may be due to the better development of trucking services there, as is suggested by the data of Table 14). Among the sources of regular employment, work in tanneries was most important, especially in villages 6 and 7, *biri* making second, especially in village 2; and weaving third, especially in village 11. Employment at Parry's Fertilizer Plant provided considerable work also for the untouchable castes of village 6, while the Paraiyans of village 16 found considerable work in a nearby brick-works. Villages 10 and 22 each had two uncommon specialities in outside work. In the former, numerous families of the Sengundar (weaver) caste took to dealing in yarn and cloth, while all twenty or so households of the Sambadavar (fishing) caste were mainly itinerant fish-mongers, selling fish shipped in from Madras. (This caste, all of whom do subsidiary seasonal fresh-water fishing, was encountered only in this village). In village 22, around thirty Muslim families divided their efforts mainly between the managing of rented mango groves from which they were then allowed to sell the produce (a practice also encountered in Central Uttar Pradesh), and seasonal work as itinerant nickel platers over an area of several thousand square miles, an odd combination, even for India.

The chief sources of employment for workers living outside the village was undoubtedly the army, especially among Paraiyans, including very often those who had become Christian or received some education. Villages 1, 4, 5, and 9, were those most affected. Mining in the nearby Kolar Gold Fields of Madras was also quite important, especially in villages 3, 13, and 17, and plantation labor in upland Mysore or West Madras was the chief source of outside employment in village 16, and a minor source in several others. Work in various clerical and government jobs in Madras, factory work in Bangalore, and work in South India's only steel mill at Bhadravati, Mysore were among the other more distant sources of outside labor.

It is difficult to discuss in concise, meaningful, quantitative terms the adherence to or departure from caste occupation in this area because of the ambivalent status of the Paraiyans who form the largest or second largest caste group.[24] A few qualitative

[24] On a number of occasions, when asking how many of the Paraiyan households still removed carrion from the village, the author was told that all did. In other cases it was stated that one or two households were appointed by the village council each year to organize that work with their co-caste members whenever it became necessary. In still other cases some number such as five or six was given. In practice, when the first answer was given, it would have been unrealistic to list all the Paraiyan households as being subsidiarily engaged in non-agricultural production, and a compromise expedient was adopted, *e.g.*, to count Paraiyan households as so engaged at the rate of five for every hundred families mainly engaged in cultivation.

observations may, however, be ventured: (a) Within the villages the traditional artisan and serving occupations not orientated towards a large outside market have greatly declined, but, to the extent that they persist, they are almost entirely carried out by members of the appropriate specialist castes. (b) Except for the Paraiyan, a majority of the households in non-agricultural castes still depend to some degree on their caste occupation, even though they may also be subsidiarily or mainly in cultivation. The *jajmani* system of ties would still appear to hold to some degree for most of this group. (c) For such degrading occupations as tannery work, or work in a fertilizer factory, or earth-work on construction projects, the great mass of labor still comes from among the low-caste Hindus and the Muslims. (d) Weaving, where flourishing, is apt to attract a variety of castes, including cultivating castes. (e) A variety of village occupations of a non-traditional sort, or for which the appropriate caste exists in insufficient numbers, are apt to be taken up by almost anyone with the necessary initiative, education or capital. These include teaching (many educated Paraiyans have become teachers), shopkeeping, tailoring, milling, bicycle-repairing, etc. Occupations involving handling of food, however, would almost surely not be undertaken by untouchables. A summary evaluation of the present situation is that there are many and important departures in the study area from any strict, caste-regulated allocation of labor.

Occupational Structure and Economic Development.—Table 16 shows the relationship of a variety of occupational and selected other variables to level of economic development on a village-wise basis within the study area. From the table economic development would appear to be positively correlated to variables 1, relating to village size, 2 and 3 relating to non-agricultural work within the villages, and 8, the percentage of households in high castes. The latter correlation, however, is not regarded by the author as significant because of the small number of households involved. The other three correlations are virtually universal in India.

TABLE 16

*THE RELATIONSHIP OF SELECTED VARIABLES TO LEVEL OF ECONOMIC DEVELOPMENT IN TWENTY-FOUR SAMPLE VILLAGES OF TAMILNAD**

Variable	Level of Economic Development		
	1 "A" & "B" 4 Villages	13 "C" Villages	6 "D" Villages
1. Size of Village	258	213	143
2. % of Households Mainly Dependent on Non-Agricultural Work within the Village	19	9·6	4·5
3. % of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work within the Village	27	18	16
4. % of Households Mainly Dependent on Non-Agricultural Work outside the Village by Workers living in the Village	6·4	8·5	13
5. % of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work outside the Village by Workers Living in the Village	10	17	31
6. % of Households Mainly Dependent on Non-Agricultural Work outside the Village by Workers Living outside the Village	12	6·5	7·8
7. % of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work outside the Village by Workers Living outside the Village	19	9·1	9·5
8. % of Households in High Castes	4·0	3·8	0·5

*All figures are averages unweighted for village size.

There appears to be a negative correlation between variables 4 and 5, relating to non-agricultural work pursued outside the village by workers living in the village, and economic development. This is presumably because: (a) the poorer villages are those in which internal unemployment or, more precisely, underemployment is high, thus forcing many workers to forage in the towns for such casual day labor as may come along or to take seasonal work as gang-labor on the roads, in brick-kilns, etc.; and (b) the poorer villages are those from which larger proportions of easily-exploitable, low caste households go to other villages and towns to work in such occupations as *biri*-making and tanning, which other castes do not readily take to.

With respect to variables 6 and 7, relating to non-agricultural work outside the village by workers living outside, no clear pattern emerges; but the "A" and "B" type village do score significantly higher than the remainder. The probable explanation for this fact is that those villages with a larger proportion of more prosperous and better educated households (*i.e.*, the more developed villages) are able to send out more of their sons to cities or to the army for relatively remunerative work and that the remittances sent home augment in turn the prosperity of the villages. Those who leave the poorer villages owing to economic distress, often do so only after they have lost all their land and find it impossible to live on what little agricultural labor is locally available for them to do. In such cases they are apt to take their families with them to the gold-field at Kolar or to the plantations and virtually sever their village ties; or, if they do leave their families behind, these unskilled, uneducated peasants are not likely to be able to find jobs which will permit them to send home sufficient remittances to increase materially the wealth of the village.

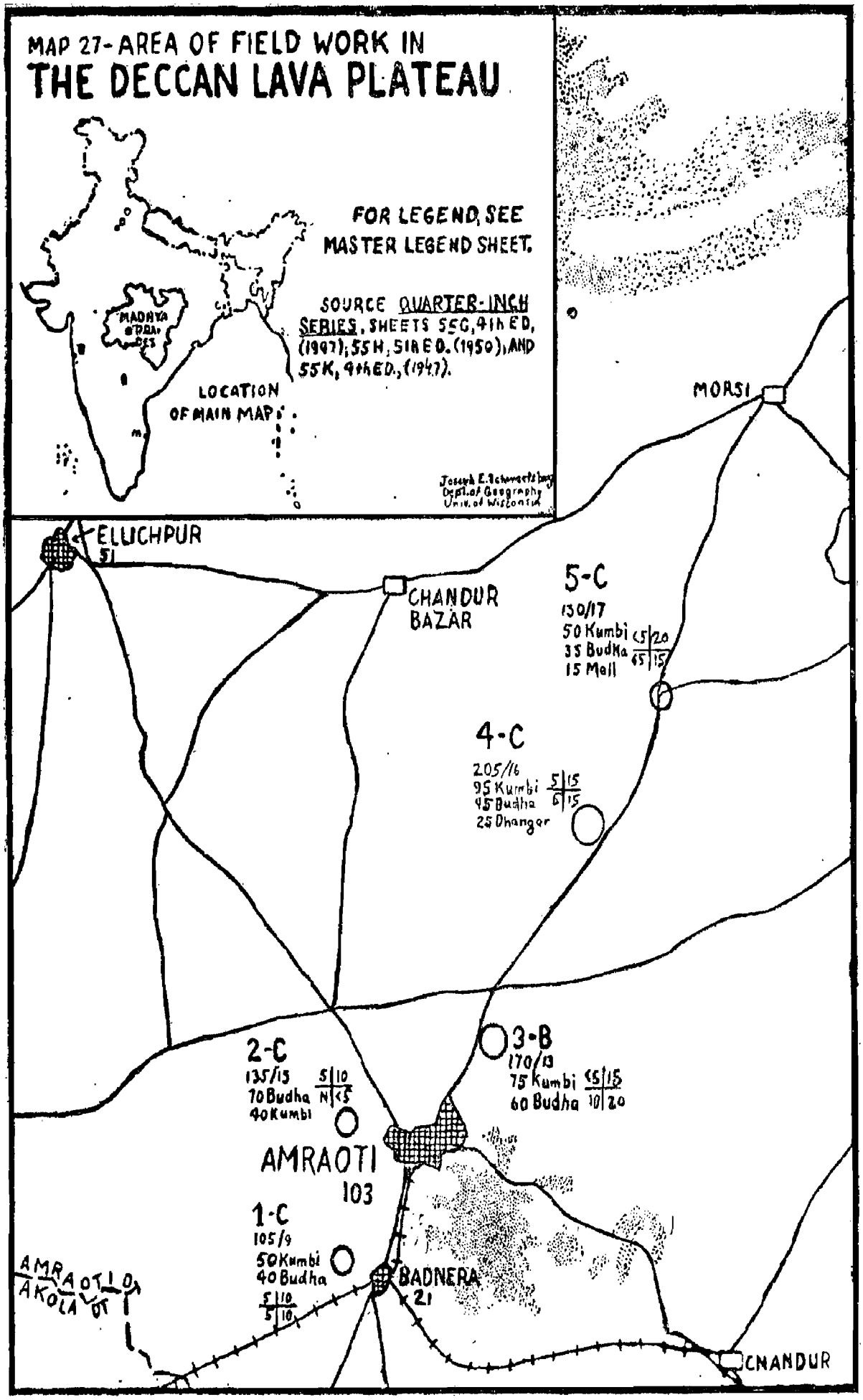
A final word is in order on the difference in prosperity between the northern twelve villages and the southern twelve. Counting a village development rating of "D" as equal to zero, "C" as equal to one, "B" as equal to two, and "A" as equal to three, the average development score in the North works out to 1·17 as opposed to 0·83 in the South. The difference is, no doubt, significant, but not sufficient in itself, the author feels, to account for all of the considerable differences between the occupational structures of the two areas which are indicated in Table 15. One must also remember that the greater proximity to urban areas and major transport routes which resulted in a higher degree of mobility and non-agricultural employment in the North, did not in all cases make for a higher level of prosperity. Thus, villages 6 and 7 which have among the highest rates of non-agricultural employment outside the village, are among the six poorest in the study area, because the outside employment obtained was so poorly rewarded.

Deccan Lava Plateau
(Map 27)

General Background.—In order to examine the effect of commercialized, but non-plantation, agriculture on occupational structure and economic development, an area within the cotton-growing tract of Berar on the Deccan Lava Plateau was selected for study. Few other, if any, non-plantation areas are so highly geared to the production of crops for sale. The exact locale selected was in the district of Amraoti (Amravati), the only district in India in which more than 40% of the net sown area was given over to the cultivation of cotton.[25]

The study area forms a small part of a large and remarkably homogeneous region between the Gawilgarh Hills on the north and the Nirmal Range along the Hyderabad border, well to the south. The personality of this region is compounded of three main elements: the physical imprint of the

[25]It was originally intended to extend the investigation eastward into Wardha and Nagpur Districts also but, due to the fact that the author's interpreter became seriously ill shortly after the work began, only five villages, all in Amraoti, could be covered.



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Deccan Lava flows which have resulted in the formation of an expansive plain of fertile black soil, sporadically broken by broad, low mesa-like eminences; the economic imprint of a production system based on cotton (with jowar as the chief grain); and the imprint of Marathi culture.

The amount of farm land *per capita* of rural population in Amraoti is moderately high by Indian standards, since much the greater part of the area is under cultivation, while the rural population density on the plains (the northern third of the district is mountainous) is only about 225 per square mile. Unfortunately, however, the area is prone to crop failure and occasional famine due to the erratic nature of the monsoon. Unfortunately, too, the available land is very inequitably distributed and the proportion of the population wholly or partially dependent on agricultural labor is exceedingly high. This is in part a function of climate and in part a function of the dominance of cotton, since in bad years more and more marginal cultivators have to sell out or forfeit their land to their creditors. A corollary of the above is that much of the land in the area, including a majority of many villages, is in the hands of absentee landlords, resident in Amraoti and other towns.[26]

The villages of the area are compact, well-spaced, and relatively small in size, with an average of slightly over 500 inhabitants. The degree of urbanization, 27·5%, is fairly high. The city of Amraoti, with its outlying cantonment area, just clears 100,000 in population, as of the 1951 Census. while a well-spaced network of subsidiary towns, up to 50,000 in population (Ellichpur and its cantonment), afford urban services to all parts of the area. Bus and truck transport is well-developed between the towns; but the area is deficient in regard to rail service, while the network of back-roads over which ox-carts transport the harvests to market leaves much to be desired. Manufacturing is confined largely to the seasonal ginning and pressing of cotton and cotton seed and groundnuts in small scattered, power-driven mills, though several larger, year-round cotton textile mills are also in operation.

Ethnically, the region is relatively simple. Kunbis (Marathas), the dominant yeoman caste, comprise over a quarter of the total population, and form the dominant group in the great majority of villages.[27] The second largest group, formerly the Mahars and now called Naobudhs (literally neo-Buddhists), accepted Buddhism virtually *en masse* following the conversion of their late leading figure, Dr. Ambedkar, one of the chief architects of the Indian Constitution. An agricultural laborer caste, traditionally associated with tanning and the removal of carrion, they are now completely disassociated from the latter two types of work in consequence of their religious conversion. Nearly a fifth of the total population, they are occasionally the largest caste in a village and almost always the second largest caste. In the five villages of the study area, the two groups named above comprised an even larger proportion of the total population than in the district averages: the Kunbis formed nearly two-fifths of the total sampled population and the Naobudhs, close to a third.

All other groups are relatively unimportant. Brahmins and other high caste Hindus probably account for less than 5% of the district population and all Muslim castes, high and low, only around 10%. Among the artisan and serving castes, those who appear to be ubiquitous, or at any rate, very widespread include the metal-workers, carpenters, barbers, washermen,

[26]In December, 1958, the Bombay land Law was passed, putting ceilings on the size of holdings subject to certain conditions relating to the supervision of cultivation and establishing other supposed legal guarantees for the protection of tenants and agricultural labourers. At the time of the author's visit in May, 1959, there had not yet been time to put the law into effect.

[27]In some listings Kunbis and Marathas are listed as separate groups. In the author's experience, however, the two terms were used synonymously and, though slight social cleavage may exist within the aggregate for all practical purposes, economically, it forms a single caste.

and a caste designated as Mang, who combine the functions of musicians, broom-makers, bullock-castrators and midwives. Less widespread, but more numerous, are the Telis, or oil-presser caste. The various castes working with cloth (*i.e.*, weavers, cotton carders, printers, tailors, *etc.*) appear, paradoxically in this cotton growing area, to be very poorly represented, as are potters, and a number of other artisan castes. Even beggar castes are but poorly represented. Peculiarly, the Dhangar caste of this area combines the traditional occupations of weaving and the breeding of sheep and goats. No other pastoral castes were encountered. On the whole the caste structure does not seem to be highly articulated, and variations among the predominantly agricultural villages are almost negligible, if the admittedly small sample of villages and supplementary local enquiry are to be trusted as a guide.

Analysis of the Occupational Structure:—Table 17 shows, the 1951 occupational distribution of Amraoti District as a whole and of its rural and urban populations. The figures cited for the percentages of the rural population in certain non-agricultural occupations appear to the author to be somewhat swollen due to biased enumeration, particularly as regards the rubric, "health, education and public administration."

TABLE 17

OCCUPATIONAL STRUCTURE OF AMRAOTI DISTRICT, MADHYA PRADESH 1951.

(All figures except for Column 1 are percentages of Self-supporting male workers)

	No. of Workers (1,000's)[1]	Agriculture[2]	Processing and Manufacture	Commerce	Transportation & Communications	Health, Education and Public Administration	All Other Services
	1	2	3	4	5	6	7
Total Population . .	252	74·6	7·6	6·7	1·6	4·0	5·4
Rural Population . .	186	88·7	3·7	2·5	0·3	2·5	2·2
Urban Population . .	66	34·2	18·7	18·6	5·6	8·3	14·5

[1] Self-supporting males only.
[2] Includes all other primary industries, which in no case exceeds 2·0%

The proportion of non-agriculturists in the five sample villages was remarkably low. In only one case out of five did the proportion of households predominantly dependent on non-agricultural pursuits slightly exceed 5%, while the degree of primary plus subsidiary dependence averaged 13·5% and in one case was 20%. In no sample village was there any note-worthy non-agricultural speciality, though each village had a complete, or nearly complete, complement of the most essential artisan and serving occupations, often represented by but a single household and always performed by the appropriate caste. The small number of households dependent on commerce was particularly striking. Only five households in all were mainly so occupied and about ten or so others on a subsidiary basis (excluding the numerous households of Naobudh who subsidiarily make and sell cow-dung cakes for fuel). Business castes being very rare in the villages visited, almost all those engaged in commerce came from the Kunbi and Naobudh castes. It is known, however, that relatively specialized market villages, in addition to the towns, are to be found throughout the area; and it is probable that such business castes as exist in the area are concentrated therein. The author neither encountered nor heard of any village in Amraoti with an important artisan

speciality. Even the city itself was conspicuously lacking in artisans. In all probability specialized artisan villages are either non-existent in the area or exceedingly few.

On the whole relatively few families engaged in work outside the villages. Only about 5% of all households, on the average, were dependent mainly on outside labor and somewhat over twice that figure were mainly or partially dependent. The type of work engaged in varied. From the villages near Amraoti and Badnera a fairly large proportion of the outside workers, especially among the Naobudh, had such jobs as casual day labor, driving cycle rickshaws, and the like. A few were also engaged in factory work or in petty government jobs. especially as peons (messengers). Further away (in villages 4 and 5), the occupation of driving bullock carts is an important subsidiary occupation, especially among the Kunbis. Outside labor on road construction and maintenance is apt to be of moderate importance in any area, especially among the landless labourers. Dependence on workers living permanently outside the village is very slight.

With regard to the caste determination of occupation, it has already been said that the most essential artisan and serving occupations are always performed by the appropriate caste members; and, it may be added, by them only. But, it should be noted that the services rendered today are said to be almost wholly on a commercial basis, rather than customarily determined, and that the traditional *Jajmani* system is all but dead. This may be the underlying reason for the paucity of non-agricultural caste households in the sample villages. For, if a *kamin* household were to lose its inherited clientele due to the breakdown of the system, and to have to depend on the free play of the market, there would be little point in its remaining in the village if there were sufficient competition from other households of the same Caste. The author assumes, therefore, that at some past period there was a considerable emigration of non-agriculturists from this area. In the past decade or so, however, the period about which field enquiries were made, no pronounced emigration seems to have taken place. Yet in this same period a number of households of artisans and washermen reportedly changed from a primary to a subsidiary dependence on their caste occupations while some others abandoned them altogether to become full-time agricultural laborers.

But while certain professions were being abandoned, others, for which there was a rising demand, were being newly taken up. Tailoring, for example, was taken up by one or more households in no fewer than five different castes, including one Brahmin and several Kunbi households. Milling (by diesel-power) has been introduced by Kunbis to several villages. A number of Kunbis and members of sundry other castes have become school-teachers and petty clerks, jobs usually taken by Brahmins, who however, are relatively scarce in this area.

Another set of occupational changes has resulted from the conversion of the Mahars to Buddhism around 1955. Some of them have since taken up the marketing of milk, an occupation which would have been unthinkable for them in an earlier decade; and all have completely abandoned their former subsidiary caste work of removing dead cattle and flaying and selling the hides. With no-one else in the village willing to remove carrion, each household owning livestock had to manage that odious task for itself when the need arose; and, in 1956, four or five Kunbi households in one village actually began to take up the occupation, as well as the sale of hides, on a commercial basis:

Occupational Structure and Economic Development.—Since the sample of villages in the study area was so small and included but a single village (number 3) noticeably better off than average and none noticeably worse off, it is impossible for the author to state any meaningful generalizations relative to the micro-relationships of

economic development and occupational structure as seen at the village level. If the one "B" type village differs, from the others sampled in any significant respect, it is in the fact that its population had managed to obtain a greater number and variety of outside jobs. Internally the villages were very much alike.

But one major generalization may be made relative to the area as a whole, namely that a very high degree of commercialization, *unattended by a high degree of prosperity* (and, in fact, occasioned by periodic severe economic distress) has undermined the *jajmani* system of labor allocation and reduced the number of village non-agriculturists to a number which probably approaches that which would result from the workings of the laws of supply and demand in a free market economy situation.

Ajmer

(Map 28)

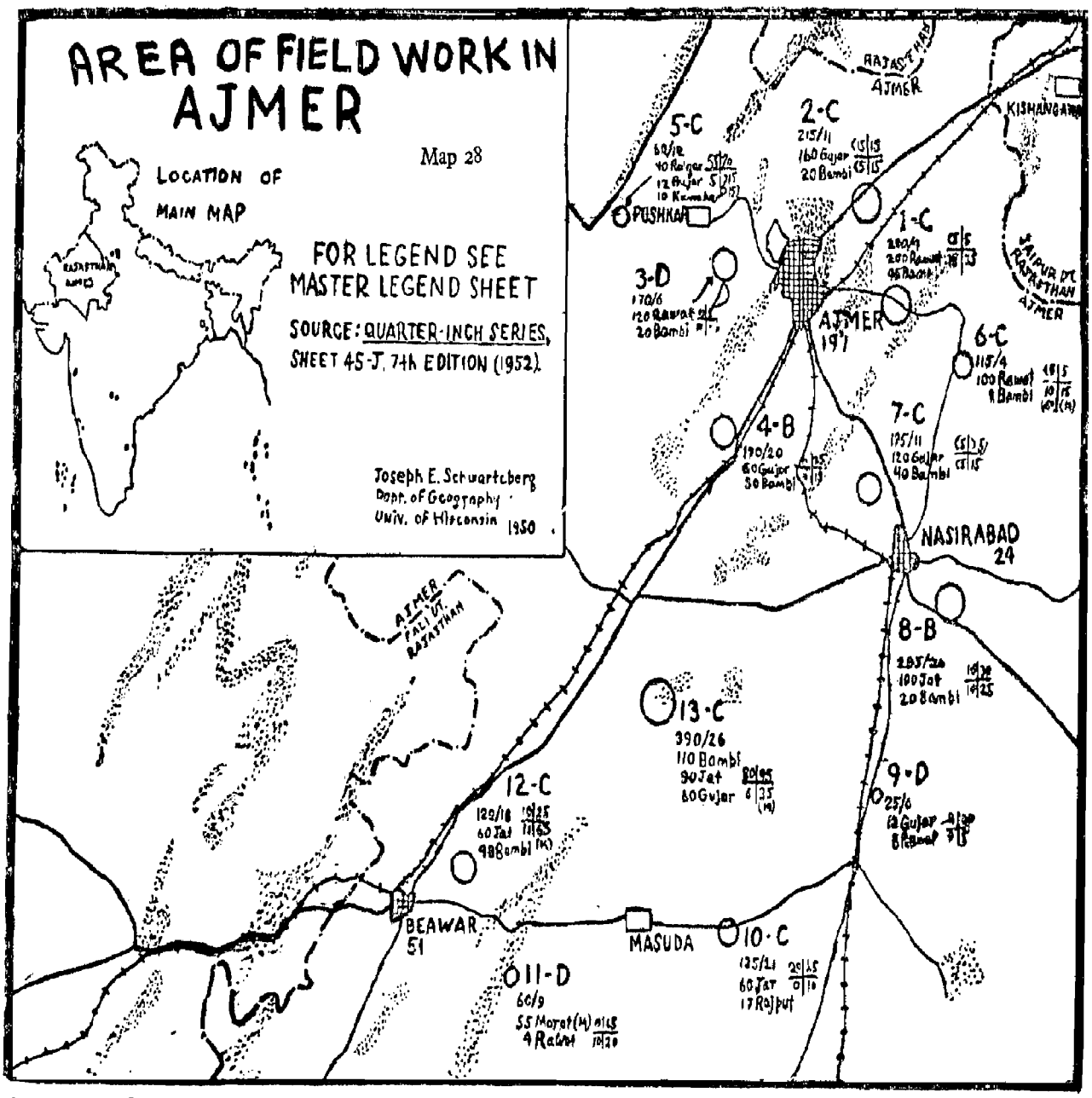
General Background.—Of all the districts in India only sixteen were reported by the Census of 1951 as having lower proportions of workers in the primary sector than the 50·5% so classified for Ajmer. In all of these cases but one, the districts contained cities of over 248,000 inhabitants or formed a part of the Calcutta Metropolitan Area. (The lone exception, Dehra Dun, is a relatively thinly populated mountainous district dominated by urban hill stations.) While Ajmer is itself 43% urban and contains one city of 197,000 in addition to six towns, it remains to be explained: (a) why the district is so highly urbanized in the first place; (b) why, in view of the high degree of urbanization, as many as 19% of the rural population is to be found in non-agricultural activities, and (c) what the rural pursuits are and how they are organized.

An analysis of the site, situation, and recent political and economic history of the area will throw considerable light on the first question. The city of Ajmer occupies a highly defensible niche virtually surrounded by steep, fortress-capped hills at the southernmost of the major east-west gaps through the Aravalli Range. It is, thus, the natural point of transit for goods emanating from southern Rajasthan, Gujarat, and formerly also southern Sind (now in Pakistan) and destined for the Western Gangetic Plain.

Probably because of its strategic location the British established themselves in Ajmer relatively early (1818); and the area has remained an exclave of British India ever since (as opposed to the native states of which pre-partition Rajputana was mainly comprised) until becoming a separate state of the Indian Union in 1947[28]. Except for the brief flare-up during the Mutiny of 1857, the turbulence in the political history of Ajmer ended with its cession to the British, while that in the surrounding princely domains continued. In consequence of its relative security and advantageous location, the city, which was already a place of pilgrimage as the shrine of a saint revered by Hindus and Muslims alike, developed as a major entrepot. This development was greatly furthered by the completion of the Bombay-Delhi rail link through Ajmer in 1879. The city has since become the headquarters of the Western Railway and the site of an important railway workshop, which today provides employment for over seven thousand workers.

Despite the semi-aridity of the area, the development of irrigation works under the aegis of the British has resulted in a pronounced extension of cultivation and the growing of *rabi* (dry season) as well as *kharif* (monsoon season) crops. In addition to cotton and oil-seeds (mainly mustard), fodder crops have become an important source of cash income in this largely pastoral area. Due to transhumance from the Thar Desert to the west, the livestock population rises greatly in the dry season, and provides an excellent market for the sellers of fodder.

[28]In 1956 it was merged with the now united state of Rajasthan.



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Beawar, the second city of the district, is India's most important market for wool and one of its chief wool manufacturing centres. Cotton textile manufacturing is, however, an even larger source of factory employment, and there are at least twenty additional seasonal ginning establishments in the state. The manufacture of *biris* and snuff is also of note. Artisan specialities, however, have not, on the whole, developed to a very high degree, with the exceptions of lace embroidery, and cloth-printing. Weaving has declined in the villages; but the industry is far from dead. The mining of mica and the quarrying of marble and slate in the hills is of some importance.

Under British rule Ajmer developed not only as a center of rail transport and trade, but also, thanks to the location there of important military and social establishments, as a center of health and educational services. The cantonment at Nasirabad provided the basis of the economy of the state's third largest town, while the Mayo Hospital and College at Ajmer became important institutions.

The villages of Ajmer, consisting of houses of adobe and stone construction, are generally highly nucleated, and widely and unevenly spaced. Not infrequently they are situated on or at the base of rocky eminences, for purposes of defence, or, alternatively, at the site of natural or man-made tanks or springs. The average village population is about 575, though nearly two thirds of all villages have fewer than 500 inhabitants. Rural population densities are about 170 per square mile.

Of the seven urban places in the state, mention has already been made of three. A fourth, Pushkar, with but 6,000 permanent residents is an important place of pilgrimage, since the small lake on which it is located is said to be the holiest in northern India. The remaining three towns lie outside the study area. Several additional places within the study area, Masuda, for example, though officially classified as villages, function as market towns. Such places are often walled and dominated by a fortified castle of the former local *jagirdar,* all in the best of feudal tradition.

Ethnically, the area is fairly complex. There is no single dominant caste at the yeoman level. Rawats are probably the largest single group, but Jats, Gujars, and, to a lesser degree, Merats, who may be either Muslim or Hindus, are also important. All of these yeoman groups tend to be mutually exclusive. Thus, in a given village where one is dominant the others are apt to be totally absent or represented by but a few families. An interesting aspect of the caste composition of the area is that the villages in which Rawats or Merats are the chief yeoman castes tend to have very few other castes while those dominated by Gujars or Jats tend to have a great many. Thus, the four villages visited by the author in which one of the former two castes dominated had an average of but 4·25 castes (the average village size was 159 households), while the nine Jat or Gujar villages averaged 17·9 castes (and 189 households), the four Jat villages alone averaging 21.3 castes (and 273 households). How this situation came to pass is an interesting matter on which to speculate. But it appears to the author that a highly ramified caste system was introduced into the area only with the advent of the Jats and Gujars (just when is not certain) and that the indigenous Rawats and Merats have, to this date, adopted the system to a very limited degree at best. There was, significantly, not a single Brahmin or other high caste family encountered in any of the four sample Rawat or Merat villages, and very few artisan and serving castes. The three Rawat villages, however, all had very small minorities of Bambis, who form, in this area, the chief group at the bottom range of the caste hierarchy. Purely pastoral castes are very poorly represented, unless one accepts the verdict of some scholars who classify the Gujars as a pastoral people, which undoubtedly they originally were.

High castes, as already noted, are numerically unimportant in the study area; and they do not appear to be as clustered as in other areas studied. Four groups only are noteworthy: the Brahmins (encountered in six of the fourteen villages), the Sadhus, or temple assistants (in seven villages), the Rajput-Thakur group (in seven villages), and the Mahajans (often of the Jain religion), the chief commercial caste (in five villages).

Of the artisan castes, only the Khati, or carpenters (in eleven villages) and possibly the Kumahars, or potters, (in eight villages) approach ubiquity, while among the servant castes, above the lowest levels, the same can be said, only of the Nais or barbers (in nine villages). None of the groups named ever forms more than a few per cent of all the households in a village. The castes of goldsmiths, blacksmiths, oil pressers, cloth printers, tailors, and a few other artisan groups were all very poorly represented, none being found in over six villages. Of the washermen's caste, but a single household was encountered.

Castes associated with traditional ceremonial functions were very widespread, though not very numerous, being found in small numbers in every sampled village. There are at least three separate castes associated with drum-beating, though one of these, the Jachak (or Bhat), are also genealogists and casual beggars. Begging is the main occupation of several additional castes as well.

Three groups of former untouchables, traditionally associated with some artisan occupations, but in practice mainly agricultural laborers, are significantly represented in the study area. The Bambis, who are weavers, leatherworkers, and removers of carrion by caste, are, as already stated, much the most important of these. They are the most numerous caste in the largest sample village of the study area, the second most numerous in eight others, and are absent from only two. Raigars, also traditionally associated with leather work (but not weaving), are the largest group in one village and are also found in seven others. Bhangis (Mehetars), sweepers by caste, are found in seven villages, but in none account for more than six households.

Analysis of the Occupational Structure.— Table 18 indicates the Census' occupational distribution of Ajmer as a whole and also of the rural and urban populations. While, on the whole, the Census figures seem credible, certain figures for minor categories

TABLE 18

OCCUPATIONAL STRUCTURE OF AJMER, 1951

(All figures except for column 1 are percentages of self-supporting male workers)

	No. of Workers (1,000's)[1]	Agricultural[2]	Processing and Manufacture	Commerce	Transportation and Communications	Health, Education & Public Administration	All Other Services
	1	2	3	4	5	6	7
Total Population . .	189	49·5	16·7	11·1	3·4	7·1	12·1
Rural	109	81·0	7·8	3·7	0·8	1·6	5·4
Urban Non-City[3] . .	30	7·5	31·6	22·7	3·3	15·3	19·7
Ajmer City . . .	49	6·4	27·2	20·5	9·2	14·5	22·5

[1] Self-supporting males only.

[2] Includes all other primary industries: 3·5% in the total population; 3·6% in the rural; 1·5% in the urban Non-city; and 4·8% in Ajmer City.

[3] Includes several towns outside the study area.

not listed separately in the Table seem most improbable: that the population of Ajmer city included 276 self-supporting males who lived primarily from hunting, while not a single individual in the rural population was so classified and that the number of fishermen in the city was 2·2% of all workers as against only 0·1% in the rural population. Since the author did not encounter or hear of any hunting or fishing castes in the area, this does not appear to be a case explainable by the enumeration of caste rather than actual occupation. Perhaps it is simply due to some accounting error in the Census compilation.

Comparison of the villages in the study area reveals considerable internal variety. Thus, in respect to the proportion of all households mainly dependent on non-agricultural work within the village, the sample villages range from zero per cent in two cases (9 and 11) up to 55%, in village 5, though only two other villages (10 and 13) score as high as 20%. The unweighted average for the entire sample was 12%. If one considers subsidiary as well as primary dependence on non-agricultural sources, of income within the village, the average rises to 26% and even greater variety is apparent. The range is from a minimum of 5% in village 3 to a maximum of 70% in village 5, both in the vicinity of the city of Ajmer.

Of the thirteen sampled villages, no fewer than seven had some significant non-agricultural speciality which was provided not only for the village population itself, but also for the villages roundabout, or for marketing further afield. Thus, village 2 had ten families subsisting mainly from their work as drum-beaters; village 5 had an important specialization in twine-manufacture (semi-mechanized) and a lesser specialization in leatherworking; village 8 was a center for the manufacture of such diversified articles as twine, needles, soap, hair oil, and combs (all by the twelve households of the Ganwaria caste, who, for eight months of the year, are far-ranging itinerant hawkers); village 10 had a minor specialization in weaving (seven households only); village 11 had around twenty households engaged in the subsidiary quarrying and marketing of building stone; village 12 had a moderately important specialization in the making and repairing of shoes; and village 13, despite its relative inaccessibility, was an important general market (thirty households of the Mahajan, or trading, caste lived there) as well as an important producer of pottery and handloom cloth. Yet, with the probable exception of village 5, none of the above could be considered predominantly non-agricultural villages. Even in village 5 only 15% of all households had absolutely no stake in agriculture, while in no other village did much more than 5% of all households have no connection with cultivation.

Several usually subsidiary occupations have not been counted in the above figures on non-agricultural employment. Among these is the marketing, by the producers, of milk and other dairy produce or of wool, activities considered merely as ancillary to agriculture.[29] Villages 2, 3 and 12 were important in this respect. Also excluded was the gathering of wood in forests near the villages for sale in urban markets. This means of livelihood was particularly important in village 3, in which over 40% of all households were said to depend mainly thereon (though they were engaged also in cultivating or raising livestock) and over 60% mainly or subsidiarily; and it was fairly important also in villages 10 and 12.

The majority of the traditional non-agricultural work within the villages follows along strict caste lines. But shopkeeping; the marketing of milk, wool, and wood; flour milling; the operation of tea stalls; tailoring and twine-making are commonly pursued by a variety of castes, though the

[29] But dealing in milk, wool, *etc.* (*i.e.*, buying up the produce from various producers in order to sell at a profit) which was also of some importance, was counted.

latter, which is considered a demeaning type of work, is not practiced by any yeoman group. While in the great majority of non-agricultural castes, most households continue to practice their traditional work, on either a main or subsidiary basis, a noteworthy exception are the Bambis, whose position in society, as has already been implied, is ambivalent. A great many households of this caste, perhaps a majority now own land of their own, even though continuing in many instances to do agricultural labor; and the group, owing partly to its present dynamic leadership, is trying hard to improve its station in life. It has virtually, if not completely, abandoned all work connected with carrion or leather, and taken, albeit in small numbers, to a variety of new occupations, particularly twine-making and milk dealing, but also tailoring, masonry, and several others. Although weaving has greatly declined among the Bambis (the only caste to engage in that work in the study area) the reasons for that particular trend appear to be economic rather than social. Unlike the Bambis, the Raigars and Bhangis exhibit no social-climbing proclivities, and even those owning land tend to stick to their caste work to the full extent of the demnad for their services.

The supply of goods and services within the village is still governed largely by customary *jajman-kamin* obligations, while that between villages is much more along commercial lines. An unusual instance of a compromised form of preservation of the *jajmani* system stems from village 5, in which, out of ten Kumahar (potter) households, eight have abandoned, or never properly learned, their craft speciality, and have taken instead to the weaving of twine and rope. All eight of these households, however, engage other potters to keep their *jajmans* supplied in return for the customary perquisites which were their due. Among these perquisites, it appeared, was the right to cultivate the land on which to grow the *ban* reeds needed for the making of twine.

In the introduction to the discussion of this study area, mention was made of the differences in the caste structure of the Rawat and Merat villages, on the one hand, and Jat and Gujar villages, on the other. This difference shows up very strikingly in the occupational structure. Thus, the average proportion of households primarily dependent on non-agricultural work within the village is but 1·8% among the former as opposed to 15% among the latter. Including subsidiary dependence raises the proportions to 12·5% and 31% respectively.

With regard to the nature of non-agricultural work mainly performed outside the village, the differences among the villages were, on the whole, less great than with regard to the work done within. The proportion of households mainly so dependent varied from none, in two cases, to only 15% in three others, while, with subsidiary sources of dependence also counted, the range extended from 5% to 50% the two extremes being each represented by a single village. The respective means were 7% and 21%.

An unusually large proporttion of the outside workers were in some way connected with transportation. From villages 1, 3 and 6, work in the railway workshops at Ajmer forms the chief source of outside employment (the workers from village 6 live in Ajmer itself), while some workers from several other villages also find employment there. Carting and/or donkey driving, the latter a subsidiary speciality of the Kumhar caste, are important for villages 2, 5 and 6. Gang labor on the roads or railroads is significant for villages 2 and 13. Casual, unskilled labour in Ajmer, Nasirabad, and Beawar is an important source of outside work in villages 3, 7 and 12 respectively. Many better paid jobs in Nasirabad, largely for the army, have been obtained by a variety of castes from village 8, which is located close to that town. From this village too go forth numerous hawkers, of the afore-mentioned singular Ganwaria caste

and from the potter caste as well. Permanent and seasonal work in the cotton textile and wool cleaning and pressing mills of Beawar provide the bulk of the outside employment for villages 11and 12. (All twenty Raigar households in village 12 do seasonal work in the woollen mills, which, for some undiscovered reason, draw labor largely from the caste.) Despite the special cases cited above, outside work, especially factory and railroad work, tends to be governed far less by consideration of caste than work inside the villages. Also of note is the fact that the Rawat and Merat villages send out somewhat more outside labor than those dominated by Jats and Gujars, a situation contrasting with that found within the villages proper with respect to non-agricultural work.

Occupational Structure and Economic Development.—Two villages in the study area, numbers 4 and 8, were noticeably more prosperous and/or had noticeably better amenities than the average, while three others, 3, 9 and 11 were noticeably worse off. The former, or "B"-type villages averaged 238 households in size, the latter, or "D"-type only 85, and, in between, the nine "C"-type villages averaged just 200 households. With regard to the proportion of high caste households within the villages, "B" villages averaged 13% and the "C" villages 6.9%, while the "D" village contained none at all. It would appear then that village prosperity, village size, and the proportion of high castes all co-vary to a pronounced extent. This is a general tendency which has already been noted for several other study areas. The reason would appear to be quite simply, that families of means tend to congregate at places large enough to supply a good part of their wants, and that where such families settle other families of specialized castes will in time be attracted, or induced, to come in order to satisfy still other wants. The high castes, naturally, tend to be among those with a larger vatiety of wants.

More important as a casual factor linked with prosperity in the study area is the constitution of the dominant yeoman caste. Of the three "D" type villages, two were from among the four Rawat or Merat villages, and only one, from among the nine Jat or Gujar villages, while the latter also included the only two villages of the "B" level of prosperity.

On the other hand, this area differs from other areas in that there is no pronounced correlation (at least among the admittedly small sample of villages) between any of the occupational variables discussed above and the level of economic development. Thus, households mainly dependent on non-agricultural occupations pursued within the village averaged 13% for the "B" villages, 14% for the "C" villages, and were negligible for the "D" villages. The corresponding figures when subsidiary occupations are figured in are 28%, 24% and 20% respectively, somewhat more in line with expectations, though not pronouncedly so. With regard to non-agricultural work pursued outside the village, there are no appreciable differences from one class of villages to the next, regardless of whether main or subsidiary dependence is considered. Several reasons may be advanced for the general absence of intra-regional correlations between development and non-agricultural occupations in the study area: (a) many of the non-agricultural occupations within the villages are not primarily intended for the immediate village market, are not very remunerative, and bring little wealth into the villages; (b) much of the outside employment, as in the Saharsa and Chota Nagpur areas, is attributable to economic distress at home; and (c) external trade is well developed so that goods not locally available can be obtained from nearby markets or itinerant hawkers.

A correlation which appears more consistent, although the author has been unable to devise a satisfactory method of measuring it quantitatively, is that between the number of different goods and services

produced within given villages and the level of development of those villages, even though the population supplying them may vary independently.

Kerala

(Map 29)

General Background.—Of all the major cultural regions of India, none lends itself to superlatives quite so readily as Kerala, the most literate, the most Christian (save for a few small tribal areas), the most Communistic, the most female-dominated at the family level, the most verdant, and, economically, and, hence, occupationally, the most diversified part of the entire nation. With regard to its level of economic development, Kerala is difficult to classify. Structurally and with regard to numerous criteria of general welfare, the region ranks very high, as is evidenced by the data presented in Chapter II for the state of Travancore-Cochin, which comprised most of the Kerala cultural region, which is, in turn, roughly coterminous with the Malayalam linguistic area[30]. But, because of the unusually high pressure of population on resources, the per capita production of material goods is not among the highest in India, and consequently the region ranks lower in its overall development rating than it otherwise would.

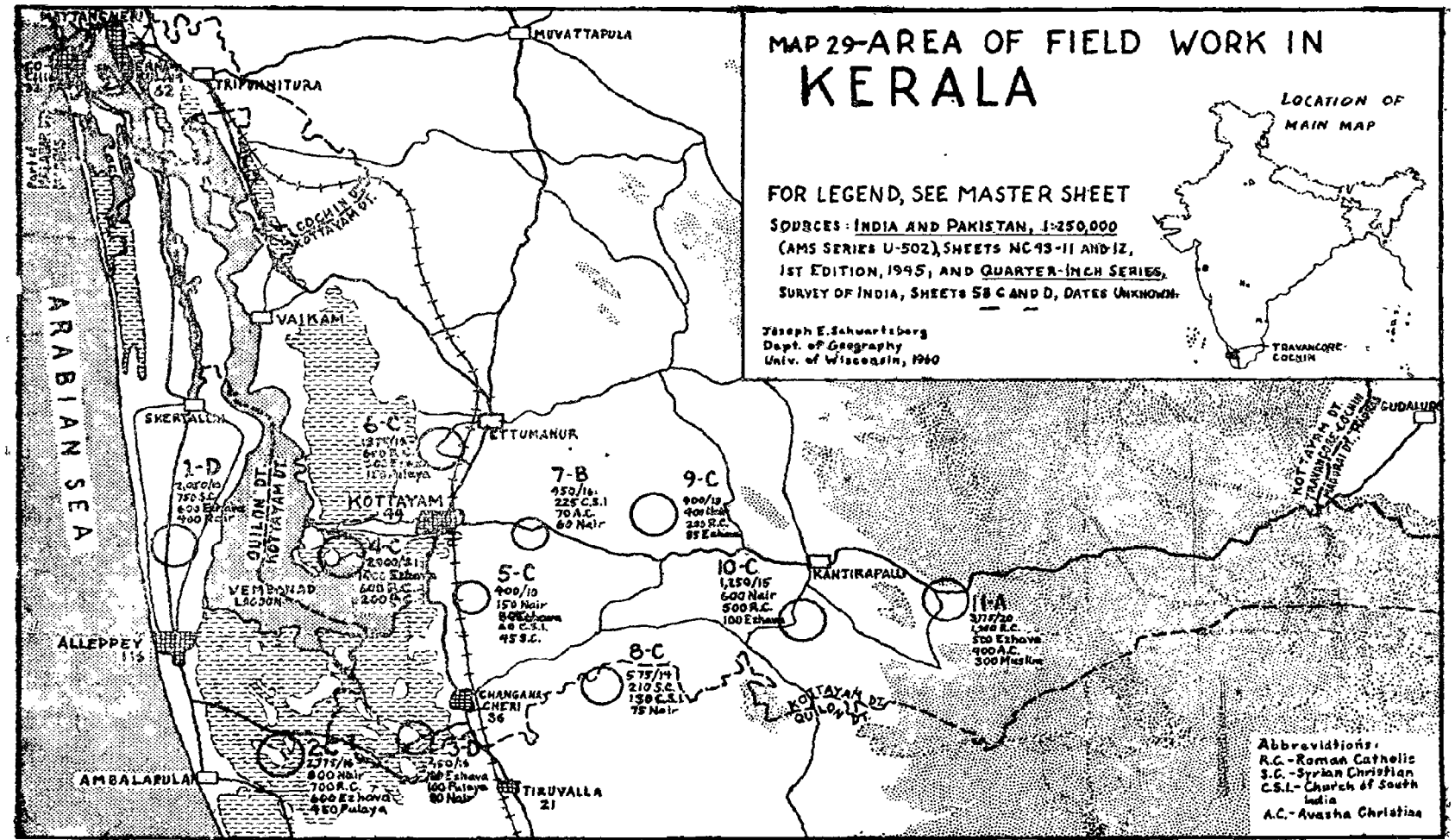
In view of the high rural population densities, over 2,000 per square mile in much of the coastal areas and more than 1,000 in many hilly tracts, it is a tribute to the ingenuity of the people that they have been able to maintain their relatively advanced living standard. The economic diversification of the region has been accomplished by the nearly full utilization of virtually all aspects of the natural resource base, the creation of a variety of small-scale and cottage industries, and the promotion of favorable commercial ties, not only with the rest of India, but with a large overseas market as well. Because Kerala affords an example of some of the things which other hard-pressed regions of India can accomplish, even with their limited resources, it would appear to be among the areas of India most worthy of study from the developmental point of view and may point the way which other regions in time will follow, once they emerge from their current economic stagnation.

Unfortunately, for purposes of the present study, the settlement pattern of Kerala is such as to render virtually impossible the execution of the type of field work which the author carried out in other parts of India, in which the discrete village was the sampling unit. In Kerala a nucleated village clearly separated from its neighbours is scarcely to be found, and what are called villages, for administrative and census purposes, are nothing but more or less arbitrarily blocked-out tracts of land within which local governmental, fiscal, legal, and administrative jurisdictions are established. Often these so-called villages exceed 5,000 in population (32·4% of the rural population of Travancore-Cochin was enumerated in such villages) and even an occasional village of over 20,000 can be found[31]. Under such conditions it was impossible to carry out interviews with but one or a few informants which would cover the entire village with the detail and reliability achieved elsewhere. Nevertheless, interviews *were* attempted in quantitative terms in hopes of getting at least the major lineaments of the village social and economic structure.

The area of study was intentionally selected so as to cut across the zonal division of Kerala into three contrasting regions extending roughly north-south; the Coastal Plain, the Central Hill-Lands and the

[30]With the redrawing of State boundaries under the 1956 States Reorganisation, Travancore-Cochin was expanded to become the new linguistically-uniform State of Kerala.

[31]For a discussion of what constitutes the "village" in Travancore-Cochin, see the 1951 Census, Vol. XIII, Part I-A, p. 29.



Based upon Survey of India map with the permission of Surveyor General of India

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mountainous Western Ghats (the latter known in the north-east as the Cardamon Hills). The area centering on Kottayam was selected because to the West the characteristic coastal topography of sandbars, backwaters and lagoons was especially well expressed, while to the east could be found one of the best developed plantation tracts of the region. Furthermore the area includes an interesting diversity of urban areas: the important coir-manufacturing center of Alleppey, which is also a port of some note, though minor in comparison to Cochin further north; the district capital of Kottayam, which is also an important religious center of the Syrian Christian church; and such important market towns as Changanacheri and Kanjirapalli, the latter a center for the collection of the plantation produce of the highlands.

The economy of the coastal area revolves about the coconut, which, in one form or another, accounts for the great majority of its exports, and, directly or indirectly, affords employment for a very large share of the populace. The manufacture of coir products (rope, mats, *etc.*), both in factories and as a cottage handicraft, is by far the chief industrial specialization; but the making of coconut oil, soap, copra, products of palm-leaf matting, and other related items are also important. Rice is the chief crop in all those areas which are submerged for too much of the year or are otherwise unsuitable for the growing of coconut, and a variety of fruits, including the cashew-nut, and vegetables are grown. Fishing too, is quite important. The area is, nevertheless, chronically deficient in foodstuffs and dependent on imports to survive Famine, however, never occurs.

The hilly middle-belt of Kerala begins, rather abruptly as a rule, where the annually flooded portions of the coastal plain terminate. Local relief in this area rarely exceeds a few hundred feet, but the fairly fine texture of the terrain gives it a somewhat rugged aspect. A surprisingly large proportion of the area is in cultivation. Rice is grown in the valley bottoms while the slopes may be terraced for tapioca, interplanted with coconuts or planted in plantains, bananas, jack-fruit, and any of a number of cash crops such as rubber, which is rapidly expanding, pepper (for which the area has long been famous), areca-nut, ginger, or turmeric. Cultivation is carried on both by thousands of small-holders, as on the coast, and by medium-sized to large estates, some of which are corporately owned. A number of small factories have recently been opened for the manufacture of crepe from latex and the processing of tea brought in from the highlands. Among the other industries are tile and brickworks, flour-mills, furniture-making establishments, small engineering workshops, and a large cement plant, in addition to those of a more traditional nature.

In the mountainous highland area of the Western Ghats the economy is almost exclusively based on the cultivation of plantation crops, predominantly on large estates, and on occupations ancillary to such production. The plantation industry in this area was formerly predominantly in British hands, but is coming more and more under Indian management. The larger plantations operate factories for the processing of their own produce, and in some cases that of adjacent estates as well; but most of the smaller establishments ship their produce to the hill zone for initial processing. Tea is the major crop, especially in the wetter areas above 3,000 feet in altitude, while rubber is more important on the lower slopes and spreads westward into the hill-lands. Cardamom, sundry other spices, and lumber are also produced. In terms of total area, however, most of the highlands are still unexploited, since the estates are limited to areas which can be reached by the tortuous, and sometimes treacherous, access-roads fingering out from the principal highways.

Ethnically, the study area is rather complex. Although a great majority of the population are included in a few main Christian and Hindu groups, among the remainder the caste system is fairly highly ramified, and, as in most parts of India, there are a number of small, but ubiquitous, specialized castes, including several without counterparts in any other study area. The author found no clear ethnic zonation among the sample villages, though it is said that, within Kerala as a whole, distinct regional ethnic patterns are to be found.

Christians comprised close to 40% of the population in the eleven sample villages, and might exceed half in the study area, considering their preponderance in such urban places as Kottayam and Alleppey. They formed an absolute majority in four of the villages visited, the largest single group in another and the second largest in five others, and in none comprised less than 15% of the total number of households. Because of their control over such a large part of the educational system (a perennial bone of contention in Kerala politics), their primacy in business, and their large land-holdings, their influence goes considerably beyond what their numbers alone would lead one to expect. Yet the Christians are far from united. The Roman Catholics form the largest (and most prosperous) sub-division with over half the total; followed by the Syrian Christians, who claim descent from the original converts of the Apostle Thomas; the Avasha Christians, who are recently converted, former untouchables and are still not fully accepted by any other Christian group (not to mention Hindus); the united (Protestant) Church of South India, largely Anglican in its origin; a variety of very small Protestant groups; and even a few interesting, though numerically insignificant, occupationally-specialized sub-castes, such as one of stone-workers, claiming connection to the Catholic church.

In terms of influence, the matrilineal Nairs (Nayars) are unquestionably the leading Hindu caste in the area. In three of the sampled villages they formed the largest ethnic group, were second in one other, and were well represented in all (never below 5%). Traditionally warriors the Nairs are, in practice, largely cultivators; and they have now taken up a great variety of other work, especially government service. In the sample villages the Nairs comprised close to a fifth of the total population.

The only Hindu group more numerous than the Nairs, are the untouchable Ezhavas (also called Iluvans or Tiyans), the dominant agricultural-labor caste of the area. Forming about 25% of the total population of the sample villages, roughly the same proportion as the Roman Catholics, they formed the largest group in one village, and the second largest in five others. They too, never formed less than 5% of the population of a village. One other untouchable caste of note, even lower in the social hierarchy than the Ezhavas, are the Pulayas. Of tribal origin, having originated in the jungles of the Western Ghats, they are now found mainly in the Lowland zone. This caste, though numbering over 5% of the total population, was encountered in only six of the sampled villages. It was not clear to the author whether or not the group had any caste occupation other than agricultural labor.

All the remaining groups combined numbered less than 10% of the population of the sample villages. Brahmins were encountered in only four villages and were significant in none. Muslims, except for a few insignificant groups, were not divided in this area on caste lines. They were met with in five villages and in only one were significant (they comprised nearly 10% of village 11). Occupationally they are mainly traders. The ubiquitous specialized caste groups included the carpenters, the black-

smiths, the washermen, the barbers, the Parevas, among whom the men are coconut tree-climbers while the women wash clothing, and the Kanniyars, who combine the functions of astrologer, doctor, and exorciser of witches and evil spirits. Other caste groups found in over half the villages include goldsmiths, merchants and oil-pressers, stone-masons, whitewashers and limeworkers, and confectioners. All other castes were too few in number to be worthy of mention. Particularly surprising, was the almost total absence of the potter caste, which is generally well represented in all other areas of India known to the author.

Analysis of the Occupational Structure.—The occupational structure of Kottayam and Quilon Districts and selected sub-divisions (or groupings of sub-divisions) within those districts is shown on Table 19. Because of the way in which the administrative boundaries are drawn it is impossible to derive from the published Census data figures for sub-regions corresponding closely to the three-fold natural zonation discussed above. The sub-divisions selected for inclusion yield the closest approximations obtainable for the parts of the three zones lying within the study area. The footnotes to the Table indicate its majority limitations.[32]

TABLE 19

OCCUPATIONAL STRUCTURE OF QUILON AND KOTTAYAM DISTRICTS OF TRAVANCORE-COCHIN AND SELECTED SUB-DIVISIONS THEREOF, 1951

(All figures except for column 1 are percentages of self-supporting male workers)

	No. of Workers (1,000's)[1]	Agriculture[2]	Plantation Industries[3]	Fishing	Processing and Manufacture[4]	Commerce	Transportation & Communications	All Other Services
	1	2	3	4	5	6	7	8
Quilon	636	54·5	1·3	4·1	17·2	7·6	4·6	10·5
Rural, Lowland Zone[5]	101	42·3	0·3	9·5	22·7	8·8	6·4	10·0
23 Towns[6]	62	33·4	1·7	3·3	18·0	13·2	7·4	23·0
Alleppey City	29	8·9	0·3	4·0	39·6	18·6	9·8	18·7
Kottayam	402	60·7	9·9	9·9	9·9	5·4	2·6	10·4
Rural, Hill-Zone[7]	180	70·8	2·5	0·6	10·4	4·6	2·0	9·1
Rural, Upland Zone[8]	51	22·2	61·3	0·1	8·0	4·4	1·6	7·8
18 Towns[6]	44	29·7	2·2	1·1	16·7	16·5	8·8	25·0

[1]Self-supporting males only.

[2]Includes stock-raising, which in no case exceeds 1·0 %; excludes plantation industries.

[3]Includes forestry and collection, which in no case exceeds 1·2 %.

[4]Includes mining, which in no case exceeds 0·8%.

[5]Shertala and Ambalapuzha Taluks.

[6]Includes a number of towns outside the study area.

[7]Includes Kottayam and Changanacheri Taluks, which overlap into the Lowland Zone, and Manachi Taluk, which does not.

[8]Peermede Taluk only; overlaps into Hill Zone.

[32]The several District Handbooks for Travancore-Cochin enumerate (in Table B) for the respective districts to which they refer and for the state as a whole, the percentage of all persons (not workers) dependent on each of the eight livelihood classes of the Census (classes I-IV, agricultural and V-VIII non-agricultural) in the "Lowland", "Midland" and "Highland" areas.

The most important things to be seen in the table are the following: (a) the strikingly high proportion of non-agriculturists and the unusually high ratio of processing and manufacturing to all service industries (columns 6—8) in rural, lowland Quilon, reflecting the importance of cottage industries; (b) the unusually high percentage in processing and manufacturing in the city of Alleppey; (c) the importance of transport in rural, lowland Quilon, which follows in part from the fact that the maze of backwaters in that area necessitates a large number of professional boatmen; (d) the importance of fishing throughout Quilon; (e) the high proportion of agriculturists in the town populations of both Quilon and Kottayam, which indicates how far they are from being truly urban in character;[33] (f) the great difference in development of non-primary occupations between the rural, hill zone of Kottayam and the rural, lowland zone of Quilon; (g) the phenomenally high proportion of workers in plantation industries in rural, upland Kottayam.[34]

In general, these characteristics indicated by the Census statistics cited were confirmed by the author's field studies. The percentage of non-agriculturists encountered was, if anything, even higher than that indicated by the Census, probably because of the proximity of most of the sample villages to Alleppey and Kottavam or to main highways, in or along which mills and commercial establishments are most commonly situated. Since bus and ferry service in the area is very frequent and efficient, and distances small, commuting to work in extremely common. Certain backwater villages, however, can be reached only by boat for up to half the year, and are much more isolated than those which are high and, for this land of torrential downpours, relatively dry.

While the sample villages in the study area did have important specializations, these were invariably the specializations one would expect as a result of their locations and crop patterns, rather than specializations attributable to their ethnic makeup. (Indeed, the latter is not to be expected since none of the *major* groups encountered in the area had a specialized, non-agricultural calling.) Thus, village 1, which was located on the coast and in an area overwhelmingly devoted to the planting of coconuts had the dual specializations of fishing and the preparation of coir products, while village 11, which was the last village of the hill-zone (and, incidentally, the most prosperous village in the entire sample), was a center for the collection of all sorts of plantation products and for factory processing of tea and the production of rubber crepe. It would, however, be too much to assert that there are *no* villages to be found which are specialized along caste lines. The author was told, for example, that there were approximately three hundred weavers in two villages near Ettumanur, north of Kottayam; but, he was not told, unfortunately, which caste(s) were doing the weaving, nor how large the villages were[35]. With regard to retail commerce and services no village could be called specialized since all were quite well provided with a variety of shops, small milling establishments, restaurants (of a

[33] This is, however, in part a function of how far out from the urban core the administrative boundaries of the town are drawn.

[34] Counting in processing and manufacturing, which is mainly done on plantations, the figure approaches 70% and, were the proportion known of the workers in commerce, transportation, and other services who were also employed by, or on, plantations, the total might come close to 75%.

That as many as 22% of all workers in the so-called Upland Zone were in agriculture, is simply due to the fact that the region overlaps into the hill-Zone. The figure of 2·5% of workers employed in plantation industries in the so-called hill-Zone is partially explained by the fact that the part of the true hill-Zone in which plantation crops are most important is the part included within Peermede Taluk which was designated as the Upland Zone (*See* footnote 8 to table 19). Moreover many of the small, independent farmers growing plantation crops outside this area do so merely as an adjunct to the growing of food crops.

[35] The author knows of no other weavers in the study area, and no caste therein with weaving as its traditional occupation, though both may exist.

sort), etc. Most, in fact, also had banks, one or more government offices, small engineering establishments, etc., and several even had a cinema.

Yet, as has already been mentioned, some specializations along traditional caste lines do occur, as in the case of the dozen or so small castes mentioned in the introductory discussion, which are ubiquitous, or at least very widespread, in the study area. While most members of these castes still stick to their calling, they are not uncommonly found also in agriculture, as laborers or as petty independent cultivators, and they are not averse to taking on new kinds of work. For example, one washerman's son, it was learned, had become a *mahout,* or elephant tender. But when they stick to their traditional occupations, the specialized artisan and serving castes seem to do so today on an almost wholly commercial basis, with transaction mainly in cash rather than in terms of customary, *jajmani*-type obligations. Where possible, barbers and washermen, as well as many other groups, open shops (preferably in towns, otherwise on a well-travelled road) and let their clientele come to them rather than making periodic visits to the clientele in search of work. It is quite common also for the traditional artisan and serving castes to broaden the range of their activities to include those for which there is a new or expanding demand. Thus, carpenters (Mara Achari) now increasingly make furniture or do saw-milling (they had long been boat builders also in the back-water villages, because of the scarcity of the Ullada, or boat-building caste); blacksmiths (Kolla) have taken to a variety of mechanical work; washermen (Valuthedan) may become dry-cleaners, etc.

There are several types of work done which tend to be restricted to just one or a few low castes, even though no claim is made that such work is traditionally associated with those castes. Ezhavas, for example, are often mainly or subsidiarily dependent on tapping the toddy-palm for the juice which can then be made into palm-sugar or distilled as a beverage. Often, too, they themselves do the distilling, legally or otherwise. Pulayas and Avasha Christians (often *ex*-Pulayas), quite commonly, and Ezhavas, less frequently, are engaged in basketry or the making of woven objects such as mats, from the leaves of the screw-pine, a wild pineapple-like plant which thrives on the coastal sandbars. Sometimes the restrictions of a particular type of work to but a single caste occurs on a single village basis only. For example, in village number one, roughly four hundred Syrian Christian households were mainly dependent on fishing and many other families were subsidiarily so dependent; but this was not true of a single household of any other caste. Just why such cases exist is not known.

In general, the low castes, Pulayas, Avasha Christians, and Ezhavas tend to be much less mobile than the higher castes, and to stick to what work they can find in their native villages, primarily agricultural labor. Very few of them own land of their own; and when they do it is apt to be insufficient to provide them an adequate livelihood. Still, some of them have managed to open shops and tea stalls or to get mill jobs in town, or to find work with the government. Literacy is now quite widespread among the low caste groups; but, partly for social reasons and partly because so many of the upper castes are not only literate but holders of high school and college diplomas, they are still in an unfavourable competitive position in a search for outside jobs in an area like Kerala where there is much open unemployment and where nepotic hiring practices are rife. Their best hope for employment beyond the village probably lies in the highland plantations, which also hire many immigrant laborers from Tamil Nad.

The higher castes, Hindu, Christian or Muslim, seem to take to a surprisingly great variety of work. Members of any of these groups may be owners of large estates, on the one hand, or totally dependent on agricultural labor, on the other. Shopkeeping is widely practiced by all three groups; and what Muslims there are tend to specialize somewhat in wholesale trade, even though the consignments be petty. Government service is sought by all; though the Hindu Nairs and the few Brahmins have probably fared best in obtaining it, followed by the Catholics. The Christians (exclusive of the Avashas) have been particularly successful in getting jobs as estate managers, overseers, or staff workers of various kinds—a carry-over, perhaps, from the days when the estates were mainly British managed. Many also are tappers of rubber trees. Nairs appear, for some reason, much less prone to perform factory labor than Christians, while neither group is apt to take to those low-status occupations for which specialized castes exist.[36]

Occupational Structure and Economic Development.—Of the eleven sample villages in the study area, only one (number 11) was assigned a rating "A", one other (number 7) a rating of "B", two numbers (1 and 3) the lowest rating of D", and the remaining seven "C". So far as the author can judge, there is in the sample no clearly demonstrable *internal* correlation between economic development and any of the gross aspects of occupational structure which have been statistically dealt with elsewhere in this chapter. Village 1, for example, which is, after village 3, the poorest in the entire sample has one of the highest proportions of non-agriculturists both in and out of the village. The causes of prosperity or poverty in a given village in the study area generally are most closely associated with: (a) the man-land ratio; (b) the state of the market for the crops or other produce in which it specializes; (c) the accessibility of *well-paying* outside employment; and (d) the ability of the village population to compete successfully for outside jobs, which is largely a function of the linked variables of caste and education.

The poverty of village 1 stems largely from its poor land-man ratio and the excessive competition in the depressed market for coconuts and coir. The poverty of village 3 stems from its relative isolation, its poor man-land ratio, and the relatively low educational attainments of its predominantly low caste population. Village 4 makes up in accessibility to good jobs in Kottayam for what it lacks in land *per capita*. Village 7 is prosperous because of its sufficiency of land and its proximity to Kottayam. Village 11, the most prosperous of the entire sample, is an entrepot for plantation produce, an important center for the factory processing of rubber and tea, for which the market is currently both good and expanding, a service center for the plantations themselves, and the seat of management of a large number of prosperous hill-land farms and estates.

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[36] One would naturally expect that a population as literate and enterprising as that of Kerala, would show an unusually high rate of emigration from their own crowded land to other parts of India. Yet, that is not the case. The Census of 1951 shows that emigrants from Kerala in other parts of India, were almost exactly equal in numbers to immigrants to Kerala, the latter being largely Tamil plantation laborers. Both figures were about 205,000. (Census of India, 1951, Vol. XIII, Part I-A, Report, P. 15) The author found that though job and place mobility within Kerala were unusually high, a small minority of those workers living outside their villages went to other parts of India. Among the reasons for this, the following are surmised: (*a*) That competitively the Keralan emigrant is at a disadvantage in other states because his language, Malayalam, is rarely understood outside of his native area. (But, if he himself has any second language, it is almost sure to be English, which is, of course, still in great demand.) (*b*) That poor as his area is, he prefers the amenities of life at home to the drabness, unfamiliarity, wretchedness and climatic rigours of so much of the rest of India. (*c*) That, without capital, he would find it hard to make a start elsewhere doing work congenial to his temperament. (With capital, on the other hand, there would be little reason for him to leave.)

Central Saurashtra

(Map 30)

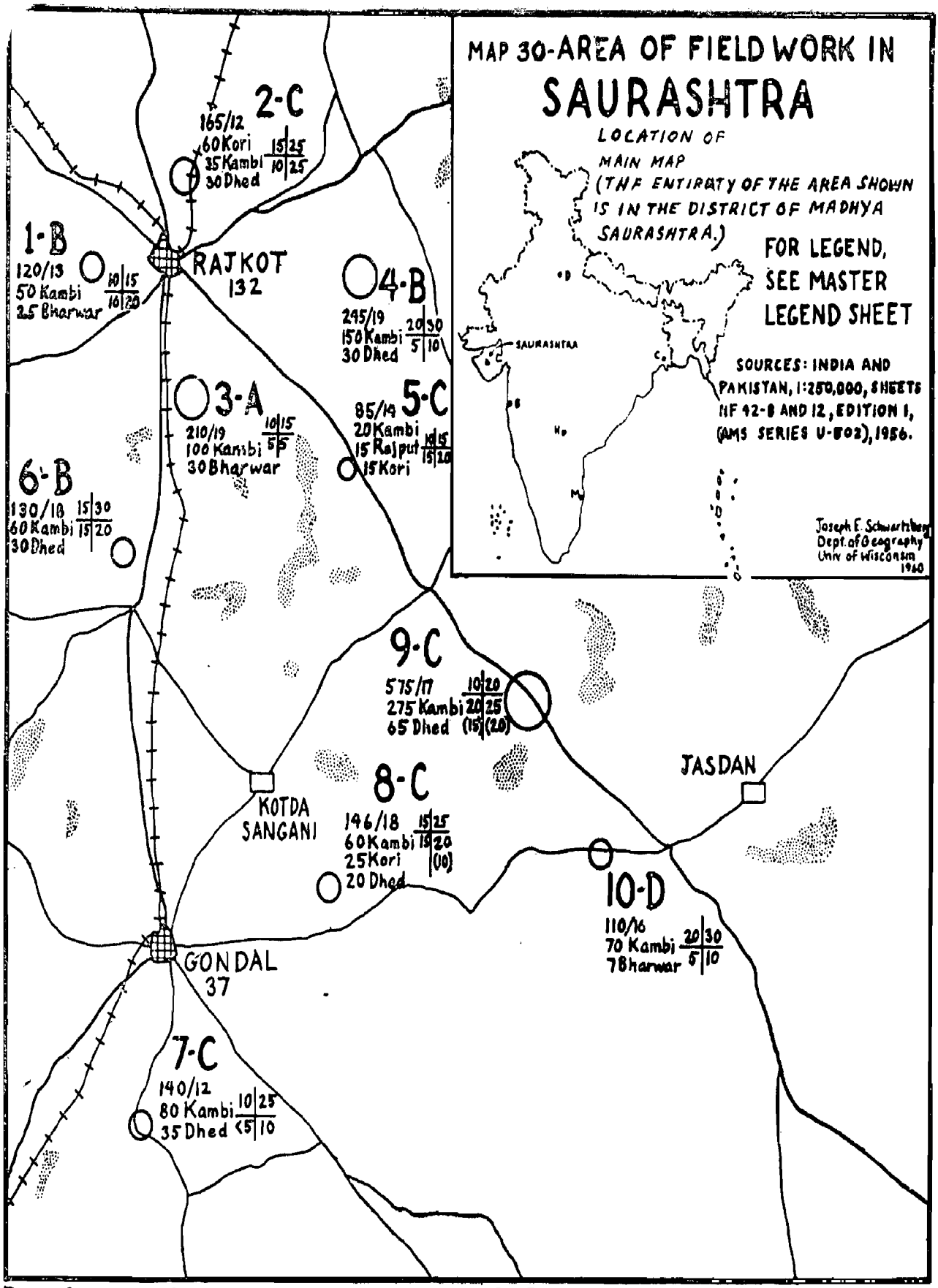
General background.—Saurashtra was selected for field study because it appeared to present the paradox of a high proportion of workers in non-primary occupations coupled with a relatively low level of economic development. The judgment as to the developmental level of the area was based not only on general knowledge of its character; but also on the consensus of opinion of Indian geographers and economists.[37] The field study, however, demonstrated that this was an error; in fact, no other area of India proved on inspection to differ so greatly from the author's prior expectations as this one. Despite its paucity of non-agricultural natural resources and its meager development of large-scale industry, Saurashtra has achieved a level of material prosperity and social progress equalled in few other areas of India. The basic ingredients of this success include: (a) one of the most favourable man-land ratios and patterns of land distribution in the Indian Union; (b) the widespread application of advanced agricultural techniques; (c) the emphasis on commercial cropping and the prevailing favourable markets in recent years; and (d) the enterprise of the population.

Since the Census data revealed no marked regional variations in occupational structure within Saurashtra, the author arbitrarily selected for field study a centrally located area as most likely to be representative of the whole state.[38] The study area chosen lay around the city of Rajkot and extended for some distance to the south and southeast. This area is characterized by the same type of rich, black soils as are found in the Deccan Lava area to which much of Saurashtra is geologically and topographically similar. A broad, undulating plain with scattered, low hills, most of the area is fit for cultivation. Rainfall at Rajkot averages thirty inches per year; and, though the monsoon is by no means reliable, the area has been relatively free from crop failure in recent times. Quite the contrary, it has enjoyed several bumper harvests in recent years when harvests in other parts of the country were poor and market prices commensurately high. This may be due in part to the considerable strides being made in the extension of well-irrigation. The chief cash crop is groundnuts; but cotton is also important. So too, locally, are chillies, melons and vegetables. Wheat, jowar, bajra, and even rice, from the irrigated areas, are all marketable surplus crops. The area is probably the chief dairying region of the whole of India, and certainly leads in *per capita* milk production and consumption. Wool is also an important specialization. The differences from the virtual one-crop economy of the physically similar Deccan area are striking indeed.

Settlement is in rather widely spaced villages which are well above the Indian average in size. The rural population density is not quite 150 per square mile. The average village in Central Saurashtra has a population of about 825, even though over three-fifths of all villages have fewer than 500 souls. Although village nucleation is highly developed, isolated, well constructed, and, in some cases, fenced-in farmsteads, of quite recent origin, have also become a characteristic

[37] In under estimating Saurashtra the writer appeared to be suffering from a rather common misconception. The consensus of opinion of fifty-three Indian geographers and economists in a survey conducted by the writer ranked the region of Saurashtra-Kutch thirteenth in a field of twenty regions covering the entire nation. Yet, the weighted development index score for the same region, as shown in Chapter II, was the fourth highest in a field of eighteen.

[38] Saurashtra existed as a separate state for only a few years after India's attainment of independence. Previously it had been a congeries of literally hundreds of petty princely domains. In 1956 it was merged into Bombay State, and in 1960, former Saurashtra and Kutch and the remainder of theGujarati-speaking portions of Bombay, were split off to become the new, unilingual state of Gujarat.



Based upon Survey of India map with the permission of Surveyor General of India

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feature of the local landscape, distinguishing this area from any other the author has seen in India. Building in the villages are still largely of mud; but much new construction is underway, utilizing a great deal of brick, milled timber posts and rafters, building-stone, factory-made roofing tiles, and even glass windows. (In many villages elsewhere in India a window of any kind at all is a rarity.)

The area is rather highly urbanized. (The District of Central Saurashtra is 39% urban). Rajkot, the regional and district capital, with 132,000 inhabitants in 1951, in the second city of Saurashtra, and the local point of the study area. A seat of retail trade and an important entrepot; as well as an administrative center, it has little factory industry. Save for one large textile mill and a number of small ground-nut oil mills, non-traditional industry is limited to the rapidly increasing number of small-scale engineering establishments and a variety of light manufactures in a newly created industrial district in which some 2,000 workers are employed. To the south, Gondal, a sumptuously-built town of 36,000 is also an important market and entrepot and a much more important center than Rajkot for ground-nut oil-milling. It also is the site of a medium-sized railway workshop. The remaining towns are mainly commercial in character.

In terms of rural caste structure the homogeneity of the study area, as judged from the field sample of ten villages, is rather striking.

Only two cultivating castes of significance were encountered. Largest by far were the Kambis (Kheruts) who were the largest caste in every village but one, in which they ranked second, and an absolute majority of the total population in four. This group dominates not only the rural society, but, because of its control of most of the land, the economy as well. Second were the Koris, or Kolis, a much poorer group, a great many of whom were agricultural laborers in practice. They were the largest caste in the one non-Kambi village, second largest in two others, and entirely absent only in one. The Vagheri caste, river-bed gardeners specializing in growing melons and vegetables and in making baskets, are a minor cultivating group found in a few villages only. The relatively few high-caste Rajputs—many of whom are big landlords and members of the formerly ruling families of much of the area—were found in but half the sample villages.

A ubiquitous caste at the bottom of the social hierarchy are the Dheds (Dhers, Chamars, Meghwals) who, like their Bambi counterparts in Ajmer, are traditionally associated with weaving, leatherwork, and the handling of carrion. The Dheds are the second largest group in the sampled villages taken as a whole and in four of the ten individual villages. In practice, a minority keep to their various traditional occupations, while almost all are mainly or subsidiarily agricultural laborers. Very few own land. Another weaving caste, the Wanats, were found in but a single village.

While pastoral castes were encountered by the author in almost every part of India he went to, only in Saurashtra did he find the great majority of such households primarily engaged in their caste work, while scarcely any were not at least subsidiarily so engaged. The principal pastoral caste, the Bharwars (Maldari), are primarily sheep and goat-herds; but also raise cows and buffaloes. Their animals graze on lands owned by the village in common. Almost all the Bharwars market both milk and wool. Numerically on a par with the Koris, the Bharwars were found in all the sample villages, and in three formed the second largest group. The Ayers (Ayurs, Ahirs), the only other pastoral caste met with, was found in only half the villages and in significant numbers in only two. The group is traditionally associated with cow-herding, though most own land today and do some cultivation.

An index of the prosperity of the Saurashtra region, but also, in part, a function of the wide spacing and relatively large size of villages, is the fact that Brahmins and the most essential artisan and serving castes were found in every sample village. The following castes were ubiquitous; Brahmins; Sutars (Karigars, Mistris), a carpenter and builder caste, who often also substitute for blacksmiths in the numerous villages where the latter are not available; Kumbars (Kumahars), the potter's caste; and Wanands (Nais, Hazams), the caste of barbers. Other castes found in at least half the sample villages included; Sadhus (Bawas), temple attendants, found in every village but one, Darjis, tailors, in seven villages; Bias (Vias), dramatic performers, in six villages; the untouchable Bhangis, sweepers and drum beaters, also in six; the Luana (Lohana) trading caste, in five villages; and the Muslim oil-presser caste, the Ghanchis (Telis), also in five. All other castes were negligible.

The number of Muslims encountered in the ten villages visited was very few (a total of only fifty or so households spread among four castes), though in Saurashtra as a whole they constituted a tenth of the population in 1951. But as they are largely members of trading castes, principally the Memons and Khojas, they are largely urban dwellers. A small minority appear to have left for Pakistan since partition; but there has apparently been a fairly steady flow of both Muslim and the even more numerous, also mainly urban, Hindu trading castes, the Luanas and Vanis (Banias) to other parts of India or to Africa. A part of the prosperity of Saurashtra can be attributed to the steady inflow of money capital from these traders in the form of remittances.

Analysis of the Occupational Structure.— The major occupational data of the 1951 Census for Central Saurashtra District and its rural and urban components are indicated on Table 20. The following

TABLE 20

OCCUPATIONAL STRUCTURE OF THE DISTRICT OF CENTRAL SAURASHTRA, IN THE STATE OF SAURASHTRA, 1951.
(All figures except for column 1 are percentages of self-supporting male workers).

	No. of Workers (1,000's)[1]	Agriculture[2]	Stock-Raising	Processing and Manufacture[3]	Commerce	Transportation & Communication	Health, Education & Public Administration.	All Other Services
	1	2	3	4	5	6	7	8
Total Population	217	46·3	4·1	14·8	10·6	3·2	6·3	14·7
Rural	136	65·6	5·3	10·3	3·8	1·4	2·8	10·6
Urban Non-City[4] . . .	53	18·9	2·2	20·4	22·7	5·9	9·1	20·8
Rajkot City	27	3·0	1·9	25·7	21·6	7·1	18·1	22·5

[1]Self-supporting males only.

[2]Includes all other primary industries, except stock-raising and mining and quarrying, which in no case exceed 1·3 %.

[3]Includes mining and quarrying, which in no case exceeds 0·8%.

[4]Includes numerous towns outside the study area.

important characteristics are brought out by the Table: (a) the high percentage, even among the rural population, of workers outside the primary sector;[39] (b) the unusually large disparity in the percentages in commerce in the rural as compared with the urban population. This results not only from the fact that the trading castes are overwhelmingly urban, but also because non-trading castes in the villages find enough of their traditional work to keep them productively occupied without turning to petty trade as their counterparts might in other areas; and also because "going to town" for one purpose or another is quite a common occurrence in this prosperous, highly urbanized area, where roads and bus service are quite well developed.[40]

The figure given in the table for the percentage of rural workers in stock-raising appears to the author somewhat lower than it should be. Such under-enumeration is apt to occur where many pastoralists own land of their own so that they are likely to be returned as cultivators rather than stock-raisers even though their principal means of support comes from their pastoral activity.

Among the sample villages the percentage of households primarily dependent on non-agricultural work within the village varied within the relatively narrow range, from about 10% to about 20%, in nine out of ten cases; the tenth, village 3, had 30%, because of its large number of quarry-workers. Considering also subsidiary occupations, the range was from 15% to 30%, except again for village 3. While almost all villages contained the variety of traditional artisan and serving occupations which their caste structure would lead one to expect, only a few had any noteworthy non-agricultural speciality. Apart from the quarry working of village 3, village 2 had a minor specialization in weaving, on which some twenty-five Dhed households were mainly or subsidiarily dependent. The only other active weavers encountered were eight Dhed households, all pursuing that work as a main source of livelihood in village 8, and all fifteen Wanat households in village 9, who were similarly engaged. Subsidiarily the Wanats were cotton-carders. Village 4, though not on any main road, was engaged in providing certain artisan and other services for several nearby smaller villages. In general, however, the regional pattern is one of remarkably self-contained and self-sufficient villages, excepting for a few services obtainable only in larger towns.

By and large the *jajmani* system of intra-village work allocation and reciprocal obligations appears to be more intact in Saurashtra than in any other study area, so far as the supply of traditional goods and services is concerned. But the range of non-traditional goods available within the village is rapidly expanding; and these are supplied almost entirely on a commercial basis. Thus, most households of the potter caste today are more dependent on providing bricks and roofing tiles, both now much in demand, than they are on supplying pots to their *jajmans*. Similarly, carpenters and blacksmiths now depend largely on the provision of building materials and skilled labor and on milling services. A few other occupations for which the appropriate specialized castes are insufficient in numbers or entirely lacking, *e.g.*, shopkeeping, tailoring, bicycle renting and repair, and the preparation of sweets, have attracted members of a variety of castes, including a few Kambis, who continue also to farm, and the numerically-not-very-important. Brahmins, almost all of whom are still engaged also in priestly duties. The castes of temple attendants, dramatic performers, and drum-beaters also cling, at least subsidiarily, to

[39]The figures, however, probably entail some degree of bias due to enumeration of caste occupation instead of actual occupation.

[40]Among the many aspects of Saurashtra for which the author was totally unprepared was the sight of groups of farmers lounging about at any hour of the day in garishly decorated, mirrored, flourescent-lighted ice-cream parlors in Rajkot and Gondal, presumably having just completed whatever marketing, shopping, or other business brought them to town .

their caste work. Only the Dheds have largely abandoned their traditional occupations. Yet, even among them, one or a few families in every village continue as *kamins* to remove carrion from the village, to repair, and sometimes make, shoes, and to make and repair the leather buckets locally used in well-irrigation.

In nine of the ten sample villages the percentage of families mainly dependent on work done outside the village varied only from a little below 5% to 15%; in the tenth case (village 9) it was 20%. Considering also subsidiary dependence, the range was somewhat greater, from 5% in a single case (village 3) to 25% (in villages 2 and 9), with the remaining seven cases in the range from 10% to 20%. Except for villages 9 and 8, none of the sample villages have as many as 5% of their households even subsidiarily dependent on outside work done by individuals no longer residing in the village.

The comparatively high figures for village 9, reflect the fact that this village, much the largest in the sample, had far too many people for the land available to it; and emigration appears long to have been a fairly pressing need. (Why the village grew so large to begin with was not determined.) Reportedly, this village (in which the interview was given a reliability rating of "poor") had approximately fifty families of the carpenter caste, of which only eight pursued their caste work mainly in the village. All the household heads from the remaining families were said to be doing their caste work or masonry or casual labor in Rajkot, Ahmedabad, Bombay, and other cities. All twenty-five or so Kori household heads from the same village were reported to be masons in Rajkot, and several other castes, including Dheds, also had substantial numbers of outside laborers. Village 8, though smaller than average in size, was also hard-pressed for land. But, a great many of its outside workers were low-caste, casual, short-term road and construction laborers, still maintaining their residence in the village. Similarly, the great mass of outside labor from village 2 was performed on a casual basis by Dhed earthworkers and Kori railway gang-labor.

Other means of outside support were quite varied: sundry day labor in nearby towns was of importance in villages 1 and 5, almost always as a subsidiary source of income. Also engaging relatively small numbers of workers were factory labor, teaching, itinerant hawking, hiring out as skilled artisans, clerical work, work for the railroad, donkey driving and carting, priestly duties, dramatic performing, *etc.*, in most cases on predictable caste lines.

Occupational Structure and Economic Development.—Table 21 shows for each of two groups of villages, four that were judged more developed and six that were judged less developed, the average scores with respect to selected occupational and other variables. In considering this table it would be well to remember that the sample is fairly small, and hence, perhaps not sufficiently representative. Variable 1, for example, indicates that the less developed villages are larger on the average than the more developed, which is opposite from what was observed in most parts of India; but, if one village (number 9) with 575 households had not been included in the less developed group, its average size would then have been only 129 households, or well below that of the more developed group. With regard to variables 6 and 7, the villages in the more developed group score slightly higher than those which are less developed; but the differences are too slight for one to postulate any definite relationships with development.

With respect to the occupational variables 2 through 5, however, the magnitude of the differences between the two groups is considerably greater; and, here, the author is much more inclined to believe that the scores are in fact correlated with development, positively in the case of variables 2

TABLE 21

*SELECTED VARIABLES FOR TEN SAMPLE VILLAGES IN CENTRAL SAURASHTRA ARRANGED IN TWO DEVELOPMENT GROUPS**

Variable	More Developed Group 1 "A" and 3 "B" Villages	Less Developed Group 5 "C" and 1 "D" Villages
1 Size of Village (*i.e.*, No. of households)	175	204
2 % of Households Mainly Dependent on Non-Agricultural Work Pursued within the Village	19	13
3 % of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued within the Village	39	23
4 % of Households Mainly Dependent on Non-Agricultural Work Pursued outside the Village	8·8	11
5 % of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued outside the Village	11	18
6 % of Households of Non-Agricultural Castes Mainly Dependent on Caste Occupation	51	45
7 % of Households in High Castes	9·3	9·2

*All figures are averages unweighted for village size.

and 3, and negatively in the case of variables 4 and 5. The reasons for the correlations are already familiar: There is a greater demand for goods and services within the more prosperous villages; and there is a greater need to seek one's fortune elsewhere within those which are less prosperous. Significantly, it is felt, village 3, the most prosperous in the study area, had the fewest outside workers[41].

North Punjab Plain

(Map 31)

General Background.—Culturally, economically and historically, the Punjab has long been one of the most interesting areas of India. It is of particular interest in contemporary India because of the severe stresses and dislocations it underwent as a result of the 1947 partition. That East Punjab appears to have recovered so remarkably from that shock is a tribute to the government and the people, but also reflects in part the inherent productive potential of the land itself.

The area of East Punjab selected for study lies astride the Grand Trunk Road, from around 150 to 250 miles northwest of Delhi. Prior to partition this was one of the great funnels of traffic between the highly productive areas of present West Punjab and Hindustan; but today trade across the border is greatly reduced. Extending from the Pakistani border southeastward to the general vicinity of Ludhiana, the study area includes the most solidly Sikh portions of the sub-continent, including Amritsar, their most sacred city and the largest city in the whole of East Punjab. Prior to the partition, Hindu, Sikh, and Muslim lived side by side in the area in a complex amalgam and had evolved a symbiotic set of relationship in both the commercial sphere outside the village and the traditional sphere within. Today, the Moslems are almost entirely gone; new Hindu and Sikh elements have partially taken their place; and the old system of relationships, if not entirely shattered, has been dealt a blow so serious that it will never again be the same. What effects

[41].The second correlation, unlike the first, does not tend to be universal in India. But, where the village consists overwhelmingly of agricultural castes, and where there is a favorable man-land ratio, it would appear to apply as a general rule.

these events have had on the occupational structure of the area was the principal question which prompted the field enquiry.

The study area included the four districts of Ludhiana, Jullundur, the bifurcated former princely state of Kapurthala (in P.E.P.S.U.), and Amritsar.[42] It is crossed by three of Punjab's five great rivers, the Ravi, the Beas, and the Sutlej, all draining ultimately into the Indus. Where the Ravi and Sutlej leave the Siwalik Hills to flow on to the plains (at Madhopur and Rupar respectively) are located headworks for the system of enormous canals which branch out to irrigate half the total sown area of Amritsar and somewhat less of Ludhiana, as well as large areas beyond. Jullundur and Kapurthala are much less favored.[43] But, in all four districts, well-irrigation is quite important. The drilling of deep tube-wells, with motorized pumps is being rapidly expanded at present. (The low lying swampy area of Kapurthala between the Black Bein and the Beas Rivers is somewhat exceptional).

The great extent of irrigation in the area has permitted the development of a highly intensive and commercialized farming system which is among the most productive in India. Among the chief crops grown are wheat, maize, gram (a pulse, often sown with wheat), cotton (greatly expanding since the introduction of a longer-stapled American variety in the last decade), groundnuts (on the sandier, non-irrigable tracts), and sugarcane. The localization of particular crop specialities need not concern us.

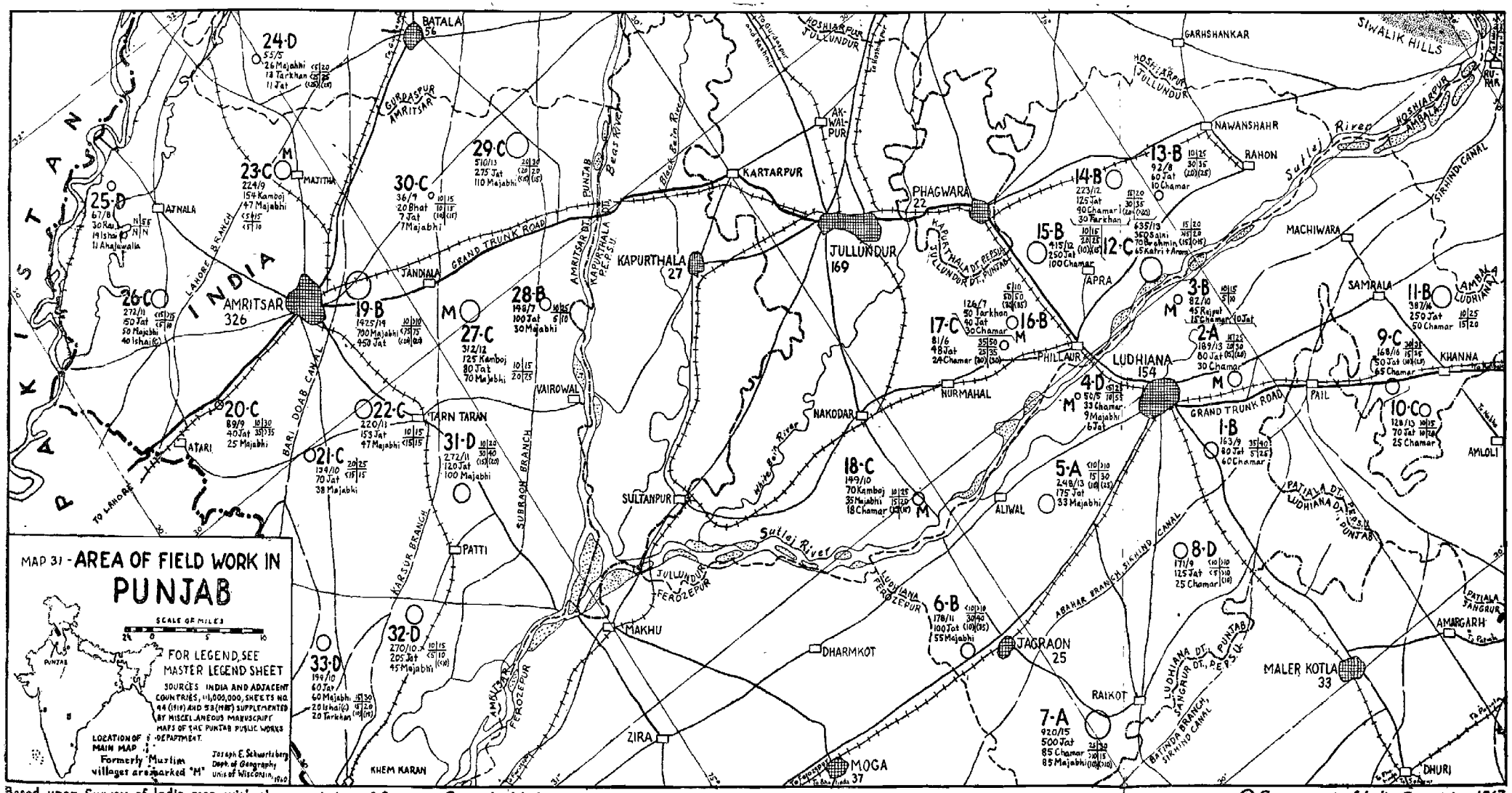
Rural population densities are only moderately high: 372 per square mile in Kapurthala, 473 in Ludhiana, 500 in Amritsar, and 584 in the most crowded district of Jullundur. Settlement is, for the most part, in massively built, highly nucleated villages, some of which are walled. Villages are relatively large, averaging about 750 in population, being largest in Amritsar and smallest in Kapurthala. Two storeyed brick houses are quite common, especially in Ludhiana District; and a few residences have even four storeys.. (The use of iron I-beams in house construction is by no means rare in this part of Punjab.) Houses face directly on narrow streets, which, in some of the more prosperous villages, are paved in brick and guttered on either side. Hence, the villages often have a highly urbanized appearance.

The number of places actually classified as urban, however, is not great; the official rate of urbanization, ranging from 22% in Kapurthala to 30% in Amritsar, is well below the averages noted in Saurashtra. In the southeastern part of the study area the cities of Ludhiana (154,000) and Jullundur (169,000) and many nearby towns and villages as well are known for a variety of small-scale industries, of which the knitted goods industry is most important in and around Ludhiana and the sporting goods, agricultural implements, and other light engineering industries in and around Jullundur. In the northeast, the great emporium of Amritsar (326,000) is much better known as a commercial and service center although textile manufactures are increasingly important.[44] All other settlements are, relatively speaking, of slight importance. These include Kapurthala (27,000) capital of the relatively backward district of the same name, Phagwara. (22,000) a sugar milling center, Jagraon (25,000), an important marketing and processing center for cotton and groundnuts, and a score or more of centers for the collection of agricultural produce of small-scale manufacturing, and of administration, or of combinations thereof.

[42]As work in the study area progressed more slowly than the author had anticipated, it was decided, after several weeks in Ludhiana and southern Jullundur, to skip northern Jullundur and Kapurthala entirely and spend the remainder of the time he had allotted in Amritsar. There is, thus, a gap of about thirty-five miles in the coverage of the area, between eighteen sample villages centering on Ludhiana and fifteen centering on Amritsar.

[43]See Figures 85 and 87 on pages 467 and 489 of Spate's *India and Pakistan*.

[44]Relative to the nation as a whole, however the entire study area is oriented towards the territory or service sector, as is shown on map 21, Jullundur somewhat less so than the other districts named.



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Prior to partition, the Muslim population comprised over a third of the total in Ludhiana, somewhat under half in both Jullundur and Amritsar and over half in Kapurthala. The Muslims were a largely rural folk, engaged both in agriculture and in a variety of artisan and serving professions, in some of which, such as weaving, clothes washing, black-smithing, oil-pressing, etc., they enjoyed near monopolies. The caste names borne by the Muslims were very commonly the same as those of their Hindu and Sikh occupational counterparts. But, while Hindu and Sikh members of a given caste sometimes intermarried. Hindu-Muslim or Sikh-Muslim marriages were almost unthinkable. For most economic considerations there is little point in distinguishing between Hindu and Sikh in this area. It is, in fact, not always possible to distinguish the two groups, particularly among certain lower castes.[45] Occupationally, caste, not religion, is the significant variable.

The chief caste of the study area are the jats, a cultivating group who formed an absolute majority of all households in sixteen of the thirty-three sample villages, the leading caste in four others, and the second largest caste in six others, in four of which cases they were the leading *cultivating* caste. Of the remaining seven villages they were the third largest caste in one (but still the leading cultivating caste, small minorities in four others, and completely absent in only two. In all six villages in which Jats were present, but not the leading cultivating caste, they were all of recent origin, refugees from West Pakistan occupying lands granted by the government and vacated by Muslims (who, in many cases, had also been Jats). Other cultivating castes include: the Kamboj, who were the dominant group in three villages (18, 23 and 27) and found in significant numbers in only one other; the Sainis, the Rajputs, and the Bhats, each of whom comprised the majority of the population in the single village in which they were encountered (villages 12, 2 and 30 respectively); and the Ahaluwalia caste, found also in but a single village (number 25), in which it was the leading cultivating caste, though only third among *all* the castes of the village. There was also a handful of Muslim Jat and Gujar families who did not flee to West Pakistan.[46]

After the cultivating castes, the groups which are numerically of greatest importance for the area as a whole are the two large untouchable groups, the Hindu Chamars (Raidas, Mochis) and the Sikh Majabhis (Bhangis, Chuhras). The former, are traditionally leather workers and removers of carrion; the latter sweepers (of village streets, of the latrines of their *jajmans*, and of the bedding areas of the livestock of their *jajmans*). But in practice both groups have long been predominantly agricultural laborers, where their numbers exceeded what was requisite for their customary functions.

The Chamars were found in all but five villages, the Majabhis in all but two; but the areas in which they were concentrated were altogether different. Only 15 Chamars families were found in the fifteen villages visited in Amritsar, whereas about 700 households were found in the eighteen

[45]Many people, including Sikhs, regard Sikhism as nothing more than a reform movement within Hinduism. No statistics are given in this study on the proportion of Sikhs in the total population of the study area the author doubts that reliable statistics are available. It seems certain however, that the movement is gaining rapidly both by conversion and due to the influx of Sikh displaced persons from West Pakistan. In terms of numbers, power, and control over land they are certainly the dominant group in the area, comprising almost the entirety of the cultivating castes and an absolute majority in all but a few villages.

[46]The distribution of cultivating castes brings out a most important cultural aspect of the settlement pattern in the study area, namely that cultivator castes (Including Rajputs, who are not here considered as a high caste group) tend to be mutually exclusive groups, *i.e.*, where one is found all the others are either entirely missing or found only in negligible numbers. Thi characteristic has been observed by the author in other parts of India, but nowhere as strikingly as here. Also of interest is the fact that in pre-partition days Sikh and Muslim Jat cultivators often lived side by side, showing that the caste bond cut across religious lines, though not in respect to mixed marriages involving Muslims.

sample villages of Ludhiana and Jullundur. In two of these villages (4 and 9) they were the largest caste, in ten others the second largest, in one tied for second, and in three of the remaining five tied for third. The Majabhis numbered almost 1,400 households in Amritsar (half in village 19 alone), where they were the largest group in three villages (19, 24 and 33), second or tied for second in ten others, and third in one of the two remaining cases. (In the last village, the Ishais, or Christianized Majabhis, were the third ranking caste.) Although numbering only about 275 families in the Ludhiana-Jullundur portion of the sample, they were quite concentrated therein, ranking as the second largest caste in four villages, and tied with the Chamars for second in a fifth. The remaining thirteen villages accounted for but 70 households.[47]

Only five castes, in addition to those already mentioned, were ubiquitous in the study aera or nearly so. Among these were the Brahmins, found in twenty-four villages, but in significant numbers in only a few. (In village 12 they were the third most numerous group.) Somewhat lower in the caste hierarchy the commercial groups of Khatries and Aroras (who not infrequently intermarry and can, for all practical purposes, be considered a single group) are found in twenty-three villages, being of importance in only two. (In village 12, where they were best represented, they ranked fourth.) Still lower in the scale are the Sikh Tarkhans, the carpenter caste, who now also do the work of blacksmithing, since virtually all the Muslim Lohars, who used to do this work, fled to Pakistan. Tarkhans were the only caste encountered in every one of the sample villages (in six cases with but a single household) and were the largest group in one, second largest in another, and numbered more than a twentieth of all households in seven other cases. The next most ubiquitous group, were the Mehras (Jhirs, Jhinwars, Chuhurs, or Kahars) a menial caste of water-carriers, who were found in all but three sample villages in none of which they equalled as much as ten per cent of the population. (The maximum number found in a village was twenty-two households.) The last and lowest of the very common castes were the Nais, or barbers, found in all but seven villages, always as a very small group.

Of all the castes not yet mentioned, numbering only about fifteen, none was found in more than half of all the villages. Together these groups accounted for only about 6% or 7% of the nearly 8,000 households in the sample. 'Among the groups which were of some importance were, in order of numerical strength, the Sonars (goldsmiths), with about 100 households, Kumahars (potters), Chimbas (tailors) Julahas (Hindu weavers, many of them immigrants, almost all of the Muslim weavers having fled to West Pakistan), and Sahansi (shepherds), with but thirty-five households. One other caste of note, the Rais, found in a single village (number 25), where they comprised nearly half the population, is associated with the occupation of twine-making and hence almost always live near the swampy banks of rivers where they can gather the reeds needed for their trade.

As has already been intimated, almost all the castes existing among the Hindus and/or Sikhs existed also among the Muslims, though the names was not always the same across religious lines. In the artisan and serving castes, Majabhis and Chamars excepted, Moslems predominated and in pre-partition days a great many

[47] In only five cases out of thirty-three does whichever of the two groups is a minority form over a fifth as many households as the majority group. The mutual exclusiveness which exists among the cultivator castes evidently carries over in this area to the agricultural laborer castes. Of the two groups, the Majabhis predominate overwhelmingly in the northwest of the study area, and the Chamars in a large majority of villages in the southeast. It is unfortunate that no study was carried out in the intermediate transitional zone. That the mutual exclusiveness was not more complete can be attributed to the fact that at least one or a few households of each of the two castes is generally desired in every village so that the traditional service done by each and shunned by the other will be available.

more groups (ignoring religion) would have been found to be ubiquitous or nearly so. Of the thirty-three sample villages, all but one lost Muslims to West Pakistan. (That one had none to lose). On the other hand all but three gained new settlers from West Pakistan, and though the immigrants were far less numerous than the emigrants, they included a few members at least of most of the same castes, somewhat lessening the shock of change. But, as close to half the new comers settled in urban areas (well over half in Ludhiana District) the degree of restoration of the old order was much less than might appear; and the dependency of the villages on commercial transactions in towns was greatly heightened.

With regard to cultivating castes, the Muslims had been the dominant groups in seven of the thirty-three sample villages, all of which could be characterized prior to partition as Muslim villages. (These are all specially shown on Map 29.)[48] The lands vacated by the Muslims were apportioned among the incoming displaced persons, according to the amount of land, if any, they had abandoned (and could show title to) in West Pakistan. Since many of the new settlers were very large land-owners in the "canal colonies" of West Punjab and Sind, they were granted quite large tracts of land. But the Muslim cultivators whom they had replaced were, for the most part, very petty farmers. The result was that where formerly there were, let us say, 200 households of Muslim cultivators in a village, there are now only forty or fifty Sikhs. Thus, even if the newcomers were to try to re-establish the *jajmani* system with the rest of the population of remaining artisan and menial classes, there would often be far too many of the latter to be accommodated, and they would have to fall back on one or more of the following alternatives: Producing some goods commercially marketable outside the village, turning more toward agricultural labor, taking on day labor and seasonal construction labor as jobs became available, or emigrating in search of work elsewhere

Emigration, however, is by no means restricted to the castes who found themselves short of work as a result of the changes consequent on partition. Rather, going out into the world in search of fortune—if not also fame—has been a characteristic of the Punjabi population for generations. The army has traditionally formed the chief magnet, but, as shall be seen shortly, many other fields are also of prominence.

Analysis of the Occupational Structure.— The occupational structure of the districts of Ludhiana, Jullundur and Amritsar, according to the 1951 Census, is shown on Table 22. Unfortunately, one cannot place a great deal of faith in the accuracy of these statistics. Columns 7 and 8 in particular appear to make very little sense, and inter-district comparisons based thereon would have very little meaning.[49] What column 8 does seem to indicate, however, is that there were an unusually large number of workers in the study area who had no definite occupation in 1951, but were doing whatever odd jobs they could find. Presumably these were largely urban displaced persons. How the individuals were *classified* (as opposed to what they actually *did*) would appear to differ greatly from one district to another.[50] Among the other data which appear to be questionable, the

[48]Three of these villages, numbers 3, 4 and 18 are located in what is called the "*bet*", *i.e.*, often swampy riverain terrain subject to flooding. (Only one of the four *bet* villages in the sample, number 25, was not formerly a Muslim village.) A very large portion of the Muslim cultivating population was forced off the higher safer, preferred *doab* terrain during the inter-religious strife of the late eighteenth and early nineteenth centuries.

[49]It is particularly hard to credit some of the data for "construction and maintenance", one of the major subheads under "Other Specified Services." In Jullundur District, for example, 1·1% of the *rural* population is so classified and *none* of the *urban* population; whereas, in Ludhiana District, 7·3% of the *city*, 2·3 % of the *urban non-city*, and *none* of the *rural* population is so classified.

[50]Many of the types of workers classified under agriculture (*i.e.*, as agricultural laborers) in the rural population of Amritsar District, would apparently have been classified in Jullundur, and, to an even greater degree in Ludhiana, under "services otherwise unclassified."

TABLE 22

OCCUPATIONAL STRUCTURE OF THE DISTRICTS OF LUDHIANA, JULLUNDUR AND AMRITSAR, PUNJAB 1951.

(All figures except for Column 1, are percentages of Self-supporting Male Workers)

	No. of Workers (1,000's)[1]	Agriculture[2]	Processing and Manufacturing	Commerce	Transportation & Communications	Health, Education & Public Administration	Other Specified Services	Services Otherwise Unclassified[3]
	1	2	3	4	5	6	7	8
Ludhiana	165	50·2	8·2	15·6	1·6	7·2	5·6	11·7
Rural	112	71·0	8·0	6·7	0·2	1·5	1·6	10·7
Urban Non-City	13	18·6	9·3	38·7	0·4	8·0	22·0	3·0
Ludhiana City	41	2·9	7·8	32·7	5·7	22·6	11·2	16·9
Jullundur	246	55·3	10·0	10·0	2·3	10·2	4·7	7·7
Rural	188	68·1	9·1	5·0	0·9	4·8	4·8	7·3
Urban Non-City	18	34·1	11·9	21·7	3·5	13·3	7·2	7·7
Jullundur City	41	5·6	13·3	27·8	8·0	33·1	2·8	9·3
Amritsar	343	57·7	6·5	12·9	3·3	7·9	6·0	4·1
Rural	237	79·7	2·0	5·2	1·7	6·2	4·2	1·1
Urban Non-City	19	31·6	22·3	23·3	3·7	7·5	10·5	1·0
Amritsar City	87	3·4	15·3	31·4	7·5	12·6	17·2	12·4

[1]Self-supporting males only.

[2]Includes all other primary activities, which in no case exceed 1·1%.

[3]Census occupational category 9·0.

following may be cited: the unusually low percentage in processing and manufacturing in the rural population of Amritsar; the unusually low percentages in transport and communications in the rural and urban non-city populations of Ludhiana; and the unusually high proportion of workers in health, education, and public administration in the rural population of Amritsar. It would appear, in summary, that the Census operation for Punjab was among the most poorly executed in the whole of India, and that the results are among the least trustworthy[51].

Table 23, on the following page, shows the unweighted average scores for a variety of occupational and other data for the sample villages of the study area grouped in two subregions, Southeastern and Northwestern, and according to whether the most numerous cultivator group are displaced persons from West Pakistan or indigenous[52].

The sample data generally appear to bear out the averages of the Census showing a higher level of non-agricultural activity in the Southeastern subregion than in the

[51]The listings of errata, moreover, to the several districts census handbooks were, by far, the most lengthy. The writer recalls, literally, hundreds of errata listed for a single volume.

[52]Only thirty-two villages were included. Village 19 was excluded, because of its atypicality, not only in size, but also in being overwhelmingly a dormitory village from which a majority of workers went out to work in Amritsar.

TABLE 23

*AVERAGE SCORES FOR SELECTED OCCUPATIONAL AND OTHER VARIABLES IN THIRTY-TWO SAMPLE VILLAGES IN THE NORTH PUNJAB PLAIN**

	Variable	Sub Region		Major Cultivating Group	
		S.E.: Ludhiana-Jullundur 18 villages	N.W. Amritsar 14 villages	Displaced Persons 6 villages	Indigenous 26 villages
1	Size of Village (*i.e.*, No. of Households)	245	200	157	241
2	% of Households Mainly Dependent on Non-Agricultural Work Pursued within the Village	15	11	6·8	14
3	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued within the Village	22	23	15	24
4	% of Households Mainly Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident in the Village	7·3	6·5	11	6·0
5	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident in the Village	11	8·6	18	9·6
6	% of Households Mainly Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident outside the Village	11	8·1	7·3	10
7	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident outside the Village	16	10	11	14
8	Development Rating	1·6	0·7	1·0	1·3

*All figures are averages unweighted for village size.

Northwestern. Variable 3, however, appears out of line, possibly because fewer individuals in the Northwest are primarily engaged in non-agricultural pursuits within the village (variable 2) so that more are needed on a subsidiary basis, or the result may be one of pure chance. The Southeast appears to have a greater percentage of *outside* non-agricultural workers whether one considers workers resident in the village (variables 4 and 5) or those resident outside (variables 6 and 7).

The causes of these differences are not altogether clear to the writer. The Ludhiana—Jullundur subregion does have the seemingly well-founded reputation of being a particularly enterprising area. By contrast, Amritsar District has the reputation of being among the least secure and lawless areas in India, one in which intermecine clan feuds still prevail[53]. Just why is not certain in either case. There is nothing about the caste structure which significantly distinguishes the two areas at present, or, so far as the author could determine, which distinguished them greatly in the prepartition period. Nor are the two areas very significantly different in terms of fertility of soil, pattern of land use, etc. Yet, the differences in the development ratings of the two areas (variable 8) is rather striking and, in the writer's opinion, one of the causes, as well as one of the effects, of the occupational differences: a cause because prosperity results both in a greater demand for non-agricultural goods and services and a higher level of entrepreneurship; and an effect, because prosperity is largely the result of a steady stream of remittances from outside workers (including many in foreign countries) with relatively lucrative jobs.

[53]A Sikh lawyer in Delhi assured the author that Amritsar District had the highest homicide rates in India. No attempt was made, however, to confirm this allegation.

It should be noted that the sample villages of the Southeastern subregion of the study area are, on the average, over twenty per cent larger than those of the Northwestern part, whereas, according to the Census, the average size village in the latter area is actually slightly larger than in the former. Hence, in at least one respect, the author's sample is not as representative as it might have been. But the differences between the two areas in respect to variable 1 do not appear sufficiently large to account for much of the differences in the occupational variables.

The comparison of six villages in which the major cultivating group consists of displaced persons with the twenty-six remaining villages shows differences which are generally of greater magnitude than those between the two subregions of the study area. Quite striking, at the outset, is the difference in village size. The reason for this stems from the fact that, compared to the non-Muslim (mainly Jat) cultivators, the Muslim farmers (mainly Arains [Rahins], a caste specializing in gardening) of pre-partition times were overwhelmingly very petty landholders. As mentioned previously, a few families of displaced persons, who were large landholders in what became West Pakistan, were often allotted land formerly occupied by a much larger number of Muslim households.

More difficult to explain is the relatively low percentages of households in non-agricultural work within the villages in which the displaced persons settled as the dominant cultivating group. One would imagine that with the greatly reduced number of cultivators in such villages the share of non-agricultural workers in the population would go up, not down. That this was not the case would appear to be attributable to a combination of causes. First, in villages which were formerly Muslim dominated, the great majority of specialized artisan and serving castes were also Muslims, who fled, along with their *jajmans,* to Pakistan, while the great mass of Hindus were Chamars and Majabhis, who, in practice, were overwhelmingly agricultural laborers. Second, the relatively small number of newcomers often failed to re-establish the old forms of customary patronage of the few remaining households of specialized artisan and serving castes. Third, the newcomers, among whom were many well-to-do individuals who kept both village and town homes, commonly preferred to obtain the majority of their needs outside the villages, where they simply concerned themselves with tending to or overseeing the management of their lands.

That the villages with the displaced cultivators have relatively larger percentages of outside laborers still resident in the village (variables 4 and 5) is explainable from the above analysis. Both the agricultural laborer groups and the other non-agricultural castes, for lack of an adequate clientele in the village, often have to seek whatever casual labor they can find outside. The reason why work for the agricultural laborers has been reduced is because of the much greater efficiency of large holdings, many of which are now mechanized. (The author actually came across several two-tractor farms in the study area.)

With regard to variables 6 and 7, the villages with displaced persons again score lower than the average; and again the explanation appears to hinge on the question of caste. The most venturesome caste in the study area, apart, perhaps, from the Tarkhans, to be discussed later, and the numerically unimportant business castes, is unquestionably the Jats, who form such a large proportion of the population of the villages which are not dominated by displaced persons. While the Jats also are usually the chief (or only) cultivating caste in the villages in which the land is mainly owned by displaced persons, they form there a much smaller share of the total. The greater share is formed by the much less adventurous, formerly untouchable castes. While these latter do not

hesitate to seek work outside the village, they are less prone, as well as less financially able, to leave their native hearth entirely to seek their fortunes elsewhere.

The differences in average development score (variable 8) between the two sets of villages under discussion are not great. On the one hand the villages with the populations of displaced cultivators contain a higher proportion of distinctly wealthy individuals; but or the other hand they contain a higher proportion of the lowest economic and social strata of the local society. In the aggregate they appeared to the author to average out to a somewhat less favourable position than did the remaining villages.

Viewing now the entire sample of thirty-three villages, it may be noted that with respect to non-agricultural work pursued within the village as a main source of income, the percentages of households so dependent varied quite widely, from a negligible number in village 25 to up to 35% in villages 1 and 17[54]. In all, only four villages, all in the Southeast, scored as high as 25% and two others, both in the Northwest, 20%. The village specializations which contributed to these high standings included the making of shoes by the Chamar caste, in village 1; woollen carpet manufacture, also largely by the Chamars in village 17, where they were taught the trade by immigrants from West Pakistan after the Muslim traditional caste weavers fled; brickmaking, again by Chamars, in a kiln operated by an outsider. in village 9; weaving and tailoring, in addition to a wide variety of other occupations, in village 7, where an unusualy large number of Hindu and Sikh artisans were encountered; and grain-dealing, largely by the potter caste in village 29[55]. Most villages had a few different types of artisans still at work, often within the *jajmani* system; but in most of the non-specialized villages the service occupations were somewhat more important.

A rather interesting feature of the study area is that, on adding the households with subsidiary sources of livelihood outside agriculture to those primarily so dependent, the total proportion is not increased to nearly the same degree as in most other parts of India; and few new village specialities appear. This indicates two things: first, a fairly high effective demand for the goods and services of the remaining and newly arrived artisan and service castes (the villages of displaced cultivators and the Chamar and Majabhi castes excepted) permitting a fairly high degree of household specialization; and second, a fairly exclusive control of land by the cultivating castes, which prevents many households from pursuing their traditional occupation on a subsidiary basis only, while relying mainly on agriculture for a living. One of the few important subsidiary non-agricultural specialities which one might cite is twine-making among the Rai caste of village 25.

With respect to households mainly dependent on work done outside the villages by individuals residing within, the proportion of the total exceeds 15% in only four instances. It is highest in villages 19 and 20, with 55% and 30% respectively. From these villages a great number of factory workers, porters, rickshaw pullers, and sundry day laborers go out to Amritsar. Villages 4 and 16, with 20% each, also are characterized by large numbers of unskilled outside day laborers, a situation caused by the departure of the old Muslim cultivators, and the failure of the new Jat immigrants to provide the depressed castes with work. When subsidiary dependences

[54]Village 19 which was excluded from consideration in the foregoing discussion is included in the discussion which follows.

[55]The potter caste normally owns donkeys with which they transport their clays as well as their finished wares. In order to exploit their four-legged capital to the fullest, the caste has, in several parts of India, taken to doing transport work on hire and independent petty grain-dealing.

are also considered, villages, 1, 27 and 31 also score 20% or more. The bulk of the outside work is of a casual nature in Ludhiana and Amritsar; but village 1 also has a fairly large number of regularly commuting skilled and un-skilled factory workers.

The households dependent mainly on outside labor done by family members resident outside of the village normally comprise 15% or less of the village total, being 20% or more in only six villages. The two most striking examples of this sort of dependence are, oddly enough, not furnished by Jat villages, but rather by village 16, in which Tarkhans, the carpenter caste, are the dominant group, and village 24, in which they rank second. Out of fifty-five individuals reported to be working and living outside of village 16, forty were in Africa alone, generally still following their caste occupation or some related field of work. The Tarkhans, even more than the Jats, on a *per capita* basis, have been an emigrating group, and generally become skilled laborers wherever they go. The Jats and, to a lesser degree, other agricultural castes, especially among the Sikhs, go largely into the army often staying in until able to retire, yet all the while investing their savings in land in their home village. Many also become truck, bus and taxi drivers, policemen, and watchmen or enter such other professions in which brawn and a look of ferocity are considered desiderata. All over the Indian Ocean area and even further east in Hong Kong and the Philippines they are encountered in these roles. Punjab is also an important recruiting area for factory workers for India's modern industrial cities, like Jamshedpur and Sindri whence many have gone from the sample villages.

Considering subsidiary as well as primary dependence on outside work done by non-residents, the proportion of households reaches 35% in two instances, village 16, which has already been discussed, and village 6, where soldiering and transport work are the chief sources of income. Also prominent are villages 17 (30%), 5 (25%) and the already discussed 24 (25%). Village 5 is essentially like 6, whereas village 17 has a rather large number of its sons in various jobs in England and Canada, about twenty households being affected in all.

Occupational Structure and Economic Development.—Table 24 shows for thirty-two sample villages of the study area (again excluding village 19) the relationship of selected occupational and caste variables and village size to economic development according to three subjectively determined development groups. With respect to variables 1, relating to village size, and 8 and 9, relating wholly or partly to caste, the positive correlations which one would expect in other parts of India appear to exist here also, even though it is not strong with respect to variable 9. But the picture presented by the occupational variables 2 through 7 is hardly clear. Not one of them shows a consistent, significant trend which would warrant the suggestion that either a positive or negative correlation with development exists.

Variable 2 does show that the poorest, or "D", villages are, as one would expect, less well served by non-agricultural occupations than are the others; but why do the "A" and "B" villages appear to be no better served than the "C" villages? The most probable explanation is that the level of services required in the villages to serve the non-agricultural population in this prosperous area can be attained by all but the poorest villages; so that increased prosperity beyond a certain point need not make for increased non-agricultural work, unless the village happens to have a significant non-agricultural specialization. The vagaries of the dispersion of caste groups following on partition may also be a contributing factor. Finally, it is likely that the wealthier "A" and "B" villages rely more heavily on the towns to supply certain goods and services, particularly

TABLE 24

*THE RELATIONSHIP OF SELECTED VARIABLES TO LEVEL OF ECONOMIC DEVELOPMENT IN THIRTY-TWO SAMPLE VILLAGES IN NORTHERN PUNJAB**

	Variable	Level of Economic Development		
		3 "A" and 8 "B" Villages	14 "C" Villages	7 "D" Villages
1	Size of village (*i.e.*, No. of Households)	281	217	154
2	% of Households Mainly Dependent on Non-Agricultural Work Pursued within the Village	14	15	7·6
3	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued within the Village	21	23	23
4	% of Households Mainly Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident in the Village	7·6	7·1	6·0
5	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident in the Village	11	9·4	11
6	% of Households Mainly Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident Outside the Village	12	7·7	8·7
7	% of Households Mainly or Subsidiarily Dependent on Non-Agricultural Work Pursued outside the Village by Individuals Resident outside the Village	18	11	12
8	% of Households of Non-Agricultural Castes Primarily Dependent on Their Caste Occupations	33	27	16
9	% of Households of High Castes	5·7	4·3	4·2

*All figures are averages unweighted for village size.

those of a non-essential nature. With respect to variable 3, however, which takes into consideration subsidiary sources of income, the "D" villages score as well as the "C"s and somewhat better than the "A"s and "B"s. This suggests that even the poorer villages of Punjab (which, it should be remembered, might be considered wealthy in other Indian settings) can command a fairly wide range of non-agricultural goods and services, even if those providing them have to rely on other work (agricultural within the village or non-agricultural outside) for their main source of livelihood.

In variables 4 through 5, the average scores of the three groups of villages differ by very small amounts. This would appear to reflect three facts: first that virtually all classes are willing to work outside the village if work is available; second, that a great variety of outside work, from menial to highly skilled, is, in fact, available; and third, that the remuneration for outside work varies within such a wide range that it is impossible to predict, with any degree of assurance, merely from the proportion of outside workers, whether a given village is apt to be prosperous or otherwise.

The most striking fact about variables 6 and 7 is the lead of the "A" and "B" villages over the others. There is little doubt that remittances from distant family members and investment in the villages of the savings of family members who have returned are among the chief causes of their relative prosperity. The question then arises as to why the other villages do not send out as many workers as those which are more prosperous. A possible answer is that the more prosperous villages were better able to send out workers to distant areas in the first place and that the outside workers from a given village who were originally on a given scene where work was available tended in turn to help their fellow villagers to join them by

providing loans to cover the cost of transport and shelter for those newly arrived. This sort of help would tend to heighten the lead of the village in question over the other villages which were initially slower to respond to the opportunities for lucrative outside employment.

Environs of Delhi

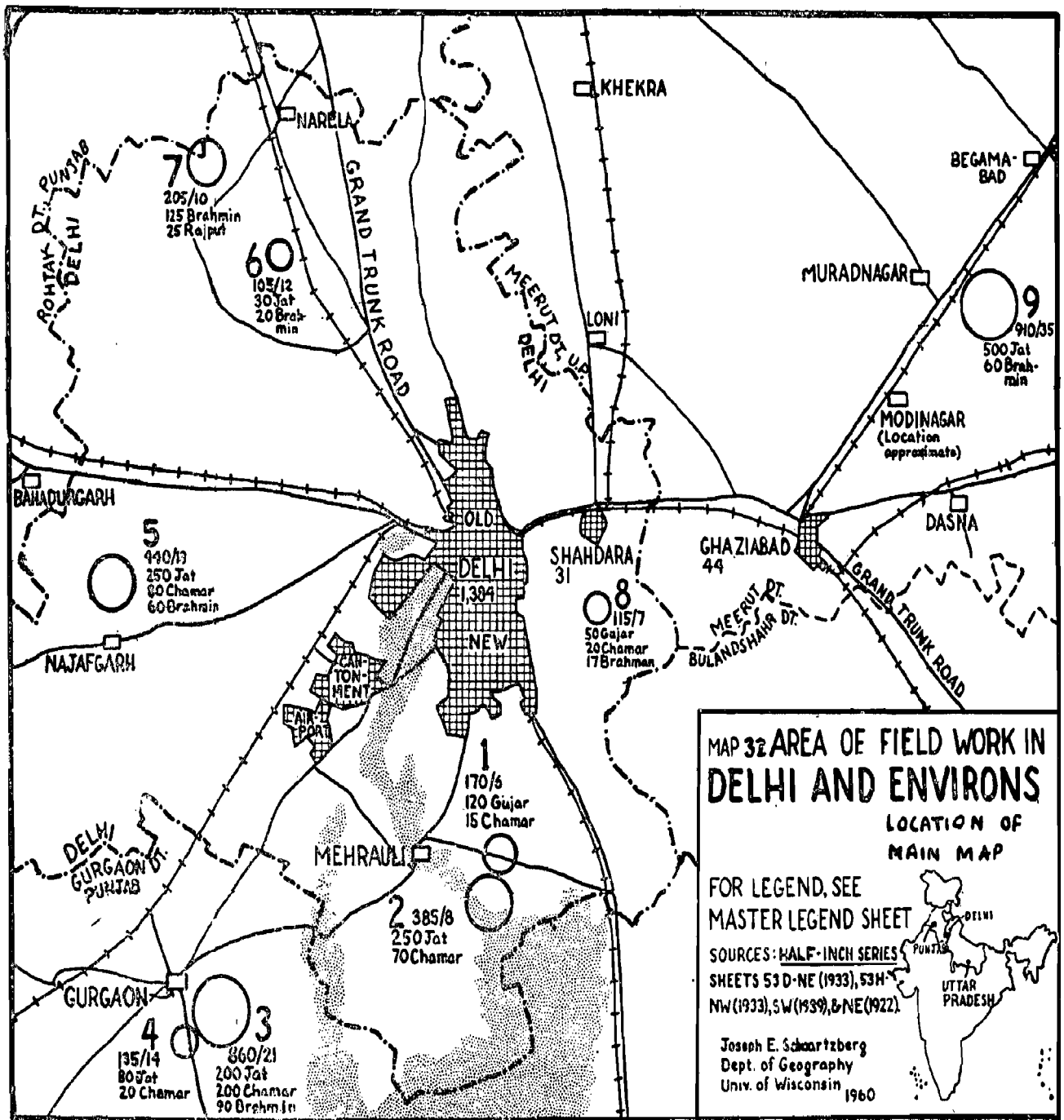
(Map 32)

The area around Delhi is far from homogeneous and poses an interesting variety of problems bearing on occupational structure and economic development. Among those questions are the following: What degree of urban influence is felt at varying distances and in varying directions from the built-up city area? What accounts for the rather large occupational variations among given areas of comparable urban proximity? What are the changes consequent on partition and the large immigration of displaced persons from West Pakistan? What are the consequences of the fact that the region is administered by three separate state jurisdictions, those of the centrally-administered state of Delhi, of Punjab, and of Uttar Pradesh? Unfortunately, however, the author cannot provide detailed answers to any of these questions, as the field work he did in the environs of Delhi was aimed primarily at developing and testing his method of field investigation prior to his going to other areas of India. Moreover, the sample of nine villages is much too small for the region in question; and, even for those nine villages, the data obtained are not comparable, since several changes in concepts and interview techniques were made as it became evident that improvements were necessary. Consequently it is possible only to present tentative suggestions, in qualitative terms.

Table 25 shows the considerable range of variation in occupational structure in the greater Delhi region, aggregating the Census data by the major economic sectors for Delhi State and the four adjoining districts.

Among the most striking features borne out by these statistics are the following: (1) the overwhelmingly tertiary orientation of Delhi State and its several components, resulting of course from the fact that New Delhi is the capital of the Indian Union; (2) the profound influence of the Delhi Metropolitan Area on the rural areas of Delhi State, where over half the labor force is engaged in non-primary activities; and (3) the wide range in the extent of non-primary employment in the four districts surrounding Delhi, with Gurgaon at the low extreme and Meerut at the high, for both the secondary and the tertiary sectors, and for both the rural and the total district populations.

With regard to the second of the above features it must be observed that nearly a tenth of the so-called rural population of Delhi State in 1951 were landless displaced persons from Pakistan, generally living in government-provided, rurally-situated housing colonies, from which most commuted to work in the city. Still, this leaves an unusually high share of genuine rural dwellers in non-primary occupations. The number of commuters to the Delhi Metropolitan Area is not known, but the practical range for commuting takes in almost the whole of Delhi State, and extends well into Meerut and over into the border areas of Bulandshahr and Gurgaon as well. Although there are undoubtedly many villages in the commuting range which are very highly dependent on work in the city, other villages quite nearby showed surprisingly little response to the job opportunities in the city. In some cases this is due to the nature of the locally dominant caste. Villages 2 and 8, for example, both of which are Gujar villages, send very few workers to Delhi because the pastoral Gujars tend to shun urban employment, whereas village 1, only a mile away from village 2, and further removed from Delhi has a great many of its Jat households partly dependent on work in the city. (Jats, incidentally, are the dominant cultivating group of this region.



Based upon Survey of India map with the permission of Surveyor General of India

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TABLE 25

PERCENTAGE OF SELF-SUPPORTING MALES EMPLOYED BY ECONOMIC SECTORS IN DELHI STATE, ROHTAK AND GURGAON DISTRICTS OF PUNJAB AND MEERUT AND BULANDSHAHR DISTRICTS OF UTTAR PRADESH, 1951

	No. of Self-Supporting Males (1,000's)	Primary Sector	Secondary Sector	Tertiary Sector
	1	2	3	4
Delhi State	526	7·8	17·0	75·2
Rural	82	44·7	16·3	39·0
Urban Non-City	79	2·3	11·2	86·5
Delhi and New Delhi Cities	363	0·7	18·4	80·9
Rohtak District, Punjab	270	65·3	9·8	24·9
Rural	234	73·2	9·6	17·2
Urban	36	13·9	11·7	75·4
Gurgaon District, Punjab	241	69·5	8·0	22·5
Rural	207	78·4	7·3	14·3
Urban	34	13·9	13·1	73·0
Bulandshahr District, Uttar Pradesh	443	65·5	10·4	24·1
Rural	379	72·9	8·6	18·5
Urban	64	21·4	21·3	57·3
Meerut District, Uttar Pradesh	646	49·7	15·9	34·4
Rural	500	60·9	14·3	24·8
Urban (except for places named below)	61	20·0	26·6	53·4
Meerut City and Ghaziabad	84	4·8	17·9	77·3

Much of the degree of dependence of a particular village on outside, non-agricultural employment depends, in the area of Delhi, as in other areas, on the viability of the domestic agriculturally-based economy, and the work it affords to the landless and those with insufficient lands, whether they be mainly agricultural laborers, or mainly artisans or engaged in their traditional service occupations[56]. Relatively prosperous villages, like numbers 6 and 7, for example, in the well irrigated sector north of Delhi, need send out few workers; and those who do go are apt to be from among the higher castes and the Jats and especially from the more prosperous households who *could* stay with their point families in the village if they so chose. The relative prosperity within those same villages, enables a large proportion of families in the specialized artisan and serving castes to remain employed primarily or subsidiarily in their caste occupations and to continue working a large part of their time for their inherited *jajmani* clientele.

Where a village is *not* especially prosperous, which is, of course, more common than the reverse situation, the number of

[56]Factors making for the increased viability of agriculture in recent times include : the expansion of the urban market, the improvement of roads connecting countryside and city, the development of new specializations such as vegetable gardening and poultry-keeping, the expansion of commercial dairying, the increased irrigation afforded by the sinking of tube-wells, the improvement of credit-extension facilities, and special government efforts to upgrade agricultural technology in particular community development blocks which are meant to serve as models for the rest of the nation to follow and as show-pieces of the benefits of the Indian welfare state for visiting dignitaries, both native and foreign.

households seeking outside employment in the usual types of casual, unskilled labor is apt to be quite large. This is particularly true among the untouchable Chamars, who are probably the second most numerous caste in the area, after the Jats, and the also untouchable and numerous caste of sweepers, the Bhangis, who find it fairly easy to get relatively well-paid government employment as sanitation workers in the municipalities. But, even in the less prosperous villages, it would appear that, a fairly large proportion of the specialized artisan and servant castes are still engaged in, or have recently returned to, their caste occupations, at least on a subsidiary basis.

In large measure the adherence or return to caste artisan occupations in the study area can be attributed to the inducements offered by the Community Development Administration and such private organizations as the Indian Cooperative Union which is most active in the Delhi area, especially in the vicinity of Mehrauli. When new artisan's cooperatives are formed they not infrequently deal through government purchasing agencies, and thus have an assured market for their wares, which, if sufficiently stylish, may reach the shelves of the plush Cottage Industries Emporium in New Delhi.

A final cause of a high degree of rural non-agricultural employment in the environs of Delhi is the extension of both large and small industries out into the countryside, often in specially designated industrial zones. Several factors have motivated this extension, including the availability of cheap rural labor and low-rent land and the government's desire to avoid urban congestion. Among the most important plants are two large government ordnance factories which date from well back in pre-partition era. One of these, near Najafgarh, is an important source of work for village 5, while the other, at Muradnagar, is important for village 9. Most enterprises however, are relatively new. Village 8, near Gurgaon, affords a striking example of the extension of industry beyond Delhi. Electrified in 1955 (the power coming from the giant Bhakra Dam in the Siwalik Hills two hundred miles away), the village witnessed the opening, by 1958, of one small cotton textile mill, a tannery, a rubber factory making bicycle inner tubes six flour mills, an oil expelling mill, and a soap works. The great majority of the capital for these ventures was furnished by displaced persons resident outside the village.

Superficial investigation with regard to the four districts surrounding Delhi suggests the following tentative explanation of the marked contrasts shown in Table 25 in the extent of non-primary employment:

Meerut, which ranks highest in this respect, shows the following advantages: (1) It has particularly good road and rail links with Delhi, largely via the important rail and highway junction at Ghaziabad. (2) It is 22% urban as compared with from 14% to 16% in the other three district.[57] (3) It has a much greater development of large-scale factory industry, including seven large sugar mills, twenty-one plants in the industrial complex at Modinagar, the musical instruments industry at Meerut City, the aforementioned ordnance factory at Muradnagar, and a great variety of new industries begun by displaced persons at Ghaziabad[58]. (4) Good canal irrigation and a highly successful specialization in the growing of sugarcane has resulted in an unusually high degree of agricultural prosperity.

At the opposite extreme, Gurgaon is characterized by relatively poor road and rail links with Delhi, a relatively low

[57] Meerut City, with 233,000 inhabitants (1951), is the only city in the four districts.

[58] The Modinagar complex is a part of the industrial empire of the Modi family, one of the richest families in India. It includes factories manufacturing sugar, hydrogenated vegetable oil (*vanaspati*), soaps, cosmetics hurricane lanterns, etc. The industries represented at Ghaziabad include glass, rubber, light engineering work porting goods etc.

degree of urbanization (14%) relatively little large-scale industry, a paucity of canal irrigation, and a generally poorly developed state of agriculture. The area was said, moreover, to have long been purposely neglected by the British as a punishment for the prominent role it took in the Mutiny of 1857; but this allegation would be very difficult to prove.

Rohtak and Bulandshahr rank but little higher than Gurgaon with respect to non-agricultural occupations, though the difference may well be significant. Better irrigated than Gurgaon, especially Bulandshahr, they presumably have a much more commercialized and prosperous agricultural economy. They also enjoy better rail and road connections with Delhi. Industrially, however, they are about as retarded as Gurgaon; and their degree of urbanization is almost identical.

Environs of Calcutta

The author spent only a few days visiting the rural environs of Calcutta, and conducted informal interviews in five villages only, in a potpourri of English, Hindi, and Bengali, of the last of which his interpreter had rather scant knowledge. Hence, his field work in that area must be considered as an impression-gathering reconnaissance only, rather than as a systematic investigation aimed at answering a certain set of pre-established questions. At each interview, enquiries were also made, as usual, about the villages, in the surrounding locality in order to ascertain the general nature of the area and the typicality or atypicality of the village being visited. The villages visited included one to the northeast of Calcutta, two to the west, and two to the south. None was further than twelve miles from the solidly built-up portion of the Metropolitan Area (including Howrah). The following statements, therefore, are only very general impressions.[59]

The urban influence of Calcutta extends quite far out from the metropolitan limits and appears to have altered the surrounding countryside much more radically than in the case of Delhi. This influence pervades virtually all aspects of life, economic, social, and political, and has greatly affected the traditional caste determination of occupation. Political parties of all hues, now actively vie with caste for the primary allegiance of the individual, often with considerable success. The traditional taboos with regard to the salaried employment of upper caste females are also being relaxed in the rural environs of the city; and it is no longer rare for women to commute to office jobs. The volume of commuting in general vastly exceeds that in the Delhi area.

Nevertheless, there are still innumerable cases in which employment is strongly influenced, if not determined, by caste considerations; almost surely this is still the general rule with most castes other than Brahmins, Kayasths, and upper caste Moslems, all of whom seem to take to a great variety of work. There is also a tendency for the acceptance of a particular type of non-caste employment by a particular caste to be made more or less *en bloc*.[60]

[59]For some excellent observations relative to Bengal as a whole, N.K. Bose's article, "Modern Bengal (*Man in India*, Vol. 38, No. 4, Oct-Dec., 1958, pp. 229-295), is highly recommended. See especially Section II, "Mutual Aid: Economic and Social Interdependence in Villages," pp. 237-241, and the Tables correlating caste and occupation on pp. 246-249.

[60]Particularly worth noting is the example of the Barojibi caste, who comprised roughly four hundred families in a village of about 1,200 households, nine tenths of whom were displaced persons. The Barojibis immigrated as a group from a very small area of East Pakistan where they had pursued their caste occupation of growing betel vines, a highly remunerative cash crop. Many of them began to grow betel also on tiny plots of land in their newly adopted village, where it had never been grown before; and many others became wholesale dealers in betel leaves, which they imported from the old areas of cultivation to the east. But a very large number of the caste were recruited to work on the railroad by a single caste member from the home village who, prior to partition, had taken to that work and become a high railway official. Compared to these three occupations, all others, in the city and in the village, were relatively unimportant, though fairly varied in nature. Similar examples could be cited for several other castes, both among the population of displaced persons and among the remaining original inhabitants.

There is a strong tendency in the area toward pronounced occupational specialization, both within given villages and among clusters of villages in relatively restricted areas. These specializations are largely caste-determined and are often of very long standing. Particularly noticeable among the artisan trades, such as weaving, potting, and various types of metal-work, specializations also exist within the primary sector, with regard to the growing of particular crop specialties, or to the occupation of fishing. Whereas elsewhere in India the more specialized castes are generally diffused fairly evenly throughout predominantly agricultural villages in which each household would serve its cultivating *jajmans,* in this area one not infrequently encounters large clusters of particular groups in a single village, depending on market transactions over a fairly wide area for the disposal of their wares.[61] Whether or not the *jajmani* system is, or over was, firmly established in this area, the author did not determine; but the general impression he formed is that, in the present era at any rate, it is not.

[61]The area around Bengal appeared to the author to be perhaps the most heterogenous he encountered in India from an ethic point of view. This would seem to be largely a consequence of the facts here described. No two of the five villages he visited resembled one another to any great degree; and the dominant agricultural caste was different in all five villages. One village was overwhelmingly populated by displaced persons; another entirely by a single caste of Muslim cultivators who chose to caste their lot with India; in a third Muslim were a large minority; and in the two remaining Muslims were entirely absent. Also interesting is the fact that for any given village caste structure was but slightly articulated in comparison with the villages of comparable size in other parts of India.

For some dot maps of the distribution of given castes in Bengal (pre-partition), *see* S. P. Chatterjee's Bengal in Maps (1948). For dot maps of the distribution of particular occupations (the clusterings of which stand out quite clearly), see the later publication of the State Statistical Bureau of the Government of West Bengal, *Statistical Atlas, West Bengal,* (1953.)

CHAPTER VI

A COMPARATIVE ANALYSIS OF THE FIELD STUDY AREAS

Introduction

Individual analyses of the several field study areas demonstrated repeatedly a significant degree of influence on occupational structure exercised by a number of factors varying both inter-regionally and among the sample villages of each area. Comparative examination of these relationships, generally restricted to eight of the twelve study areas, leads to certain summary conclusions as to what determines the occupational structure of Indian villages in general.[1] Similar comparative analysis permits certain tentative conclusions as to the correlation between occupational structure and level of economic development in rural India and leads to a major general conclusion namely that there is a coherent, peculiarly Indian socio-economic system within which most areas of the sub-continent may be graphically placed.

The factors found to be generally important in effecting variations in occupational structure are of two kinds: on the one hand, relatively stable, or organic, factors, in part inherent in the nature of the area, and consequently, relatively enduring in effect, and, on the other hand, more dynamic factors subject to relatively rapid change, and consequently, producing more rapid change in the areas concerned. Of the former, the following are considered as particularly worthy of comparative study: the size and spacing of settlement, proximity to major towns or cities, and, most important in the Indian context, the composition of the population according to religion and caste. The dynamic factors include not only those which make for and are consequent upon economic development, such as commercialization, changing social outlook, land reform, and community development, but also such independent and semi-dependent variables as the impact of partition and population growth.

Since none of the individual factors mentioned above was singled out for special study in all or even most of the study areas, and since there was normally no way of controlling the factor or of measuring the exact extent of its influence, the regional comparisons made in relation to them, are generally non-quantitative and largely impressionistic.

An important by-product of the investigations of this chapter stems from a check of the author's field observations against certain data of the Census which should theoretically have yielded similar regional results. An analysis of the discrepancies between the two is made which appears to demonstrate the correctness of several of the major criticisms of the Census repeatedly raised by the author in previous chapters.

[1]The graphs presented in this chapter include data for these eight study areas only. The Calcutta, Delhi, Kerala and Telangana areas are omitted because the field work was, as indicated in the introductory remarks to the discussions of those areas in Chapter V, too limited, too general, or in some other way non-comparable with that of the remaining study areas.

Factors Affecting Occupational Structure

Part One: Organic Factors

Size and Spacing of Settlement.—One of the factors most consistently related to occupational structure, as shown by Graph 7, is that the larger the village the greater is the proportion of non-agriculturists. In view of the small number of cases in many of the size-categories one cannot expect smooth or consistent curves. Since the range of occupational variation within any category is quite large and since highly specialized non-agricultural villages can occur anywhere along the size spectrum, irregularity in the slope and trend of the curves are only to be expected, particularly where the size of sample is small.[2] The rather marked irregularity for the category of "large villages" in the Punjab may also reflect the disruptive effect of partition.

The average slope of the curves for the various regions do not differ sufficiently to demonstrate significant differences among them; neither it is possible to determine at what size villages tend to take on urban characteristics.

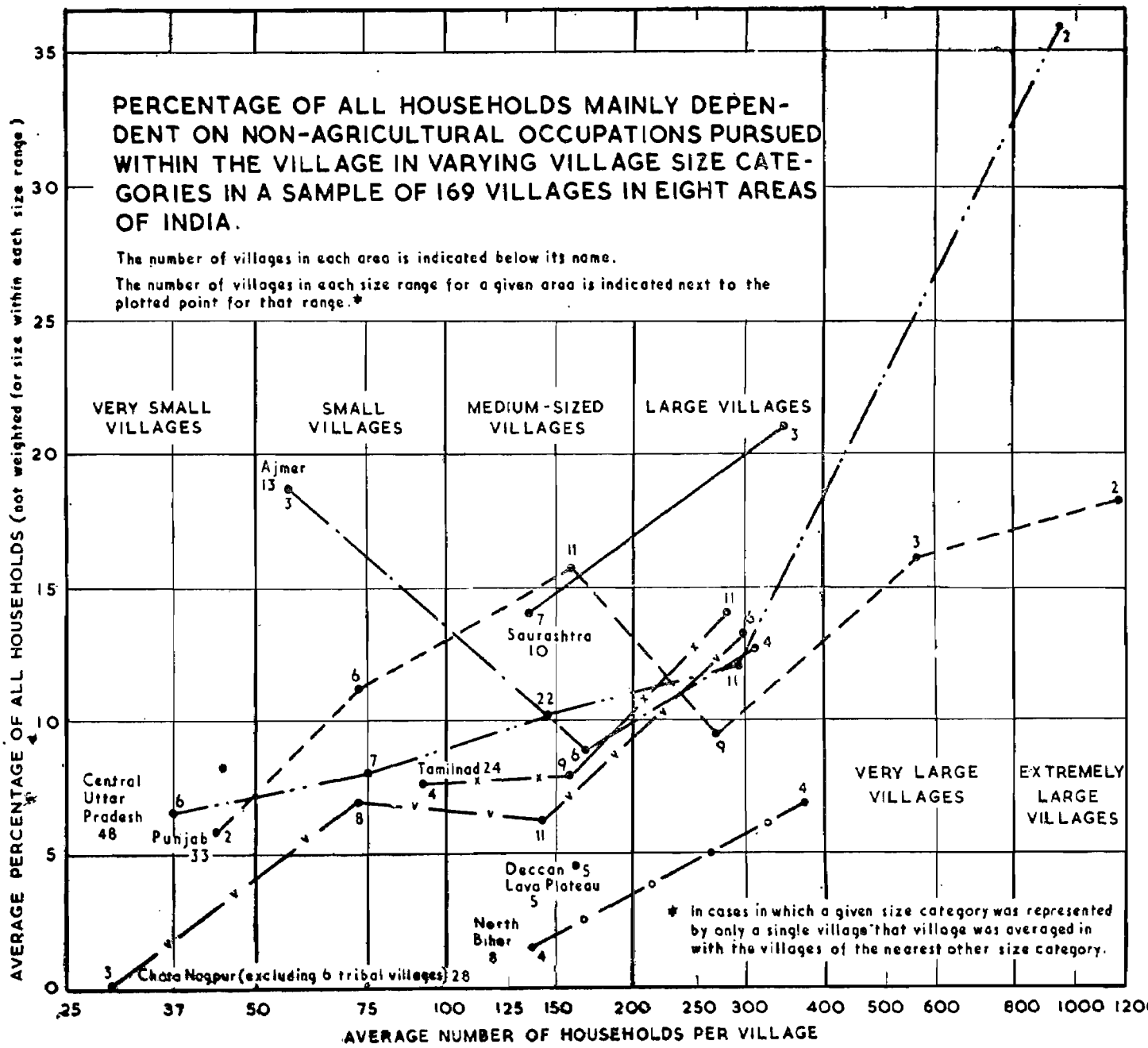
No attempt was made to measure objectively the average spacing of settlement in the several study areas. Indeed, in areas of dispersed settlement, like Kerala, the concept makes little sense, while elsewhere, in Tamil Nad, for example, where the so-called village is normally a complex of several scattered and differentiated elements, or in North Bihar, where hamlets are very common, it would be difficult to know between just which settlements distance was to be measured.

By and large, however, there are several reasons for believing that over most of India the average distance between villages varies within a range in which the differences in the spacing would not greatly affect the overall regional occupational structure (not counting for the moment the pattern of dispersion of urban areas, which will be considered under a separate heading): First, the network of villages is normally sufficiently dense so that a particular service not available in one village is normally available in another not excessively far away. (A two-hour walk or a half-day's ride in a bullockcart are not considered by most Indians as unduly irksome inconveniences when some special good or service not locally procurable is desired.) Second, there is a large number of itinerants going from village to village to provide special services, such as repairing of utensils, goldsmithing, priestly, medical, and astrological services, entertainment, cattle trading, and a variety of others. (Often these itinerants operate successively for relatively short periods out of a few villages in the area in which they work. Occasionally, they are true nomads originating in areas hundreds of miles distant). Third, a significant proportion of non-agricultural services are of an essential personal nature for which the demand is virtually ubiquitous, so that a majority of even the very small villages can afford to maintain households in their own midst to provide them, rather than depending on households in neighbouring villages.

But when villages are very closely spaced, *i.e.*, when the population density is particularly high, specialized artisan villages are apt to develop. These normally provide goods of little bulk, for which the demand is expressed only at infrequent intervals (*e.g.*, textiles, metalware, and pottery). Generally, the distances involved in getting to these villages are sufficiently

[2] In the case of Ajmer the steep drop from the sm[illegible] to the medium-sized village category is explained by the fact that of the three small villages [illegible]e is a village specializing in twine-making and 57% non-agricultural, as opposed to *zero* per cent (fo[illegible]main dependence) for the two remaining villages. The average for the three is, thus, 19 % . The slight dip [illegible] the middle range in the curve for Chota Nagpur is probably not significant. With respect to the Deccan Lav[illegible] Plateau area there were too few villages to show a trend one way or another.

GRAPH. 7


PERCENTAGE OF ALL HOUSEHOLDS MAINLY DEPENDENT ON NON-AGRICULTURAL OCCUPATIONS PURSUED WITHIN THE VILLAGE IN VARYING VILLAGE SIZE CATEGORIES IN A SAMPLE OF 169 VILLAGES IN EIGHT AREAS OF INDIA.
The number of villages in each area is indicated below its name.
The number of villages in each size range for a given area is indicated next to the plotted point for that range.*
VERY SMALL VILLAGES
SMALL VILLAGES
MEDIUM-SIZED VILLAGES
LARGE VILLAGES
VERY LARGE VILLAGES
EXTREMELY LARGE VILLAGES
Ajmer 13
Saurashtra 10
Tamilnad 24
Central Uttar Pradesh 48
Punjab 33
Deccan Lava Plateau 5
North Bihar 8
Chota Nagpur (excluding 6 tribal villages) 28
* in cases in which a given size category was represented by only a single village that village was averaged in with the villages of the nearest other size category.
AVERAGE PERCENTAGE OF ALL HOUSEHOLDS (not weighted for size within each size range)
0
5
10
15
20
25
30
35
25
37
50
75
100
125
150
200
250
300
400
500
600
800
1000
1200
AVERAGE NUMBER OF HOUSEHOLDS PER VILLAGE

small for all the surrounding area to be well served. Thus, the households of the specialized artisan castes may have the satisfaction of living with a large block of their caste fellows. In the description of the environs of Calcutta it was suggested that the pattern of specialized artisan villages was particularly well-developed in Bengal. It is believed, admittedly on the basis of rather slight personal observation, that Bengal is a core area of a pattern of intra-regional economic organization deviating from that of the classical *jajmani* system still prevailing, at least in some degree, over most of the rest of the country. The few fairly specialized artisan villages in the eastern part of the Chota Nagpur area (in which the villages are *not* especially closely spaced but in which Bengali is widely spoken) suggest the cultural affinity of that area with the plains area of Bengal immediately to the east.

When villages are particularly widely spaced, as in much of the desert and steppe area of Rajasthan, it may be essential to have a greater complement of specialized artisan and serving occupations within each village than is necessary where what is lacking in one can be easily obtained in another nearby. This may result in a substantial increase in the overall percentage of non-agriculturists working within the village. This factor may have been of significance in the cases of Saurashtra and Ajmer, and perhaps, also Punjab, which, in the order named, had the most widely spaced villages of all the study areas. The proportions of in-the-village non-agriculturists in these three areas were highest, third highest, and second highest, respectively, of the eight areas depicted on Graph 10 (discussed in detail in a subsequent section). But so many other factors are also at work that this suggestion cannot be advanced with certainty.

Urban Proximity.—Among the locational factors operative within a region, the degree of proximity to major towns and cities is probably the one which is most important with respect to the occupational structure of Indian villages. Proximity to mines and plantations (which exert very strong influence in a few rather limited areas of the sub-continent) generally has somewhat analagous effects. Proximity to major transport arteries is not important in itself, but only in so far as it contributes to proximity to something else, usually urban areas.

The only systematic attempt to study the effects of proximity to urban centres was made in the Central Uttar Pradesh study area where an unusually large sample of villages (forty-eight in all) and the presence of two particularly large and influential cities facilitated the task and yielded fairly conclusive results. It was found that the cities in question: (1) inhibited the development and/or fostered the deterioration of non-agricultural activities in the nearby areas, from which people preferred to travel to the cities to shop and to obtain specialized services; (2) were responsible for a greater rate of dependence on outside work due largely, but not exclusively, to commuting, in the nearby villages than in those further removed; and (3) often caused an actual shift of small, household or personal enterprises from villages to urban sites.

But, what may have been conclusively demonstrated for the area around Lucknow and Kanpur does not necessarily hold true for all, or even most other, areas of considerable urban influence. The key to understanding or predicting the occupational effects of a given city on its *Umland* lies in appreciating the basic economic tie which exists between the two. If the city is *in* the area, but not *of* it, *i.e.*, if the location of the city depends not on the produce of the immediate area for its existence, but rather on some peculiar advantage with regard to transport, centrality, or perhaps the caprice of some long-dead potentate, it is apt to contribute little to the wealth of its surroundings, but rather to drain off skills which otherwise might be employed in the villages.

If, on the other hand, a city depends for its wealth largely on the agricultural bounty of the surrounding area, as in the case of Rajkot, in Central Saurashtra, or the various cities in the Punjab, its merchants will have to pay for that bounty, normally raising rural purchasing power and hence, the *effective* demand for goods and services. The more common of these will almost surely continue to be supplied within the village, while certain others (*e.g.*, bicycle-repairing, tailoring, flour milling, etc.) may be newly introduced. Moreover, some of the small-scale and cottage industries of the major urban centres may become diffused through the nearby villages and towns, as in the case of knitted goods and agricultural implements industries near Ludhiana and Jullundur in the Punjab, the coir industry near Alleppey in Kerala, and the tanning, weaving and biri industries near Vellur and the towns of the northern part of the Tamil Nad area. Of course, commuting to regular jobs or foraging in the cities and towns in search of casual labor increases with increasing urban proximity in any case; but the necessity for the latter is less impelling in the more prosperous areas.

Probably a minority of areas conform well to the two proto-types of urban-Umland relationships described above. There are, for example, a number of towns and cities, the economy of which is integrated with that of their surrounding areas, which, nevertheless, appear to contribute relatively little to the wealth of the villages therein, because the productive resources of the countryside are largely owned by absentee capitalists who reap the lion's share of the dividends to spend or re-invest in the city.[3] This is the situation in the cotton-growing Deccan Lava Plateau area, where the rate of absentee landlordism is unusually high, and in the coal-mining area of the Chota Nagpur.[4]

The area of Ajmer affords a hybrid example of cities which both contribute to the wealth of the countryside in their role as markets for agricultural surpluses, and drain off non-agricultural workers to the railroad workshops, the cantonments, and the textile mills. The net effect, in this case, however, has probably been to strengthen the non-agricultural sector within the rural areas.

The environs of Delhi, the nation's capital, and Calcutta, its largest metropolis and capital of its most economically advanced state, pose special problems. While both cities, and particularly the latter, probably acted in the latter part of the pre-independence era to depress the traditional sector of the village economy of the surrounding areas, in the new era of independence both have been centres from which waves of official concern for blighted rural India have emanated into the adjacent countryside. The result has been an unusual concentration there of government effort to foster cottage industries and otherwise to raise the standard of living. Whether or not the effects will be lasting is debatable. But there can be little doubt that the non-governmentally-induced growth of dairying, market gardening, and poultry-keeping and the rise of commuting attendant on urban development will have lasting effects and raise the effective rural demand for goods and services.

[3]Bert Hoselitz has aptly described this type of city as "parasitic," as opposed to the type described in the previous paragraph which he calls "generative." ("Generative and Parasitic Cities," in *Economic Development and Cultural Change*, Vol. III, No. 3, April, 1955, pp. 278-294.)

[4]Even though the government-controlled wages in the coal mines are good by Indian standards, the area is greatly deficit in foodstuffs; and prices for staples are sufficiently high so that real purchasing power remains too limited to cause much increase in the demand for village-produced goods and services. Moreover, the orientation of shopping is overwhelmingly to urbanized areas around the mines themselves. Similar wage and price conditions obtain in plantation areas; but here there are few if any urban centres of much importance.

The case of Saharsa District in North Bihar is distinctive in that, until recently, that study area was entirely lacking in towns. Such as now exist are not of much influence except insofar as they provide employment for casual laborers, especially in the construction field.

A final and most important observation is required. Whatever may be the *general* effects of urban proximity, in any region of India, it is necessary to remember that numerous *individual* villages, because of their peculiar caste structure or other non-economic causes, may depart very markedly from the local trends. Numerous villages, even on the very fringes of some large city, may appear to be virtually oblivious to any urban influence, at least insofar as their occupational structure is concerned, whereas other villages much further removed may be profoundly altered.

The Ethnic Composition of the Population

(a) The Role of Religion.—By and large, religion plays, in the non-tribal parts of India, a minor role, relative to caste, in determining the occupational structure of a given area. We have already seen how the institution of caste tends to pervade all the major established religions of the country, how castes associated with particular occupations tend to arise redundantly in more than one religion in a given area, and how, when there is no redundancy, either Hindu or Muslim castes normally serve the remainder of the population insofar as a demand exists for the type of services they traditionally render[5]. Still, there are certain occupations which scarcely, if ever, occur in a given religion, while others tend to be much more common in one religion than in another. The occupation of butchering, for example, is unthinkable in Hinduism, but normally required in any large Muslim community, while pig-breeding, which is anathema to Muslims, is widely practiced, usually on a subsidiary basis, among various low Hindu castes.[6] Similarly, upon conversion to Buddhism, the important Mahar caste of the Deccan Lava Plateau, completely gave up the caste practice of removing carrion from the village and flaying the hides. While all religions may engage in business, certain ones tend to specialize in such pursuits, in general or in particular areas. Wherever Jains are found, they tend to be in the general commercial field, while over much of eastern and southern India (*e.g.*, in the North Bihar, Tamil Nad and Kerala study areas) a large part of the Muslim minority tends to be associated with hawking and other forms of petty trading, just as the Hindu minority tended to dominate commerce in what is today West Pakistan. But in the aggregate, in none of the study areas are these special instances of the effects of religion *per se* (*i.e.*, as opposed to caste) of sufficient importance to alter greatly the overall occupational structure of the region.

In tribal India a rather different situation obtains, since such areas are normally characterized by a lack of intra-village household or caste specialization. Thus, each household is normally dependent primarily on cultivation and subsidiarily on up to half a dozen other activities, including hunting, fishing, gathering, perhaps a bit of petty trade, and, if contact with the outside economy is well established, as in the southern part of the Chota Nagpur study area, in a variety of casual or seasonal outside work, as agricultural laborers, construction workers, brickmakers, etc. But where tribal peoples are scattered among a Hindu majority, as in the central and northern parts of the Chota Nagpur study

[5]Hinduism here subsumes Sikhism and Jainism. Christianity in Kerala, though hierarchically divided by caste as well as by sect, does not have, as a rule, clearly defined occupational roles associated with each social stratum, despite a general tendency to associate the low caste Avasha Christians with agricultural labor and menial duties.

[6]In Central Uttar Pradesh there are, in fact, *two* specialized castes of Muslim butchers, the Kasais and the Bushakasa, the former associated with the slaughtering of cattle and buffaloes and the latter with sheep and goats. Each also sells the meat of its respective victims.

area, Tamil Nad, and Kerala, they are normally considered as just another element of the caste complex, almost always with a low-status ranking, and associated with agricultural labor or a few other semi-specialized, subsidiary occupations like wood-cutting or toddy-tapping.

(b) The Role of Caste.—In all of the study areas for which comparable data were obtained the average number of castes per village, as shown on Graph 8, increases steadily with village size.[7] But the curves for the several regions differ in two major respects: first, in regard to their height above the x-axis in any given size range; and second, in regard to their average slope, or rate of increase with increasing village size. These differences have important implications in the analysis of occupational structure.

The height of each curve in Graph 8 and the total number of castes involved (shown at the right end of each curve) are indicative of the degree of ramification of the caste structure of the area to which they refer.[8] By either criterion, Central Uttar Pradesh leads all other areas. A historical factor contributing to this situation would appear to be the prolonged contact between Hindu and Muslim in this area and the occasional breaking off of groups of low caste Hindus to join the Muslim fold, sometimes forming new and independent castes and sometimes joining pre-existing, low Muslim castes. Whatever the explanation may be the presence of a highly ramified caste structure means that a great variety of traditional goods and services are locally available. That this can be maintained presumes a highly ramified demand structure. We are here dealing primarily with the *variety* of goods and services demanded, not with the total *quantity*. But since a greater variety happens to make for an increased quantity, it seems reasonable to suppose that a significant portion of the moderately high percentage of rural households in Central Uttar Pradesh who are mainly or subsidiarily dependent on non-agricultural pursuits may be accounted for simply by the presence in the area of specialized castes furnishing non-essential services which elsewhere are altogether lacking. Conversely, one of the contributing causes, though not the chief cause, of the generally small number of non-agricultural occupations within the villages in the Chota Nagpur study area (which has the lowest set of average numbers of castes per village on Graph 8) would appear to be the low degree of ramification of the caste structure.[9]

North Bihar and the Deccan Lava Plateau have caste structures which appear to lie between the two extremes cited above; yet, with regard to the degree of primary dependence on non-agricultural occupations pursued within the village, both areas are comparable to the Chota Nagpur. In North Bihar, dire poverty would appear to be the chief cause of this; but the influence of caste shows through, nevertheless, in the much greater *subsidiary* dependence on artisan and serving occupations. In the Deccan Lava Plateau caste appears to play a very small role even at the level of subsidiary dependence. This would appear to be related to the pronounced decline there of the *jajmani* system, which will be discussed in the following section of this chapter.

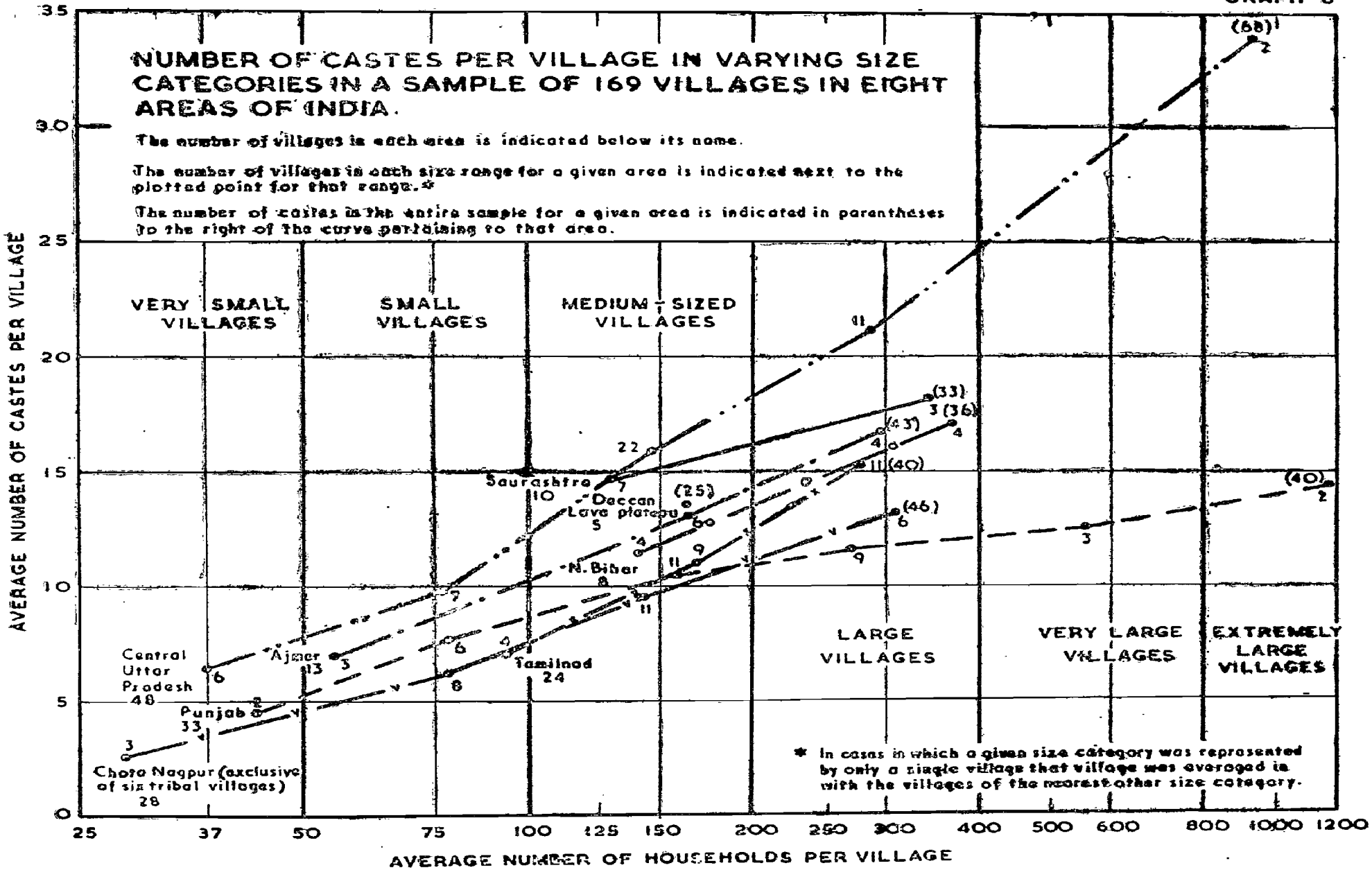
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[7] In the case of the Deccan Lava Plateau area, for which only a single point could be plotted, the generalization undoubtedly holds, even though not substantiated by the graph.

[8] But one should not attach too much importance to the figures for the total number of castes encountered by the author in given region, since the number is, obviously, partially contingent on the number of villages in a given areal sample.

[9] Of all the study areas the Chota Nagpur was, it will be recalled, the last to be subjected to strong Hindu influence. This may be one of the reasons why its villages are generally so little fractionized relatively speaking, with regard to caste. That there were as many as forty-six castes encountered in the entire area can be attributed to the recent influx of various Bengali groups, who, however, are *quantitatively* unimportant.

GRAPH 8


NUMBER OF CASTES PER VILLAGE IN VARYING SIZE CATEGORIES IN A SAMPLE OF 169 VILLAGES IN EIGHT AREAS OF INDIA.
The number of villages in each area is indicated below its name.
The number of villages in each size range for a given area is indicated next to the plotted point for that range.*
The number of castes in the entire sample for a given area is indicated in parentheses to the right of the curve pertaining to that area.
VERY SMALL VILLAGES
SMALL VILLAGES
MEDIUM-SIZED VILLAGES
LARGE VILLAGES
VERY LARGE VILLAGES
EXTREMELY LARGE VILLAGES
AVERAGE NUMBER OF CASTES PER VILLAGE
AVERAGE NUMBER OF HOUSEHOLDS PER VILLAGE
0
5
10
15
20
25
30
35
25
37
50
75
100
125
150
200
250
300
400
500
600
800
1000
1200
Central Uttar Pradesh 48
Punjab 33
Chota Nagpur (exclusive of six tribal villages) 28
Ajmer 13
Saurashtra 10
Deccan Lava plateau 5
N. Bihar 8
Tamilnad 24
(68)
(46)
(43)
(40)
(40)
(36)
(33)
(25)
* In cases in which a given size category was represented by only a single village that village was averaged in with the villages of the nearest other size category.

The low height of the curve for Punjab has resulted from the wholesale departure of Muslim castes for West Pakistan at the time of partition, with no comparable influx of new caste groups. The low *slope* of the curve, both for this area and for Saurashtra —and for only those two areas—is regarded as more significant than the height. These are the two most prosperous of the eight study areas depicted, and, consequently, they have the largest number of ubiquitous castes, since virtually every village, even those which are small in size, can afford to maintain at least one household of most of the more essential artisan and serving groups.[10]

With respect to the areas not included on Graph 8, the major points relating to caste and occupational structure may be summarized as follows: In the singular region of Kerala, the system of clearly defined traditional caste occupational specialization applies hardly at all to either the Christians or Muslims, and even among the Hindus it applies to only a small proportion of the total population. In the environs of Calcutta, the hold of caste on the population and its role in determining occupations appears to be rapidly on the wane. In the environs of Delhi, by contrast, caste is still very important, and the caste pattern appears to be a hybrid of the situations found in Central Uttar Pradesh and Northern Punjab. Very superficial observations in Telangana point to a highly ramified caste structure to which adherence on occupational lines is still fairly strong.

In the course of the individual regional analyses in the previous chapter a variety of other aspects of the caste structure were shown to have been significant in determining the local occupational structure, including especially the total percentage of the population in non-agricultural castes, the percentage in high castes, the percentage of those untouchable castes who, in practice, function largely as under-employed agricultural laborers, the percentages in various artisan and serving categories, *etc.* It is not feasible, however, to attempt to summarize the effects of these factors over all the study areas because of the numerous adjustments that would have to be made in order to render the data comparable on an inter-regional basis.[11]

Factors Affecting Occupational Structure
Part two : Dynamic Factors

Rationalization, Commercialization and Monetization.—India is a land in which the exchange of goods and services within the villages was traditionally carried out largely on a customary basis, with payments in kind and perquisites according to the elaborate *jajmani* system of mutual ties between families linked by ancient, hereditary bonds. Probably, nowhere in India is the system of old completely intact. In some parts of the country, however, it lingers with great persistence and comparatively little change, while in others it is all but dead. The implications for the occupational structure of the varying degrees of regional strength of the *jajmani* system, on the one hand, or of the inroads of the linked variables of rationalization commercialization, and monetization, on the other, are enormous, and they have figured prominantly in the regional discussions of chapters IV and V.[12] The purpose here is to present an inter-regional comparison of the more important conclusions obtainable from those chapters.

[10] That there were as many as forty castes encountered in the Punjab area is attributable to the fact that a handful of Muslims, of seven different castes—the halt, the lame, and the fearless—were left behind after the great post-partition exodus.

[11] For example, in considering the percentage in non-agricultural castes one would be dealing, in some areas with untouchable groups who are non-agricultural mainly in theory, though to only a very limited extent in practice, and who comprise up to a quarter of the entire population, while in other areas, those same castes are very few in numbers and continue to be largely non-agricultural in practice as well as in theory.

[12] By rationalization is meant the governing of economic decisions by the workings of economic laws rather than by custom: by commercialization is meant the production of goods for sale, rather than for personal consumption or barter; and by monetization is meant the substitution of cash for kind or perquisites in exchange transactions. While the three go hand in hand they are hardly identical.

Of the twelve regions studied in the field there were but three and a part of a fourth in which the jajmani system could be said to be moribund or dead. These include the environs of Calcutta, Kerala, the coal mining area of the Chota Nagpur study region; and the Deccan Lava Plateau area. In no two of these regions were identical sets of factors responsible for the decline. In the environs of Calcutta the most important forces were urbanization, industrialization, prolonged contact with the West, and, most recently, partition. In Kerala the system characteristic of most of the rest of India may never have been firmly entrenched; contact with the West has been particularly intense and prolonged; the undermining effects of education on conservatism have been most pronounced; and the standard of living has been relatively high. At the same time there is a tremendous pressure of population on resources, so that it became an absolute necessity to commercialize and rationalize the economy, if a decent living standard was to be maintained. In the coal-mining area of Dhanbad in the Chota Nagpur almost all land over tens of square miles has gone out of agricultural production and over a much wider area, the mass of workers have become salaried colliery employees, so that the reconstituted economy revolves today almost entirely about the fortunes of the mines. And, lastly, in the cotton-growing area of the Deccan Lava Plateau, the recurrent periods of economic distress to which a one-crop economy is particularly prone; the loss of land by thousands of petty cultivators to capitalist absentee landlords, and their consequent conversion to the status of agricultural laborers, have combined to make it improvident, if not impossible, for the former *jajmans* to maintain their customary ties with their former *kamins*.

In striking contrast to the last of the areas discussed above is the Saurashtra study area. The contrast is all the more striking because Saurashtra, like the Deccan Lava Plateau, is an area with a high degree of commercialization of agriculture and because the two regions are remarkably similar in soils and terrain and in caste structure. Yet in Saurashtra, of all the areas visited, the *jajmani* system and the concomitant customary exchange of goods and services within the village appears to be the most intact and the adherence to caste profession, usually as a primary source of livelihood, is strongest. The basic differences between the two areas are: first, that, whereas in the Deccan Lava area, commercialization (which came earlier) was attended by external exploitation, in Saurasthra land and capital tended to remain in the hands of indigenous cultivators; second, that the more diversified crop pattern of Saurashtra is less susceptible to the impact of major economic crises than the one cash crop system of the Deccan area; third, that Saurashtra appears in recent times to have been particularly favoured by the elements, so that it has had a series of bumper crops when harvests elsewhere were poor; and fourth and last, that Saurashtra agricultural technology is on a higher plane than that of the Deccan. In summary, commercialization in Saurashtra was attended by prosperity; commercialization in the Deccan was not.

This brings out a point of fundamental importance, namely, that where an area in India can *afford* to keep the *jajmani* system alive it will do so, despite the element of waste and irrationality which doing so may entail. The system accords with the ethos of the conservative, rural Indian just as much as "free enterprise" does with the farmers in the U.S. Corn Belt (Government subsidies notwithstanding). When it is abandoned, it is only under severe economic duress. Yet, it should be noted, that there is nothing in maintaining the system which militates against its supplementation by the provision of new forms of goods and services on a purely commercial basis. These, as was pointed out in the discussion of Saurashtra in Chapter VI, are rapidly growing in importance in the area.

But poverty alone does not spell death to the *jajmani* system. Without the

massive substitution of externally oriented commercial ties and a modicum of urbanization, it merely causes the system to become retrenched. Caste occupations outside of agriculture continue to be pursued to the extent of the reduced demand, usually on a subsidiary basis, in accordance with customary family ties, and in return for customary payments. Where the demand for a particular goods or service once supplied by *kamins* becomes practically nil, the *kamins* may maintain their old bonds with their *jajmans* as attached agricultural laborers paid in kind. This retrenchment of the system appears to have been the consequence of poverty coupled with a lack of commercialization in North Bihar and the larger part of the Chota Nagpur study area.[13]

The three areas discussed in the preceding paragraphs may very easily be fitted into extreme positions on a triangular analytical model, presented as Graph 9, on the following page. The three bases and apexes of this triangle represent respectively the maximum and minimum degrees of commercialization, poverty, and socio-economic conservatism (to be explained shortly) to be found in rural, non-tribal India. Each of these variables may be somewhat subjectively scaled along the normal distance from the appropriate base to the opposite apex. Saurashtra is thus seen to represent a high degree of commercialization coupled with the highest degree of prosperity and socio-economic conservatism of any of the study areas. The Deccan Lava Plateau represents the highest degree of commercialization coupled with a high degree of poverty and the lowest degree of socio-economic conservatism. And North Bihar represents a general lack of commercialization coupled with the extreme poverty which almost inevitably accompanies such a situation and a rather high degree of socio-economic conservatism. Then, by comparison with those three regions, the relative position of the great majority of regions of India may be roughly plotted in relation to the three parameters indicated at the bases of the triangle. The scheme rests on the hypothesis that the parameters are *normally* intimately related, so that a change in any one necessarily involves a change in one or both of the others.

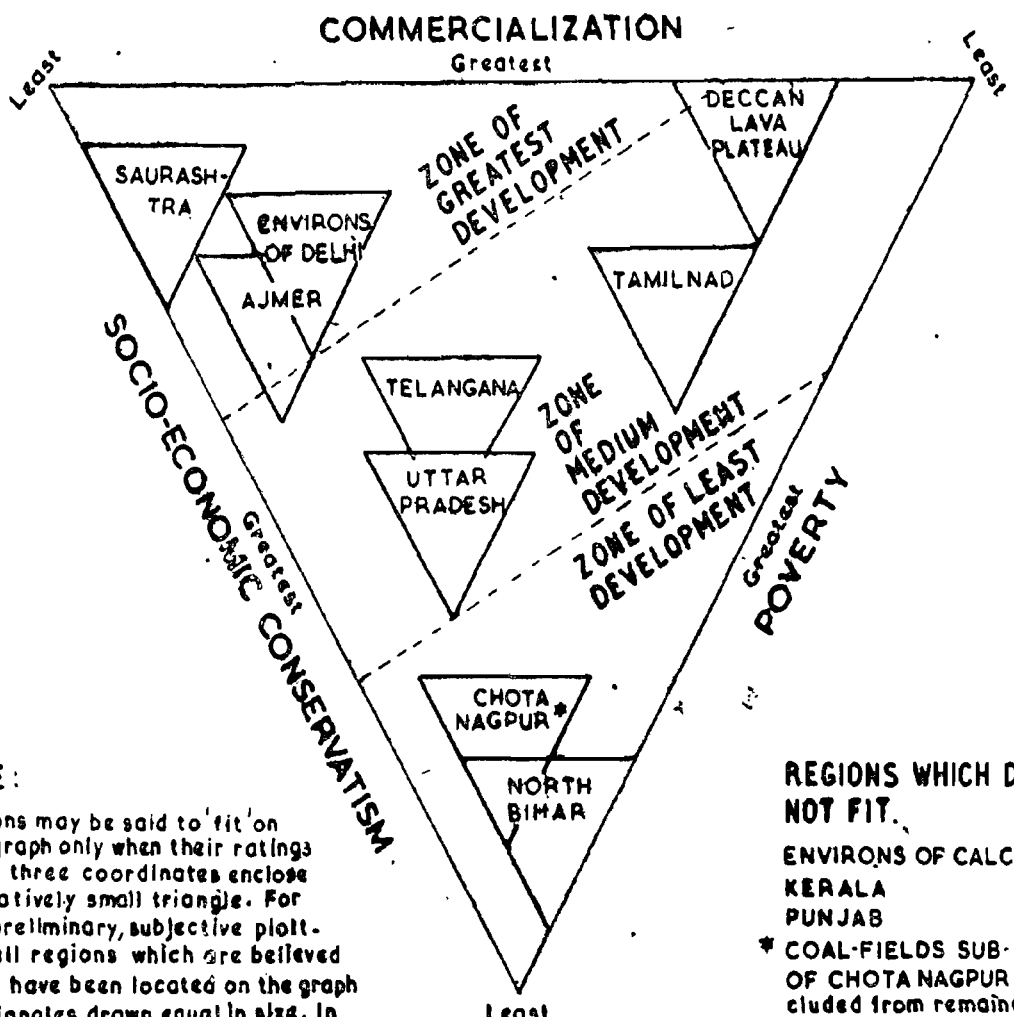
The variable designated as "socio-economic conservatism" implies in India: first, that caste occupation will be adhered to as long as it is feasible to do so, even if only on a subsidiary basis; second, that *jajman-kamin* ties will not be severed, even though they may cease to cover the full gamut of exchange relationships within the village; and, lastly, that customary payments in kind and perquisites for traditional types of intra-village and some inter-village transactions tend to persist, even though a high level of monetized transactions between village and town or city may have developed.

Nine study areas which appear to fit within the analytic framework are plotted on Graph 9; those which are obvious misfits are indicated in the margin. Of the misfits, the environs of Calcutta, Kerala, and the coal-mining sub-area of Chota Nagpur have already been discussed: all have a lesser degree of socio-economic conservatism than one would expect in a normal Indian situation—given their degree of prosperity and commercialization—owing to the joint influences of Westernization, urbanization, and capitalistic control of the economy. The highly commercialized economy of Punjab is a special case. So far as the author could determine in the field, the area's economy was, prior to partition, very much like that of Saurashtra today. Since partition, however, Punjab has lost so large a proportion of its Muslim specialized artisan and serving caste population that the villages are increasingly dependent on the rapidly growing

[13]The exceptional coal mining sub-area has already been discussed, while the system obviously never applied in the tribal sub-area of the south. To be sure, over most of the rest of the Chota Nagpur area, the classical form of the system appears never to have been too firmly implanted in the first place, due to the relative recency of contact with and conversion to Hinduism; but similar institutions, also governed by custom appear to regulate the economy in cases where the *jajmani* system does not obtain.

GRAPH 9

SCHEMA FOR A CLASSIFICATION OF RURAL ECONOMIES IN INDIA



NOTE:

Regions may be said to 'fit' on this graph only when their ratings on all three coordinates enclose a relatively small triangle. For this preliminary, subjective plotting all regions which are believed to fit have been located on the graph by triangles drawn equal in size. In reality the degree of fit varies. The smaller the triangle the better the fit to theoretical expectations.

REGIONS WHICH DO NOT FIT.

ENVIRONS OF CALCUTTA
KERALA
PUNJAB
* COAL-FIELDS SUB-AREA OF CHOTA NAGPUR (excluded from remainder of area plotted on the graph).

towns, to which came most of the displaced population from West Pakistan. Insofar as there are Hindu artisan and serving castes remaining in the villages in which the chief pre-partition cultivating group was Sikh or Hindu they appear to maintain the traditional *jajman-kamin* ties. And, to be sure, new ties, smacking of the old types of relationship are sometimes entered into between old cultivators and newly arrived displaced artisan and serving castes or *vice versa*. But, by and large, the old order has been too severely jolted for a high degree of socio-economic conservatism to persist.

Of the study areas plotted on Graph 9, the environs of Delhi and Ajmer are closest to Saurashtra, the latter being somewhat the more conservative and the former somewhat the more commercialized of the two. Chota Nagpur, exclusive of the coal mining sub-area, is closest to North Bihar. Toward the middle range of the field lie the three remaining study areas, Tamil Nad, Telangana, and Uttar Pradesh. Tamil Nad is about on a par in prosperity (or rather, poverty) with the Deccan Lava Area, but is notably less commercial and more conservative. Telangana (*i.e.*, the area of Karimnagar District) the author surmises, from rather limited experience, is even less commercial and considerably more conservative as well as more prosperous than Tamil Nad. Central Uttar Pradesh is less commercial still and slightly less prosperous, but more conservative, than Telangana.

In summary, the model presented in Graph 9 appears to provide at least a rough fit for most of the areas studied; and for those which do not fit the reasons are evident. Complete validation of the hypothesis that under conditions "normal" for India, its several regions would fit as indicated in the graph would require, for each of the three variables, methods of quantification comparable for all parts of the country. The statistical data gathered for this study are, unfortunately, inadequate for that purpose.

Increased Outside Contacts and Changing Models of Thought.—The model outlined above presupposes that traditional Indian values are surrendered only under severe economic pressure or as a result of prolonged exposure to an alien value system. By and large it appears to have been the latter factor which was more influential in causing pronounced departures from the traditional system. Hence, it is to be expected that still further exposure to classical Western (including Marxist) modes of rationalized economic thinking will cause more and more areas to depart from the system, especially after those areas undergo the so-called "revolution of rising expectations", which seems already to have taken place in the environs of Calcutta and in Kerala.

Among the probable effects of increased degrees of rural contact with the outside world the following are probably the most important: (a) an increasing desire to escape from those traditional caste occupations which have low status associations; (b) a general diversification of occupations pursued by members of any given caste; (c) the introduction into the village of more and more new occupations for which no niche exists in the established order; (d) the increasing supplementation of income based on performing traditional services for inherited clientele by pursuing side-lines, especially related side-lines, on a purely commercial basis; (e) a growth of centralized market towns and a dependence on such towns to provide an ever-increasing range of goods and services; (f) an increasing flow of labor to urban areas and the slackening, or severance, of ties between the urbanities and the paternal village; and (g) the break-up of the joint family system, with the result that the protection it affords the underemployed rural worker will be withdrawn and open unemployment will grow to an increasing degree.

Generally speaking, the *extent* of outside contact increases directly with increasing economic development, while the *impact* of such contact on the thinking of the inhabitants of a given area is proportional to their dissatisfaction with the *status quo*, *i.e.*, either with their poverty viewed in absolute terms, or, more commonly, with the degree to which their present economic status falls short of their expectations as to what it ought to be.

Land Reform and Community Development Programs.[14]—Government intervention to improve the rural economy of India has, since the attainment of independence been largely channelled in two major fields: land reform and community development.

The aspect of land reform which, to date, has been most completely effected, has been the abolition of rent-collecting intermediaries (*zamindars, jagirdars,* etc.) between the cultivators and the government in which ultimate rights were vested and to which a portion of the rents were formerly turned over as taxes. Also widely enacted have been such tenancy reforms as reduction of rents, guarantees on security of tenure, and provisions for the acquisition of direct title by the cultivators. Most states have imposed ceilings on the amount of land that can be acquired in the future and about half the states have imposed ceilings on current holdings. In Punjab, in particular, and in several other states as well, the consolidation of scattered holdings has made great headway. The establishment of cooperative farming (not merely cooperative purchasing of seed and fertilizer and cooperative marketing) is hotly debated, but as yet nowhere implemented on a significant scale. Also vigorously discussed, but little implemented, are programs of government redistribution of land to the landless. Inaction in this regard is largely due to the fact that the law on existing ceilings has either not yet been enforced or has been legally circumvented by a subdivision of large holdings on paper only.

In the realm of community development, the government's efforts have been devoted mainly to up-grading agricultural technology increasing the attention given to animal husbandry, improving rural communications, encouraging the growth of cooperatives (including cottage-industrial cooperatives), spreading ideas of better health and sanitation practices, and bringing a variety of social amenities to the villages. Patterned after the American model of agricultural extension, and financed largely through American aid, the program begun late in 1952, already covers areas containing most of the nation's rural population. Complete coverage is anticipated in the very near future.

While in the field of land reform some states have proceeded much more rapidly than others, the progress of the centrally administered community development programs shows much less regional variation. But in both fields it is much too early to assess the probable lasting impact on the rural economy. So far as occupational structure is concerned, the author found no appreciable effects in the areas in which he has worked. Though many tenants have been converted, for all practical purposes, to the status of independent cultivators, little or nothing has as yet been done for the vast majority of agricultural laborers, who must still shift for what work they can get in the village or outside in towns and on construction projects. Temporary labor, in the paving of village streets (especially in Punjab), the building of *panchayat ghars* (community halls) and the construction or improvement of approach roads, wells,

[14]Rather good summary discussions of these topics may be found in the government's year book, *India, 1959*, prepared by the Ministry of Information and Broadcasting. Chapter XXI, "Land Reform" (pp. 268-278), covers the chief legislation and results of reform to date on a statewise basis. Chapter XVIII, "Community Development" (pp. 214-217), is more general and contains no statewise figures. (The above note is left as originally written although it is obvious that more up to date information is now available.)

tanks, and drains is commonly provided, to be sure, through the action of the village council, but this is largely on a semi-voluntary basis and entails little remuneration. The formation of village cottage-industrial cooperatives has affected but an insignificant part of the total rural population; and many of those which have been formed have met with very poor success because no attention was paid at the time of establishing them to the problem of a market for their produce. Generally, the cooperatives and craft training programs have been aimed at restoring members of the several artisan castes to their traditional calling, especially in the field of leather work, but no restrictions are imposed against any others who might care to take such occupations. Weaving in Tamil Nad affords a good example of a thriving, government-aided cooperative program that is being built up on multi-caste lines.

Probably the greatest lasting effect of community development program will be its role in shattering rural apathy and stimulating a desire for a better life. "Our role," a Block Development Officer once remarked to the author, "is to make the villagers dissatisfied;—but not too dissatisfied"—a difficult line to tread. If this judgment be correct, then the community development blocks may well become the chief instrument of changing the modes of thought of rural India. Just what the ultimate effects may be and in just which regions they may be most strongly felt, the author does not venture to predict; but it would appear fairly certain that the scheme for classifying rural economies presented in Graph 9 will in time become obsolete.

The Effects of Partition.—Though the shock of partition imposed a considerable burden on the nation as a whole, which had to shoulder the burden of caring for and resettling the millions of displaced persons from East and West Pakistan, its most acute effects were restricted to West Bengal and East Punjab. The limited, reconnaissance nature of the author's study in the environs of Calcutta was not adequate to permit him to judge the effects of partition in West Bengal. The study of East Punjab, particularly in comparison with the area of Saurashtra, which was quite similar economically, but in which partition was of relatively minor importance, leads one to the conclusion that the radical dislocation of population resulting from partition has been the major factor producing change in the traditional village order, even though there are already some signs in Punjab of an inclination to re-establish the old order in part.

Since the losses to East Punjab's population were registered mainly in the villages, while the gains were registered mainly in the cities and towns, the economy became much more urban-oriented than it had been in the past. Many goods and services which had hitherto been supplied almost entirely by villagers to villagers on customary terms, have now to be sought primarily in urban centers. The influx of entrepreneurs to the cities was particularly important; and many new industries owe their origins to their vigor and enterprise. (The entirety of the important sporting goods industry of Jullundur, for example, was transplanted from the West Punjab city of Sialkot.)

While certain of the remaining study areas may have lost at least a few ardent Muslim households to Pakistan subsequent to partition, there was generally no compelling reason for them to go. Only in the environs of Delhi and Calcutta did intercommunity tensions run very high, and, in addition to these areas, only Central Uttar Pradesh and Ajmer experienced significant losses of population (largely urban). In very few cases did these losses noticeably affect the occupational structure. In towns and cities of all four of these areas, and particularly in the Delhi area, the increment of entrepreneurial skills, which resulted from partition (as in North Punjab) probably more than offset the loss to the economy caused by the Muslims who fled.

Among the occupations or industries which received a fillip due to the influx of refugees, bus and truck transport, light engineering industries, restaurant keeping, and all forms of commerce are of particular note.

Population Growth.—Although it was recognized from the start that population increase was an important factor affecting occupational structure, time did not permit comparative study of recent demographic history of the several regions of field study. Nevertheless, specific conclusions made in respect to the individual areas may be summarized in a number of fairly general inter-regional comparisons.

There are basically four types of adjustments which an area of rapidly growing population pressing hard on existing resources can make: first, it can improve its agricultural and other technology in order to produce more in the types of production already developed; second, it can diversify its economy and garner the advantages which come from external trade; third, it can send forth emigrants to other areas and, perhaps, profit from the remittances they send home; or fourth, it can accept a reduced standard of living and a general retrenchment of the economy, especially in the non-agricultural sector. The second and last of these adjustments have the greatest direct bearing on occupational structure. The first and third have important indirect effects, since the maintenance of some degree of prosperity, which they permit, inhibits the general economic retrenchment entailed in the last and least desirable type of adjustment.[15]

Of the methods described above, the first, the upgrading of agricultural and other technology, appears to have been most important in the study areas of Punjab, Saurashtra, and Kerala, and is being belatedly applied to all the remaining areas in varying degrees, more or less in proportion to their level of economic development. The second type of adjustment, the diversification of the economy, is most striking in Kerala, and also important in Punjab, and Saurashtra, and, to a more limited extent, in Telangana and the northern part of the Tamil Nad study area. (Here, only the economy of the villages and towns and of small enterprise in the cities is under discussion, since the industrialization in large urban areas is rarely an adjustment coming from within the area, but due rather, to the intervention of government or private capitalistic enterprise from without.) Emigration, the third mode of adjustment, has long been a striking characteristic of the Punjab and Tamil Nad study areas, and to a lesser degree, of Kerala. Rather selective types of emigration are associated with other areas: of commercial castes from Saurashtra, of agricultural laborers from the Chota Nagpur (largely on a seasonal basis), and of such surprising, but not insignificant, groups as the Dhobi or washerman, caste from Central Uttar Pradesh to Bombay and the Middle East, where they normally cling to their traditional calling. The fourth adjustment, the lowering of living standards as a result of population growth, attended by the rapid increase in under-employment, especially among landless agriculturists, is very widespread in India. Those study areas which may be singled out as being particularly affected are North Bihar, Tamil Nad, and the Deccan Lava Plateau, and, to a lesser extent, Central Uttar Pradesh. (The non-coal-mining portion of the Chota Nagpur study area is even poorer than all but one of these areas; but it is doubtful that the standard of living there ever was much higher than it is today.)

The possible future effects of continued population increase on Indian occupational structure have been discussed by Coale and Hoover in their recent scholarly, statistical

[15] A fifth method, the implementation of a positive programme of population limitation, has not yet been tried in India on a significant scale and hence is excluded from the present discussion.

analysis which is strongly recommended.[16] One conclusion which the present study emphasizes is that in the absence of massive efforts aimed at economic diversification the sector of the labor force which will be most affected by future population growth is that of landless agricultural labor.[17]

Factors Affecting Occupational Structure Part Three: Summary

While both the organic and the dynamic factors are of considerable importance in determining the varying occupational structures of the several study areas, by and large it appears that the dynamic factors are the more important, especially in their effects on the *macro*-aspects of the regional patterns, *i.e.*, in their effects on the total volume of demand for goods and services. By contrast, the organic factors are normally more important in determining the *micro*-aspects of the pattern, *i.e.*, the particular castes or other groups and/or villages which supply the goods and services demanded and the intra-regional organization of their flow. The dynamic factors, it should be noted, are important in quite another way, insofar as they impinge on the organic factors and make for their gradual change. (In exceptional cases, as in the aftermath of partition the change may be rapid.) Thus, while one may consider the caste structure *per se* as inherent in a particular area, the inter-group economic relationships obtaining within that structure are profoundly affected by such factors as commercialization, contact with the outside world, population growth, etc.

The fact that the discussion in this section does not include such inherent characteristics of the land as climate, terrain, or natural resources is not because they are assumed to be unimportant; but because they are themselves not *direct* causal factors insofar as occupational structure is concerned. The human factors, which *are* the direct causes, may, of course, in their regional variations, reflect in a number of ways the regional differences in natural factors. But when one considers the radical differences in occupational structures of the physically very similar Deccan Lava Plateau and Saurashtra study areas (both well suited to the growing of cotton) or the not-quite-so-similar areas of North Bihar, the least developed of the entire sample, and the environs of Culcutta, the most developed, (both well suited for the growing of rice and jute, it is evident that in India the marked regional variations in cultural factors are dominant).

Occupational Structure and Level of Economic Development

The intra-regional relationship between various aspects of occupational structure and level of economic development are depicted, for eight of the twelve study areas, on Graphs 10 through 14. Each of the graphs consists of two parts. In the first, or main, part of each graph the occupational variable indicated is plotted on the Y-axis against the average development rating on the X-axis. In the second part, to the right, the average scores for the entirety of each area may be compared.

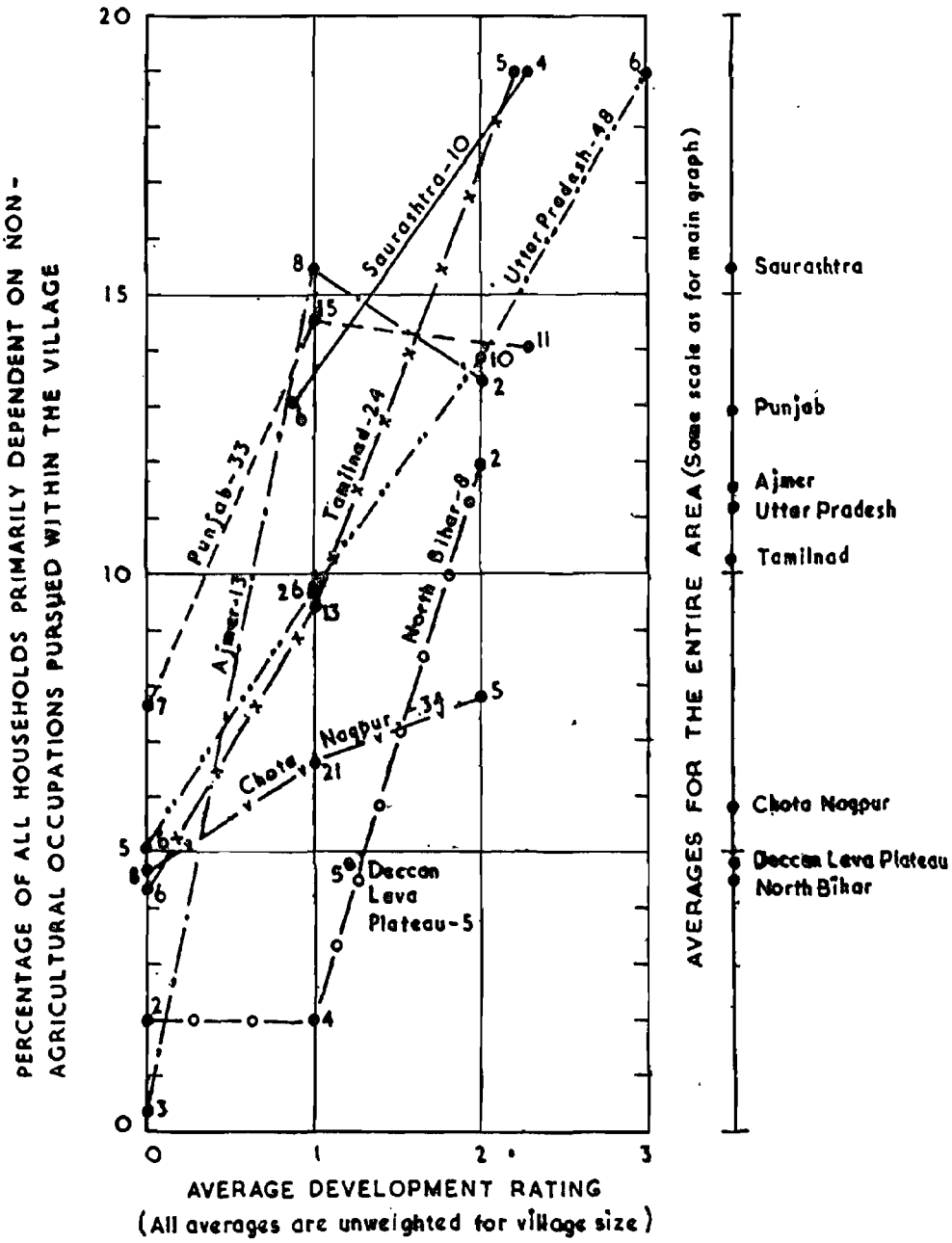
With respect to the first part it will be recalled from the introduction to Chapter V that on the basis of field observations each village was subjectively assigned a development rating of "A", "B", "C", or "D". A rating of "C" indicated that it was thought to be about average in progress and prosperity for the area in which it was located, "D" that it was noticeably below

[16]Ansley J. Coale and Edgar M. Hoover, *Population Growth and Economic Development in Low Income Countries : A Case study of India's Prospects*, Princeton, N.J. Princeton University Press, 1958, pp. xxi+389 The work, however, is not regional in its approach.

[17]Cf. the detailed analysis in Chapter IV of the regional variations in the distribution of agricultural labor with particular reference to population growth in the past two generations. *see* also the author's paper "Agricultural Labor in India, a Regional Analysis with Particular Reference to Economic Growth," in *Economic Development and Cultural Change*, Vol. XI, No., 4, July, 1963, pp. 337-352. This study considers population growth from 1951 to 1961, which was not possible at the time of writing the present work.

GRAPH 10

DEGREE OF PRIMARY DEPENDENCE ON NON-AGRICULTURAL OCCUPATIONS PURSUED WITHIN THE VILLAGE IN RELATION TO RELATIVE LEVEL OF ECONOMIC DEVELOPMENT IN 175 SAMPLE VILLAGES IN EIGHT AREAS OF INDIA.

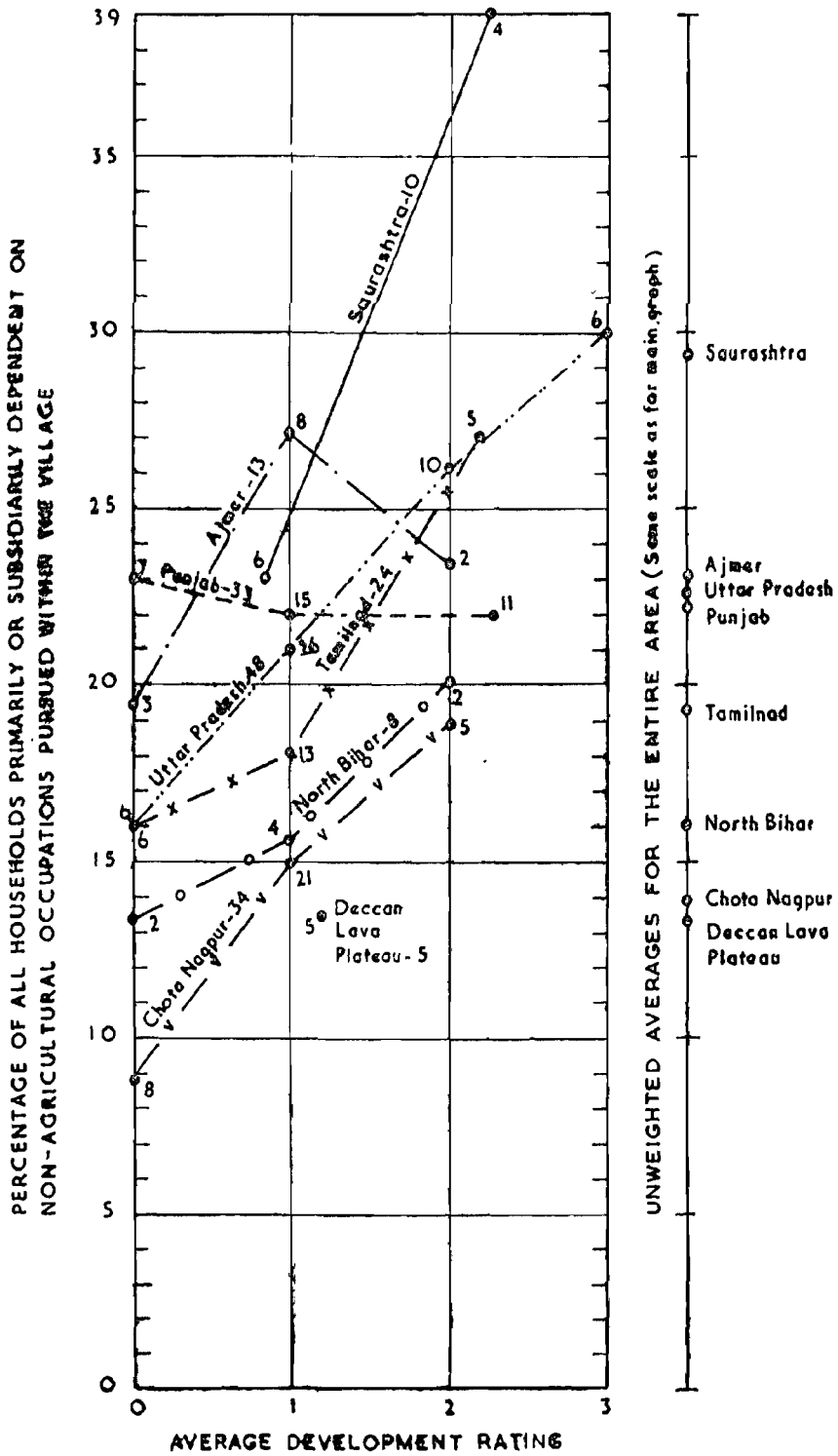


"A" villages have a development rating of 3; "B" villages of 2; "C" villages of 1 and "D" villages of 0. When there are fewer than four villages within a development category it is averaged in with a neighboring category except for Ajmer and North Bihar.

The number of villages in each area is indicated after its name.

The number of villages in each development group is indicated next to the plotted point for that group.

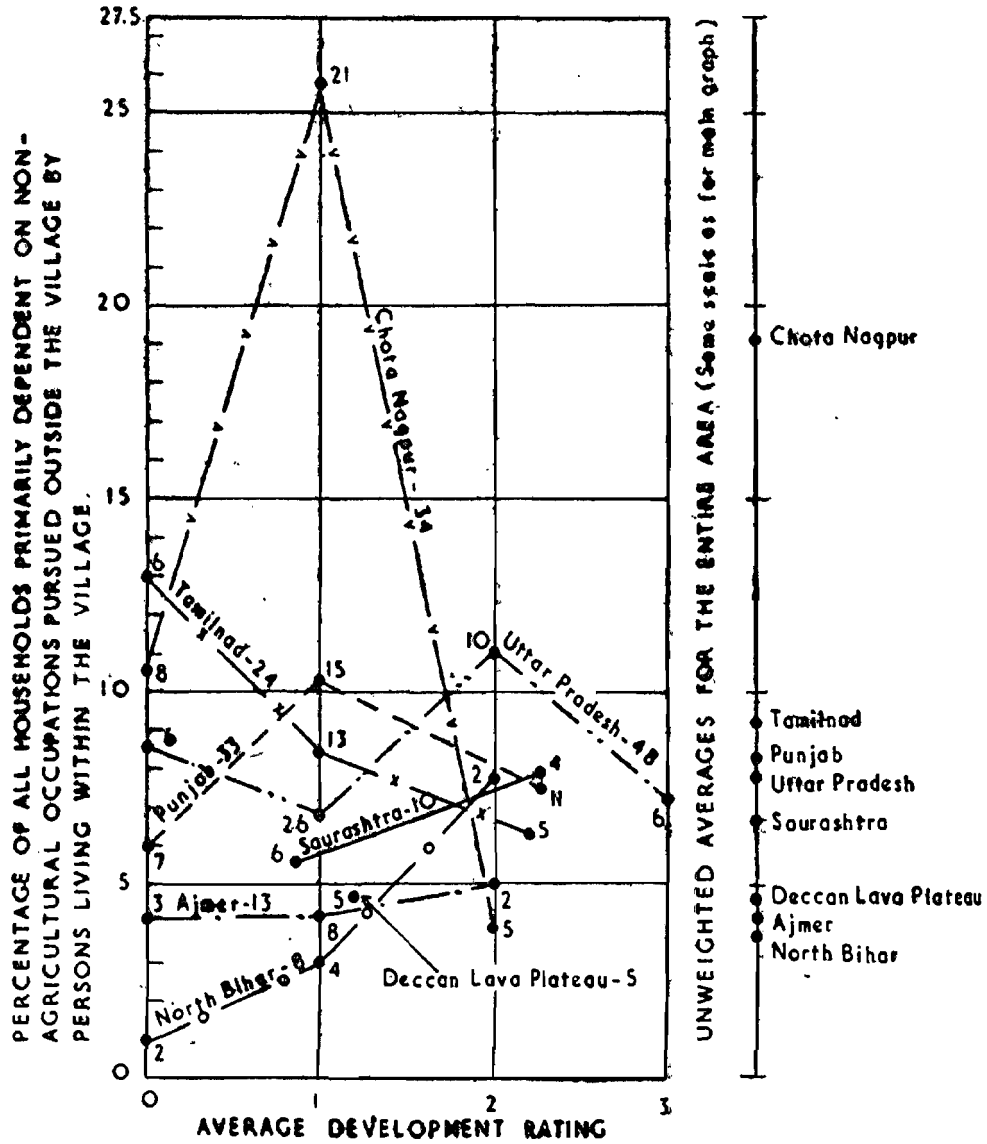
DEGREE OF PRIMARY OR SUBSIDIARY DEPENDENCE ON NON-AGRICULTURAL OCCUPATIONS PURSUED WITHIN THE VILLAGE IN RELATION TO RELATIVE LEVEL OF ECONOMIC DEVELOPMENT IN 175 SAMPLE VILLAGES IN EIGHT AREAS OF INDIA.



All marginal notes for graph 10 apply also to this graph.

GRAPH 12

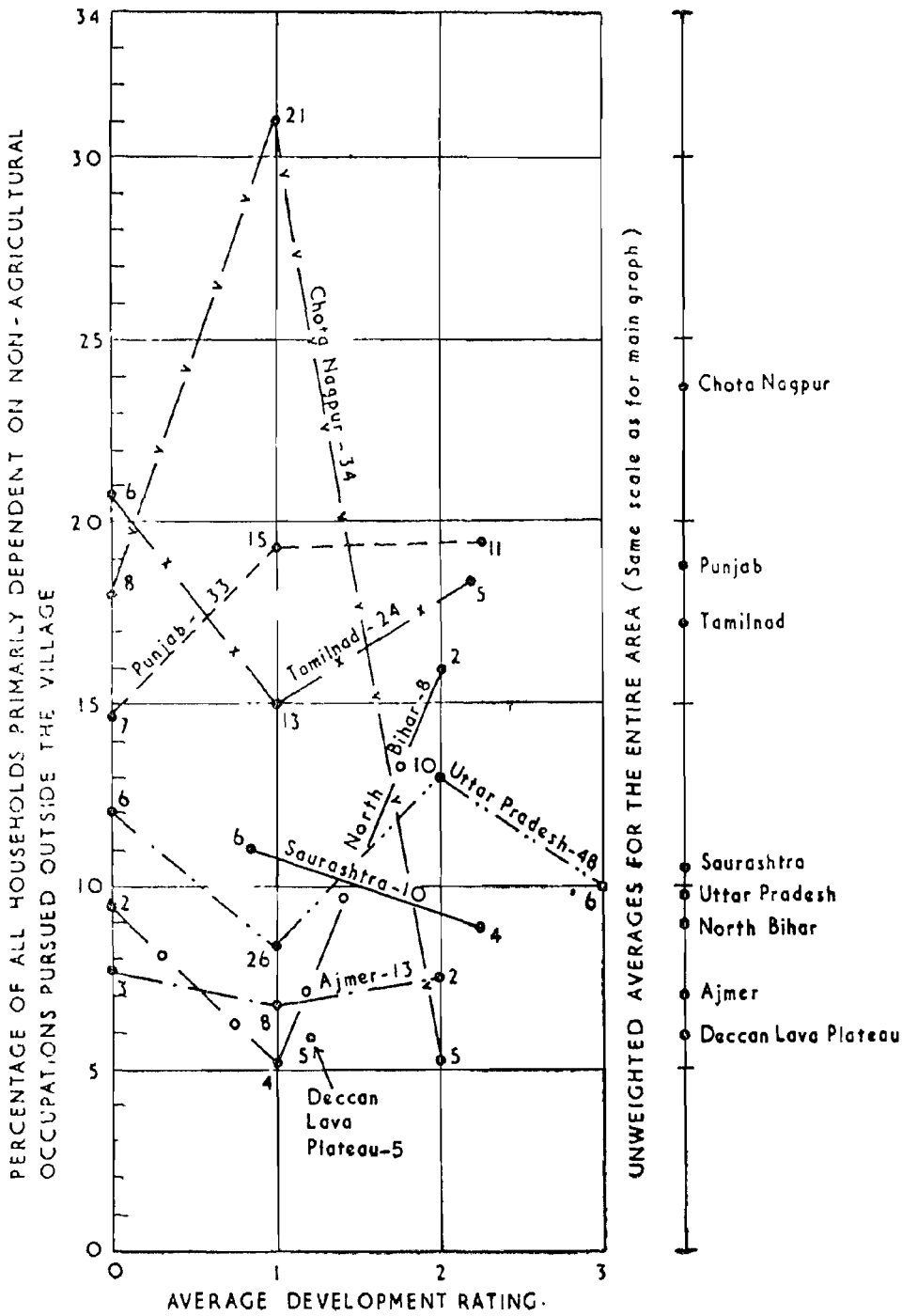
DEGREE OF PRIMARY DEPENDENCE ON NON-AGRICULTURAL OCCUPATIONS PURSUED OUTSIDE THE VILLAGE BY PERSONS LIVING WITHIN THE VILLAGE IN RELATION TO RELATIVE LEVEL OF ECONOMIC DEVELOPMENT IN 175 VILLAGES IN EIGHT AREAS OF INDIA.



All marginal notes for graph 10 apply also to this graph.

GRAPH 13

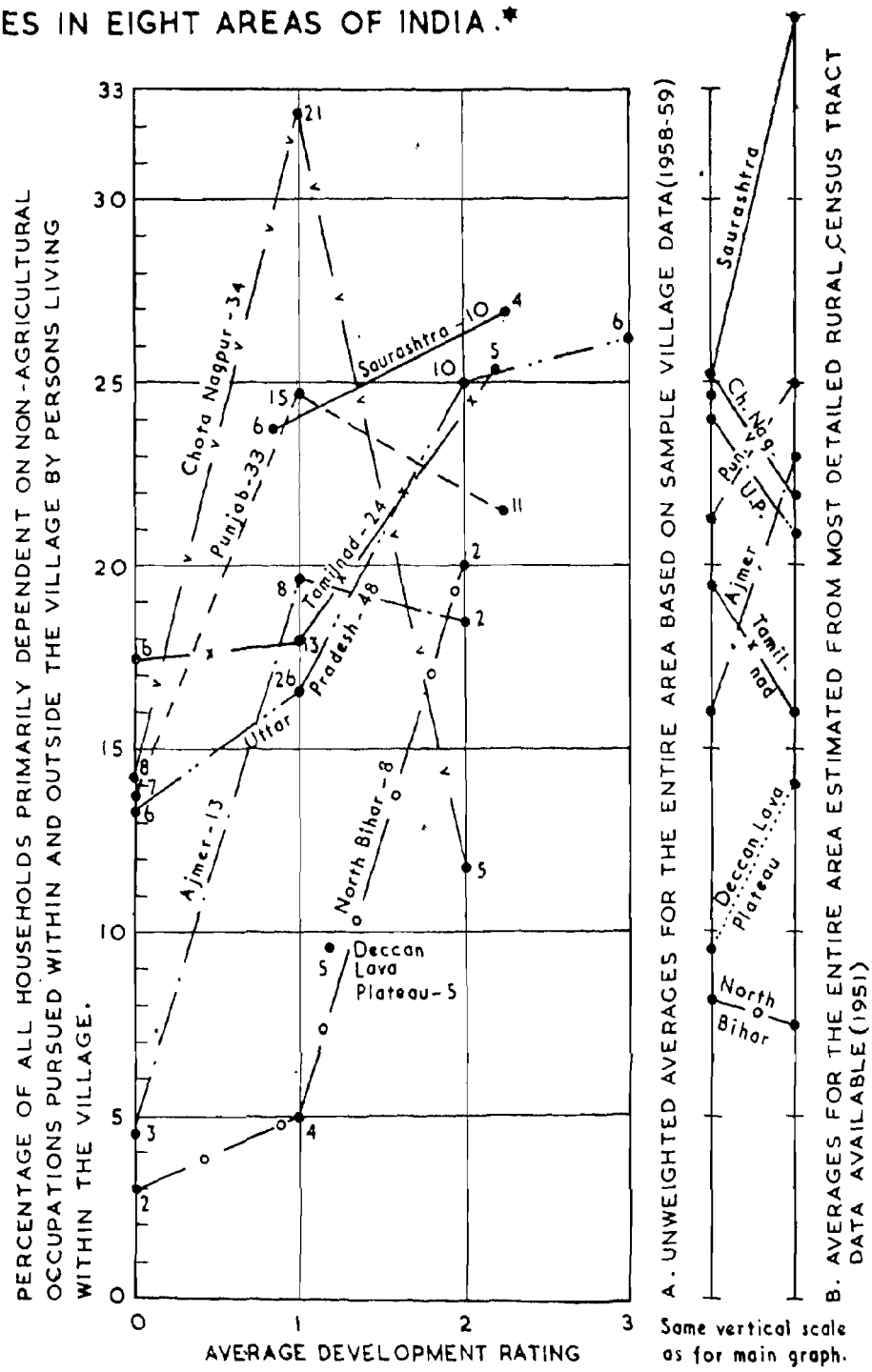
DEGREE OF PRIMARY DEPENDENCE ON NON-AGRICULTURAL OCCUPATIONS PURSUED OUTSIDE THE VILLAGE IN RELATION TO RELATIVE LEVEL OF ECONOMIC DEVELOPMENT IN 175 SAMPLE VILLAGES IN EIGHT AREAS OF INDIA.



All marginal notes for graph 10 apply also to this graph.

GRAPH 14

DEGREE OF PRIMARY DEPENDENCE ON NON-AGRICULTURAL OCCUPATIONS PURSUED WITHIN AND OUTSIDE THE VILLAGE BY PERSONS LIVING WITHIN THE VILLAGE IN RELATION TO RELATIVE LEVEL OF ECONOMIC DEVELOPMENT IN 175 SAMPLE VILLAGES IN EIGHT AREAS OF INDIA.*



All marginal notes for graph 10 apply also to this graph.

* This graph is a summation of graph 10 and 12.

the local average, "B" that it was noticeably above, and "A" that it was outstandingly above. In each area the villages were grouped by their development ratings, and for each group the average value was calculated without weighting, for village size, for each occupational variable.[18] When there were but three or fewer villages with a given rating, those villages were averaged in with the villages of the next closest rating, utilizing a numerical point system (3 for an "A" village, 2 for a "B", 1 for a "C", and 0 for a "D"). Exceptions were made, however, for Ajmer and North Bihar, because of the small sizes there of the total village sample. In these two areas certain development groups comprising only two villages each were allowed.

The second part of Graphs 10 through 13 consists simply of the several overall averages of all villages in each region (again unweighted for village size). Graph 14, however, shows two sets of regional averages, set A being derived from the author's sample, and set B estimated from the Census. It is suggested that the reader peruse all five graphs before reading the following discussion.

In order to compare differences in occupation structure with differences in level of economic development, the eight study areas for which occupational data are considered adequate were ranked in descending order in respect to each of the criteria used in Graphs 10-14 and compared, in Table 26 with a regional ranking determined by the author from general observation in the field *independent* of the data on occupational structure. (When two or more regions scored within 1% of one another on the graphs they were considered as tied in rank.) At the bottom of each column relating to the occupational variables is indicated the total deviation therein of the eight regional ranks from the corresponding development ranks assigned by the author.[19]

TABLE 26

AREAL RANKING WITH REGARD TO THE OCCUPATIONAL VARIABLES OF GRAPHS 10-14 IN COMPARISON WIGH RANKING WITH REGARD TO LEVEL OF ECONOMIC DEVELOPMENT, BASED ON A SAMPLE OF 175 VILLAGES IN EIGHT STUDY AREAS ON INDIA

Study Area	Author's Development Ranking	No. of Villages in Sample	Rankings Indicated on Graphs 10-14£					
			Graph 10	Graph 11	Graph 12	Graph 13	Graph 14 A	Graph 14 B
North Punjab	1	33	2	3	3·5	2	4	2
Saurashtra	2	10	1	1	5	4·5	1.5	1
Ajmer	3	13	3·5	3	7	7	6	3
Deccan Lava Plateau	4	5	7·5	7·5	7	8	7	7
Tamil Nad	5	24	5	5	2	3	5	6
Central Uttar Pradesh	6	48	3·5	3	3·5	4·5	3	4·5
Chota Nagpur	7	34	6	7·5	1	1	1·5	4·5
North Bihar	8	8	7·5	6	7	6	8	8
Total Deviation from Development Rankng			10	12	25	23	18	10

£In each column the case for which the rank deviates most from the development rank is underlined.

[18]The reasons for not weighting average for village size are indicated in Chapter V, fn. 10.

[19]For example, in the column for Graph 10, North Punjab ranks second (2), while in development its rank is first (1): the deviation in ranks then represents the difference between the two figures, namely 1. This deviation plus the seven remaining deviations in the column add up to the total deviation of 10, indicated at the bottom.

It is evident from the deviation scores of the table that, with reference to economic development (as judged by the author), the variables concerned with extent of non-agricultural occupations within the village (Graphs 10 and 11) are particularly significant, while those concerned with non-agricultural occupations outside the village (Graphs 12 and 13) are not. Graph 14-A, which summates Graphs 10 and 12, has, as one would expect, a total deviation roughly midway between the two. The rather close rank correspondence in the case of the variables of Graphs 10 and 11 with the rankings of economic development is consistent with the detailed conclusions stated repeatedly in the individual area studies: as the wealth of a village community increases, its demand for a greater variety and volume of non-agricultural goods and services increases thereby permitting a greater number of non-agricultural workers to be employed within the villages. The graph simply confirms the general validity of ths common-sense assertion. Only two study areas, the Deccan Lava Plateau, and Central Uttar Pradesh deviate appreciably in rank from their development rankings; and in each case the explanation has been provided in the detailed regional analyses: The Deccan Lava Plateau, it was stated, is an area in which the economy, though advanced, in the sense of being highly commercialized, is depressed in terms of the living standard of the mass of the rural workers. Hence, development and wealth did not there go hand in hand, and the villages are, as a rule, able to support only a relatively small number of non-agricultural households, while an ever-increasing share of goods and services must be obtained in the more prosperous towns and cities. In Central Uttar Pradesh, on the other hand, the relatively high rating with regard to dependence on non-agricultural occupations within the village, especially when subsidiary occupations are also counted, may be attributed to the high degree of ramification of the local caste structure, the conservative clinging to the old order, and the ability of *jajman's* to continue to support their *kamins*, due to the reasonably good state of the agricultural economy. Rather similar is the case of North Bihar, except that, because of the greater impoverishment of the agricultural sector, most *kamins* can maintain their traditional status on a subsidiary basis only.

If the variation in the degree of non-agricultural employment within the village is considered in its intra-regional aspect—as shown in the main parts of Graphs 10 and 11—the tendency for a high degree of correlation with economic development is even more pronounced than in the case of its inter-regional aspect—as discussed above.[20] The only curves contradicting this trend, those of Ajmer and Punjab, may be explained in whole in the former case, in part at least in the latter, by the presence of one or a few highly specialized villages

[20]We are, it must be remembered, dealing here with *averages* of *villages* with particular development ratings. Within each rating category, however, the average deviations from average in a given area would probably be much greater than with respect to the same measure applied to a comparably large set of *regions* grouped in similarly rated development categories.

In determining the development rating each village was judged primarily on the basis of such non-occupational variables as amount of land *per capita* within the village, percentage of land irrigated, extent of use of agricultural machinery, number of families with bicycles, percentage of literacy, presence of amenities shared by the entire village (*e.g.*, street lamps, paved drains etc.), but such factors as the number of shops, sewing machines, and mechanized mills, which relate directly to occupational structure, were also considered. (A sewing machine in rural India which is not owned by a professional tailor is a rarity.) It is quite possible that in many cases, especially border-line cases, the author may have been *subconsciously* influenced in his rating by what he already knew about the occupational structure of a given village, inclining to rate it higher when he knew it had a large number of non-agriculturists and lower when the opposite held true. Since the rating system was purely subjective, there is no way to test for the extent of this bias. It is felt, however, that such bias as may have existed was not sufficient to alter radically the overall picture presented by Graphs 10 and 11, and that at most it would simply tend to reduce the steepness of slope of some of the curves. But this too is a subjective opinion.

in each sample group.[21] It must be remembered, with particular respect to Punjab, that, in this prosperous farming area, villages specializing in particular non-agricultural pursuits are apt to be less prosperous than those specializing in agriculture; but, among the latter, those which are more prosperous will, as in all other parts of India, have larger numbers of households engaged in sundry village-serving artisan and serving occupations than those which are not.

The rank ordering of study areas on Graphs 12 and 13, dealing with non-agricultural work outside the village, shows, as has been noted, a rather poor degree of correspondence with the rank ordering with respect to development (see Table 24). Several reasons account for this: First, in deciding on the areal development ranks, the author was concerned mainly with the internal conditions of the sets of villages themselves and not with the cities, steel-mills, coal-fields, etc. which happened to be nearby, and which consequently, drew off much village labor.[22] Second, "push" factors (*i.e.*, poverty and its concomitants, shortage of land and work) are apt to be just as important as "pull" factors (*i.e.*, the availability of outside jobs), if not even more important, in causing workers to seek outside employment. And, third, there appears to be a culturally determined dimension to the propensity to emigrate which is more or less independent of a region's stage of economic development.

The fact that the Chota Nagpur study area, ranking first in dependence on outside work and only seventh in terms of development, is the most deviant case on Table 26 is explained by the first of the above reasons.[23] So too is the less strikingly high rating of Central Uttar Pradesh. The second reason is operative to some degree in virtually all areas, but is particularly important in Tamil Nad. The third reason, the propensity to emigrate, helps to explain, in part, the high ranking of Punjab on Graph 13, while the lack of such propensity helps to explain several of the relatively low ratings on the same graph.

In summary, the level of non-agricultural employment outside the village is the resultant of a much more complex set of factors than that within the village, which when added together do not necessarily yield a meaningful regional picture.

Graph 14 is best understood by referring to the preceding discussions of Graphs 10 and 12 of which it represents a summation. The right hand part of Graph 14, which is of greater interest than the intra-regional findings, is discussed below.

A Critical Comparison of the Field Results and the Census Occupational Data

A by product of the comparative analysis in this chapter is the comparison of the two sets of regional averages shown in Graph 14, one derived from the author's field studies, the other estimated from the Census. While in theory both sets of scores should have been approximately the same even though the author's sample village data relate to households and the period 1958-59, while those of the Census relate to self-supporting male workers and the year 1951), in fact several significant discrepancies may be noted. An understanding of the causes of these discrepancies should be of value in appraising the reliability both of the findings of the Census and of those derived from the field studies of the present work.

[21]These include a twine-making in Ajmer (rated 1) which was 55 % mainly and 70 % subsidiarily non-agricultural; and in Punjab, one carpet-weaving and one brick-making village (rated 1) and one village (rate zero) highly specialized, but only on a subsidiary basis, in the making of twine.

[22]The rationale of this approach is explained more fully in the introduction to the discussion of the low-rated Chota Nagpur study area in Chapter V. The remarks therein also help to explain the relatively low-rating of Central Uttar Prdesh, despite the inclusion in the area of the cities of Kanpur and Lucknow.

[23]The steep rise in the middle of the curve for the Chota Nagpur area on the main part of both graphs is explained by the fact that the six villages especially dependent on coal mining (with from 40 to 85 per cent of all households mainly dependent thereon) all happen to be among the twenty-one with a development rating of 1.

The most important differences between the two set of figures are as follows: (1) The range of variation between the two sets of scores is from a minimum of 0·7% in the case of North Bihar, the least developed area, to a maximum of 10·2% in the case of Saurashtra, the second most developed, and average of 4·4% for the eight regions, (2) All four regions ranked as most developed by the author scored higher in the Census figures than in those derived by the author, while for the four regions ranked lowest, the reverse held true. (3) The amount of deviation between the two sets of scores was lower for the four less developed than for any of the four more developed regions, averaging but 2·6% for the former as against 6·3% for the latter. It may also be observed that, in striking contrast to the discrepancies between the two sets of rankings in Table 26, there is unusually good agreement between the author's regional ranking in Graph 10 and the ranking according to the data estimated from the Census. The latter two sets of ranking deviate from one another by a total value of only 5; and each set deviates from the author's development ranking by a total of only 10.

It is, of course, possible that the above observations are somehow indicative of some sort of systematic error in the author's field observations causing him to under-enumerate the number of non-agricultural workers in the more developed areas and to over-enumerate them in the less developed areas. It is also possible, that the apparent orderedness of the deviations between the two sets of figures is a mere freak of chance and hence without significance. A third possibility is that occupational shifts from 1951 to 1958-59 account for much of the differences. Fourth, there may be some sort or sorts of systematic error in the Census, itself. Finally, some combination of these four possibilities would seem to be extremely likely. The following discussion revolves about the question. Which of these possibilities is the most likely and apt to be the most important?

Beginning with the second possibility, that the differences between the author's findings and those of the Census are mainly the result of chance, *i.e.*, in the author's selection of villages, it should be pointed out that the likelihood that chance might be an important factor is inversely proportional to the size of the sample. It may well be significant that the three largest discrepancies in the two sets figures on Group 24 occurred in areas where the sample size was rather small, *i.e.*, Saurashtra, with ten villages, Ajmer with thirteen villages and the Deccan Lava Plateau area with five villages. (The fourth area with a small sample North Bihar with eight villages, yielded the best agreement with the Census of all eight areas.) The remaining four areas (Punjab, the most developed area, plus three others in the less developed half of the sample areas) all had presumably adequate sample sizes, ranging from twenty four to forty-eight villages each, in which chance selection should not have resulted in great overall atypicality. What appears to be even more impressive than the admitted possibility of chance selection of an untypical village sample is the fact of the *orderedness* of the deviations, both in terms of direction and magnitude. It is, moreover, very hard to see how chance could result in the unusually high degree of rank correlation between the ratings of Graphs 10 and 14B as indicated in Table 26.

The possibility that occupational shifts which may have occurred between the Census year, 1951, and the period of the author's field investigations, 1958-59, were sufficient to account for the differences between the two sets of figures on Graph 14 does not appear to be tenable in view of the conflicting directions and the magnitude of the shifts which would be necessary for this explanation. Saurashtra and Punjab, for example, almost surely increased to some

degree in their percentages of non-agriculturists during the period cited, whereas the estimated 1951 figures are considerably higher than those for 1958-59.

With respect to the Census, we have repeatedly noted in previous discussions independent of the present question, evidence of two opposing tendencies: (1) over-enumeration of the proportion of non-agricultural workers working within the village, due to (a) the counting of *caste* occupation as *actual* occupation, whether or not it is practiced, and (b) the counting of *subsidiary* occupations as *main* occupations; and (2) under-enumeration of those workers living in the village, who are primarily dependent on casual and seasonal labor outside. The relative dependence on such outside labor was found to be much greater in the less developed areas studied in the field than in those which are better off. Consequently a bias to under-enumerate outside work would tend to produce greater relative under-enumeration in the less developed areas while the opposite bias with respect to non-agricultural work within the village would be relatively more important in the more developed areas producing greater over-enumeration in them. In sum, these two assumptions of opposing biases in the Census returns, taken together could account both for the orderedness and magnitude of the discrepancies noted. It is necessary, therefore, to examine the validity of each of these assumptions.

The evidence in support of the first, relative to Census over-enumeration, may be summarized from previous discussions: (a) Over most of India the villager tends to think of himself and to be thought of in terms of his caste role. (b) There are in the Census (cf. Chapter IV) a considerable number of cases of patent and flagrant over-enumerations within the rural non-agricultural sector often attributable to the caste bias; and it seems reasonable, therefore, to suppose that a much larger percentage of smaller and hence, less obvious over-enumerations also exist. (c) If one compares the author's figures for primary *plus* subsidiary dependence on non-agricultural labor performed within the village as presented in Graph 11, with the Census figures on primary source of livelihood *alone,* the two sets, are closer to one another for five out of eight areas than are the two sets of figures on Graph 14 and equally close in one other.[24] (This fact would have little meaning, however, if the second suggestion, that the Census greatly tended to under-enumerate casual workers, was incorrect.)

In support of the second suggestion, that the Census under-enumerated the number of casual outside workers living in the village, the following points are of note: (a) Virtually no one in India likes to admit that he is a mere *mazdoor,* or common laborer, especially among the cultivating castes who take particular pride in the ownership and management of land.[25] (b) Casual outside labor, even though it may provide the bulk of a family's income, normally engages the working members a small percentage of the time, with the result that, at the moment of census enumeration, most of those workers are apt not to be engaged in outside work and not to report a dependence thereon. (c) The least internally consistent set of figures in the Census are those relating to "services otherwise unclassified" (accounting for only 2·4% of all rural self-supporting males) under which heading workers primarily dependent on casual outside labor should

[24]The two exceptional cases are the Chota Nagpur area and Northern Bihar. The former is quite simply explained by the fact that coal-mining is normally carried on outside the village and is hence *not* counted on graph 11 while it is counted in the Consus figures. The second case is attributed to the chance selection of three villages out of a total sample of eight which were considerably more non-agricultural than usual.

[25]Ths is well illustrated in Premchand's novel *Godan* by the shame of Hori in having to sell his land and become a contract construction worker and by the similar feeling of the hero in Lal Behari Day's work *Govinda Samanta.*

have been classified, but, presumably, usually were not. (*See* Map 6 and the discussion pertaining thereto in Chapter III.) (d) The discrepancies between the data of the Agricultural Labor Enquiry and the Census suggest the under-enumeration by the latter of both agricultural laborers and non-agricultural casual laborers.[26]

The possibility that the author's data may embody biases opposite to those imputed above to the Census, namely an under-enumeration of non-agriculturists in the village and an over-enumeration of casual non-agriculturists working outside the village, would, to be sure, also explain the discrepancies of Graph 14. But, the author is unable to find any evident reasons why his data should entail the specific systematic biases under discussion.[27]

A possible source of systematic bias of another sort may be introduced by the fact that the author did not weight the data for the sample villages according to village size. (The reasons for this have already been explained. Graph 7 shows the relationship of village size to the percentage of households dependent on non-agricultural occupations within the village.) But, if this bias were significant in changing the regional averages from what they ought to have been the changes would almost surely have had to be *unidirectional,* since in all of the sample areas the average size of the sample villages was *greater* than that indicated by the Census. It will be recalled, however, that the less developed half of the author's sample areas had *higher* scores than indicated by the Census, while the more developed areas had *lower* scores. If one were to account for the differences between the two sets of scores on the basis of a bias introduced by non-weighting, one would have also to postulate a countervailing bias applying with particular strength either to the more developed or to the less developed half of the study areas.

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[26]The A. L. E. shows a total of 20.2% (of households) as rural non-agriculturists as against 18·5% of individuals) for the Census admittedly not a very big difference, while the difference in the percentage of agricultural laborers was exceedingly great. (For a discussion of the differences the reader is referred to the appropriate section of Chapter IV). In the A.L.E. households were classified, *irrespective of income,* according to the occupation in which a majority of working days were spent whereas both the author and the Census employed the basic criterion of chief source of income. What seems most significant in the present context are the facts that (1) 85% of all agricultural labor families were classified as "casual" rather than "attached" and therefore free also to do any sorts of more remunerative non-agricultural work that came their way; and (2) 21% of all agricultural laboring "earners" reported "subsidiary" sources of income (as opposed to 8·4% of all workers male and female, self-supporting persons and earning dependents-reported by the Census to have secondary non-agricultural occupations). Were an income rather than a time-at work criterion adopted in classifying these families, it seems logical to suppose that a significant percentage of them would have had to be classified instead as primarily casual non-agricultural laborers. (Ministry of Labour, Agricultural Labor Enquiry, *Rural Man-Power and Occupational Structure* "Introduction" pp. 1-5 and "All-India Summary" esp. pp. 9-10 and 1920.)

[27]Critical discussion of the reliability of the Census on occupations must be judged against the background of the enormous complexity and regional diversity of society and economy in India. Indian authorities responsible for the Census are aware of the difficulties and concerned to improve the reporting. For this reason on 25 September, 1959, the author forwarded to Asok Mitra, Registrar General of India and *ex-officio* Census Commissioner a thirty-seven page, typed memorandum of "Recommendations for the Improvement of the 1961 Census of India" embodying the major criticisms contained in this thesis. In Sri Mitra's letter of thanks dated 23 October, 1959 he stated that".....these recommendations are by far the most detailed, practicable and important that I have ever received. All of them bear the imprint of a sense of reality."

CHAPTER VII

A DYNAMIC REGIONAL SYNTHESIS

General : Factors Mapped and Mapping Method

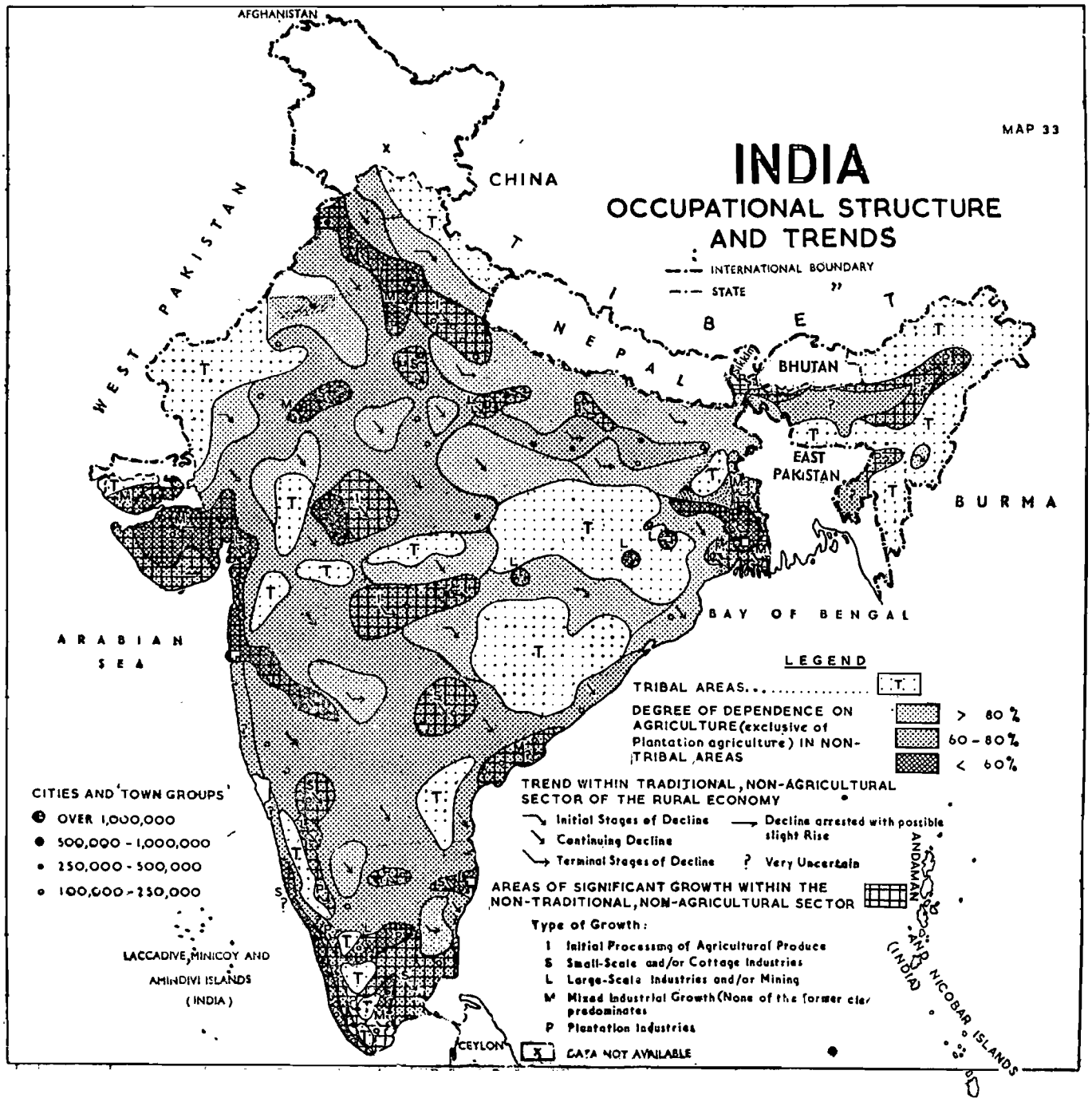
This chapter presents a cartographic synthesis (Map 33) of what the author considers the most important occupational variables in the Indian economy. The three elements included in the synthesis are: (1) the present distribution of the working force as between agriculture (excluding plantation industries and commercialized forestry, but including stock-raising, fishing, hunting, gathering, and collecting) and all other activities; (2) the trend within the traditional non-agricultural sector of the rural economy; and (3) the trend within the non-traditional, non-agricultural sector of the economy as a whole. The latter two factors emphasize the dynamic aspect of the synthesis; for the present cannot be properly understood without reference to the processes which have shaped it. No attempt, however, has been made to show trends in the tribal areas of India which have been until very recently so largely isolated from the economic forces at work elsewhere in India.

The proportion of the population dependent on agriculture is probably the most commonly discussed and most frequently mapped of all occupational variables and the one most widely thought to be correlated with economic development. As this study has shown, that belief has considerable justification in India though there is hardly a one-to-one correspondence between the two.

The degree of dependence on agriculture was mapped on the basis of the Census data for self-supporting males. (If it were done on the basis of total population the slight differences in percentages would scarcely have altered the overall regional pattern.) Rough corrections of the Census figures were made in those areas in which over or under-enumeration appear obvious (*see* Maps 3, 4 and 5), but, in general, the Census data were accepted, despite the awareness of other forms of systematic bias. In place of the choroplethic method of mapping employed in Chapter V, the isoplethic method is used on this summary map to assure a more geographically realistic, even though somewhat more subjective, delimitation of the different regions. In the delineation of the isopleths, considerable attention was paid to the location, size, and nature of urban areas.[1] In a few cases when it was felt that the *raisons d'etre* of the urban areas were essentially independent of the rural economy of their immediate environs (*e.g.*, Kanpur or Bangalore), the urban population was not averaged in with that of the surrounding area.

The mapping of occupational trends with respect to the traditional and non-traditional sectors outside of agriculture was, unavoidably, highly subjective; and for this reason boundaries are fairly highly generalized. Question marks were used to indicate "very doubtful" cases. Elsewhere the degree of reliability of the symbol shown ranges from "fairly certain" in the areas with which the author has considerable first hand familiarity to

[1] See Population Reference Map (End Plate 2).


MAP 33
INDIA
OCCUPATIONAL STRUCTURE AND TRENDS
INTERNATIONAL BOUNDARY
STATE
AFGHANISTAN
CHINA
WEST PAKISTAN
NEPAL
BHUTAN
EAST PAKISTAN
BURMA
BAY OF BENGAL
ARABIAN SEA
CEYLON
ANDAMAN & NICOBAR ISLANDS (INDIA)
LACCADIVE, MINICOY AND AMINDIVI ISLANDS (INDIA)
LEGEND
TRIBAL AREAS
DEGREE OF DEPENDENCE ON AGRICULTURE (exclusive of Plantation agriculture) IN NON-TRIBAL AREAS
> 80 %
60 - 80 %
< 60 %
TREND WITHIN TRADITIONAL, NON-AGRICULTURAL SECTOR OF THE RURAL ECONOMY
Initial Stages of Decline
Continuing Decline
Terminal Stages of Decline
Decline arrested with possible slight Rise
? Very Uncertain
AREAS OF SIGNIFICANT GROWTH WITHIN THE NON-TRADITIONAL, NON-AGRICULTURAL SECTOR
Type of Growth:
I Initial Processing of Agricultural Produce
S Small-Scale and/or Cottage Industries
L Large-Scale Industries and/or Mining
M Mixed Industrial Growth (None of the former clearly predominates)
P Plantation Industries
X DATA NOT AVAILABLE
CITIES AND TOWN GROUPS
OVER 1,000,000
500,000 - 1,000,000
250,000 - 500,000
100,000 - 250,000

"probable" in the areas not visited by the author and judged on the basis of logical inference and analogy with other areas better known.

The stage of decline in the traditional, non-agricultural sector is indicated by one of four arrow symbols. When significant decline is assumed to have begun only in the last generation or two, the symbol for "initial stages of decline" is used. When significant decline is assumed to date from an earlier period, but to have not yet run its full course (*i.e.*, to have eliminated all but the most essential artisan and serving occupations), the "continuing decline" symbol is used. When the decline is assumed to have reached or to be approaching its lowest point, the "terminal stages of decline" symbol is used. In those few areas where decline is very slow or arrested or where, possibly, there may even be some gains in the traditional sector, the "arrested decline" symbol is employed. It is most important to remember, in viewing these symbols, that all but the 'terminal stages of decline" symbol may be independent of the present size of the traditional sector, since the original size of that sector prior to the onset of decline varied considerably from place to place in India.

While, undoubtedly, there is *some* degree of growth of non-traditional occupations, such as government, wholesale commerce, modern transport and the like, in all parts of non-tribal India only those areas were mapped in which the nature and magnitude of the growth has imparted a distinctively new character to the economy. Occasionally, those areas are shown in somewhat exaggerated size in order to increase their visibility, even though growth therein may, in fact be limited to one large city or just a few urban localities. The specific nature of the growth is indicated by varying key letters.

All cities with 100,000 or more population are also shown on Map 33. With but a few exceptions, limited mainly to the Gangetic Plain, these are all active foci of growth, most often of service occupations of various sorts. Large scale industry is still absent in a number of cities, while, by contrast, a few (*e.g.*, Jamshedpur, Ahmedabad, or Kanpur) are overwhelmingly dependent on it. No attempt has been made to characterize individual cities. What has been said of the cities applies generally to the towns as well. By and large, however, the towns are even more service-oriented than the cities.

Map 33 gives no indication of the regional variations in the secondary-tertiary ratio or in the extent of dependence on agricultural labor, in spite of the importance which some economists have placed on the former and the stress which the author has put on the latter (*see* especially the discussion in Chapter IV). Both of these variables have already been presented on separate maps (Maps 21 and 8 respectively) and could not readily be included in the present map for reasons differing in each case.

Previous discussion (Chapter IV, esp. Graph 5, and Map 21) has demonstrated that in India the regional variations in the secondary-tertiary ratio varies, for the most part, in a very narrow range and that greater variations are, in many cases, merely the result of biased enumeration. In any case it was found that the significant sub-division within the non-agricultural sector in India is not that between the secondary and the tertiary, but rather that between the traditional and the modern with which Map 33 deals.

With regard to the dependence on agricultural labor (to which one might add casual employment of all sorts) the sometimes irreconcilable contracts between the data of the Census and those of the

Agricultural Labor Enquiry show how difficult it is to deal objectively with that subject. To have done so subjectively would have been largely redundant, in view of the fairly high degree of correlation on the one hand between areas in the terminal stages of decline in the traditional sector and areas of high dependence on agricultural labor, and on the other between areas of arrested decline and areas with low dependence on agricultural labor.

The Regional Pattern of the Map of Occupational Structure and Trend[2]

Areas with over 80% Dependency on Agriculture.—These areas include a large part of the Gangetic Plain, especially to the north of the Ganges and Gogra Rivers, numerous fairly isolated tracts in close proximity to tribal areas, and five other "islands" (at the scale of generalization employed) surrounded by areas with a lower degree of dependency on agriculture. No part of the total area so shown is a region of significant growth within the non-traditional, non-agricultural sector; and all parts are areas of decline within the traditional non-agricultural sector. All parts of the area are economically depressed. Only a very small portion of the total area overlaps regions of advanced commercialization, while, on the contrary, virtually all of that part of India characterized by a subsistence peasant economy is included (cf. Map 2).

Within the area so shown, then, the economy may be differentiated primary in terms of the stage of decline of the traditional, non-agricultural sector. The areas in the initial stages of decline are, without exception, areas of relatively high isolation, bordering on the tribal areas, which were penetrated rather late by British political and modern commercial influence. Much of these areas remained under the suzerainty of native Indian rulers right down to the time of independence. By and large, in these areas of India, with the possible exception of parts of Rajasthan, the total size of the non-agricultural sector was probably always relatively low. Their positions "off the-beaten-track," one of the causes of their backwardness, even in pre-British times, was probably among the main reasons why they were so late in coming under the influence of modern economic and political events.

The chief area by far in which the terminal stages of decline have been reached is the large part of the Gangetic Plain between Bengal and Western Uttar Pradesh in which prolonged exposure to British and Marwari traders, competition both from the east and from the west in India itself, and failure to develop much in the way of cash crops combined to depress the artisan and serving occupations and the economy in general. The northern fringes of the Chota Nagpur, a large part of Marathwada (the Northwest of the former state of Hyderabad) and a portion of Tamil Nad appear to have been similarly affected. All these areas are, economically speaking, quite depressed.

Areas of continuing decline, between the two extremes presented above, are relatively few and unimportant.

Areas with from 60% to 80% Dependence on Agriculture.—The majority of non-tribal India, including virtually the entirety of the areas of incipient and advanced commercialization (cf. Map 2), is included in this category. The overlap into areas of subsistence peasant economy, on the one hand, and economic diversification on the other, is relatively negligible. While almost all of these areas are characterized by some stage of decline, either continuing or terminal, in the traditional, non-agricultural sector, a number of them are also characterized by significant economic growth within the

[2]No discussion of tribal areas is included in this section. Probably no such area has less than 80% of its population dependent on agricultural and related food gathering activities.

non-traditional sector. Yet, despite the variety of patterns within the class with between 60% and 80% dependency on agriculture, well over half the total area so shown, with over half the total population, is characterized by both continuing decline within the traditional, non-agricultral sector, and absence of significant growth within the non-traditional, non-agricultural sector. This might in fact be said to be the normal Indian pattern. This does not mean, of course, that there is no economic growth in this area, but rather that it is mainly, small-scale, non-corporate and non-industrial in nature, largely commercial, and not infrequently connected with government.

The regions where non-traditional growth does accompany continuing traditional decline include: a large area of Northwest Uttar Pradesh and another large area of Madhya Bharat and Bhopal, which are noteworthy for the initial processing of agricultural produce (sugar and cotton respectively); the Lucknow area, a part of Telangana, and the Kolhapur area of southern Bombay, which are known for their cottage and small-scale industries (the correctness of the inclusion of Lucknow is subject to some question); and parts of Mysore State (including Bangalore and Bhadravati) and the city of Kanpur, in which large-scale industry is quite important.

Among the areas in which the terminal stages of decline in the traditional, non-agricultural sector appear to have been reached, only one is not also an area of significant growth in the non-traditional sector, namely the area along the Ganges (mainly to the south) in Central and Eastern Uttar Pradesh and Bihar. Here the moderately high degree of non-agricultural employment can be attributed largely to the urban development of commercial, administrative and transport centres of which many are of considerable antiquity, while some were creations of the British raj.

It is rather more common, however, for areas in the terminal stages of traditional decline to the associated with some form of significant growth of a non-traditional sort. Thus, in much of Western Bengal one encounters mixed industrial growth, in a small area of Eastern Uttar Pradesh, the initial processing of agricultural produce (sugar); in the major cotton growing tracts of the Deccan Lava Plateau, both initial processing and large scale textile industries; in Western Mysore and Western Madras (Malabar District) plantation industries; and, in the strip of Kerala between the coastal area and the Ghats, a variety of small-scale industries.

Virtually the only areas with between 60% and 80% dependence on agriculture in which there is thought to be no important decline in the traditional artisan and serving occupations are in western Kutch and western and southern Saurashtra. (On a choroplethic map these areas would have appeared in the class interval under 60%.) Here economic growth in mixed and initial processing industries is also to be observed, along with a general development of commerce and other modern service occupations.

Several areas about which particular doubt is felt with regard to the trend in the traditional, non-agricultural sector are the northern parts of the Malabar Coast and its continuation northward to the Konkani coast, the coastal, deltaic area of the northern Circars on the Bay of Bengal, and much of Assam. In the coastal areas it is not known whether the terminal stages of decline have yet been reached, while in Assam it is not known whether the initial stages of decline (i.e., among the indigenous Assamese) have as yet been past. Two of the areas mentioned, incidentally are regions of notable economic growth, the tea-growing areas of Assam, and the mixed industries area of the Northern Circars.

Areas with Under 60% Dependency on Agriculture.—These areas are generally relatively small, and are rather widely scattered over the sub-continent. They lie entirely within the zones of "advanced commercialization", "economic diversification", and "large scale organization" (cf. Map 2) with the greater part in the latter two categories. While the areas vary considerably among themselves with regard to the trend within the traditional, non-agricultural sector of the economy, all are alike in being areas of significant economic growth, not only in industry but in commercial and other service occupations as well.

The areas in which the terminal stages of decline in the traditional artisan and serving occupations are thought to have been reached (or approached) include the area of large scale Industry (including coal mining) stretching from the environs of Calcutta up the Damodar Valley to the Jharia Coalfields, the Madras industrial area; the plantation area of highland Kerala; the Kerala Coast, in which cottage and small-scale industry are so well developed; and Southern Tamil Nad, with its mixed small and large-scale industries. Except for the special cases of the plantation and coal-mining areas, all the aforementioned are regions of prolonged contact with the West, high rates of literacy, exceedingly dense populations, on and off the land, and considerable striving for a better standard of living against odds which at times seem insurmountable.

In considerable contrast to these areas are those in which the decline in the traditional, non-agricultural sector appears to have been greatly slowed down or arrested or in which that sector may even be slightly on the increase. Most marked of these areas is Saurashtra and adjacent Kutch, while the border region of Western Uttar Pradesh—Delhi—Punjab may also be so characterized. In both of these areas agriculture is in a relatively flourishing state, the pressure of population on the land is far from excessive, and the struggle for survival is not nearly so fierce as in the areas mentioned above, so that it is possible to maintain the luxury of adherence to the old village order. The industrial growth in both areas is of a mixed nature.

Between the extremes presented in the two preceding paragraphs lie a number of areas of continuing decline in the traditional, non-agricultural sector. Most prominent among these is the great textile area of India stretching from Ahmedabad in the north through Bombay and thence into the Deccan to Poona and Sholapur. Similar, but less important and more recently developed, inland areas are found around Indore and Ujjain in Madhya Bharat, and Coimbatore and Salem in Tamil Nad. An area of a quite different nature is Northern Punjab, which has a very sound agricultural base and a mixed industrial development. (Prior to partition this area would presumably have been characterized, along with Saurashtra, as one of arrested traditional decline.) The Ajmer-Jaipur area of Rajasthan is a borderline case, to some degree similar to Punjab and Saurashtra. Though not arrested, the decline of the traditional artisan and serving occupations here is quite slow. Far to the south, the small area west of Madras is one in which a variety of organized, small-scale and cottage industries have grown out of a pre-existing traditional base.

Three unique areas shown in exaggerated scale, are the iron and steel centers of Jamshedpur, Rourkela, and Bhilai, of which the latter two are creations of the government's post-independence Five-Year Plans. All are in the midst of very backward surroundings (tribal in the former two cases), and, insofar as one can speak of a traditional non-agriclutural sector therein, it would have to be classified as in the initial stages of decline.

For several areas, the author is very uncertain about the trend within the traditional, non-agricultural sector: in the plantation areas of Assam and West Bengal, it may be in either the initial or continuing phase of decline; and in the part of the Malabar Coast north of Kerala which is characterized by the development of the same cottage and small-scale industries found further south, the decline may be in either the continuing or the terminal phases.

CHAPTER VIII

CONCLUSIONS

The regional variations in the occupational structure and level of economic development of India have been examined on the basis of both the Census of 1951 and other official documents, and extensive field work in nearly two hundred villages in twelve areas of India. The attempt was made to maintain a historical as well as a geographical approach, and to view all findings in the context of a peculiarly Indian socio-economic system. The principal conclusions which have emerged from the study are stated below.

1. **With Respect to the Need for a Geographic Approach to an Empirical Study of the Indian Economy.**—To speak of the occupational structure of India as a whole is to deal with averages which mask the great inter-regional occupational diversity encountered within that sub-continent obscuring the often conflicting occupational trends which are found in different regions and which operate with different degrees of strength from one part of the country to the next. To speak of the level of economic development of India as a whole also has severe limitations, especially when questions of internal economic policy-making and regional planning are under consideration. It is not implied that national averages are meaningless, but rather that a proper understanding of the national picture must take into consideration its regional diversity. Such an understanding can best be obtained through a properly executed economic geographic study, which employs both Census data and field research, utilize insofar as is possible, a consistent methodological approach from one region to another and is designed with particular reference to the Indian socio-economic and historical context.

2. **With Respect to the Utility of the Census.**—The 1951 Census of India, though providing a wealth of detail on the occupational structure of India, down to the sub-district level, has several major limitations. Among these, the most important appear to be the following: (a) the occupational, dependency, and employment status categories, all borrowed from Western economic thinking, are ill-adapted to the realities of Indian life; (b) the occupational statistics incorporate strong regional biases resulting from the misinterpretation of Census definitions and instructions, especially in the recording of traditional caste occupations rather than those actually pursued; (c) the degree of dependence on agricultural labor, casual labor ("services not elsewhere specified") and all forms of subsidiary sources of livelihood are all incorrectly enumerated and generally appear to be greatly undercounted; and (d) the data are not readily comparable with those of Censuses of previous decades.

3. **With Respect to the Utility of Field Work in General and the Author's Field Work in Particular.**—Most of the above deficiencies can be partially countered by the type of field work suggested in paragraph 1. But field work too has certain serious limitations. Among these are: (a) the unavoidable possibility that the sample villages studied may not be reasonably representative of the regions in which they are located; (b) the probability that many of the regions of India will have

no analogues among the areas which the field worker has had time to study; and (c) the possibility that false analogies will be assumed between the areas studied and other areas. Recognizing all the above, the author believes that his field work has been generally reliable (*i.e.*, of an order of accuracy comparable, on a regional basis, to that of the Census) and throws light on a number of problems with which the Census completely fails to deal, or with which it deal inadequately. Among these problems are the regional variations in the extent of: (a) adherence to caste occupations and the traditional *jajmani* system of allocation of labor; (b) dependence on subsidiary occupations; (c) dependence on both casual and regular employment outside the village by persons living in the village; (d) dependence on remittances from family members both living and working outside the village; (e) intra-regional specialization within the non-agricultural sector; (f) correlation between village size and development of non-agricultural activity; (g) effect of proximity to urban areas; and (h) inter- and intra-regional correlations between various aspects of occupational structure and various levels and types of economic development. Most of these findings are summarized in Chapter VI on a comparative intra-regional basis.

4. With Respect to the Use of Subjective Techniques in Mapping.—Pending the development of more detailed and more rediable statistics for areal subdivisions at the district level and smaller, and the establishment of comparable time series, the student is forced to rely heavily on subjective evaluations of particular cases in devising *realistic* maps relating to complex aspects of the Indian economy. Particular reference is made here to maps 2 and 33, relating respectively to the level of economic development and the occupational structure and trends in India. Each map is based first, on the establishment, by inductive reasoning, of a typology of regional variations with respect to a complex or limited number of significant variables, and second, the classification, by deductive reasoning, of all areas of the country within the system devised. It is felt that the resultant maps have greater utility in conveying a generally correct regional picture of the variable considered than any that could be made by the use only of published data within the framework of administrative unit boundaries.

5. With Respect to the Clarkian Hypothesis and the Sectoral Approach to the Indian Economy.—While India as a whole has a higher level of non-primary employment than its poverty would seem to suggest (*cf.* Table 3), within the country all indications point to a generally high correlation between level of economic development and the degree of dependence on the non-primary sector of the economy, both inter-regionally and intra-regionally. (*cf.* Map 33 *vis-a-vis* Map 2, the coefficients of correlation of Table 6, and Graphs 10 through 14). This is in accordance with Colin Clark's hypothesis relative to the growth of the non-primary sector as a concomitant of economic development. Moreover, there appears also to be, as Clark hypothesized, a slightly greater correlation between level of development and the size of the tertiary sector than between level of development and the size of the secondary sector (*cf.* Table 6). Thus, a cursory inspection of the principal summary findings of this study might lead one to the conclusion that Clark's views were vindicated and to the belief that the question could be brought to a close.

But, examined in greater detail, matters are not quite so simple. Thus, while it is true that the relationship of the size of the secondary and tertiary sectors to economic development for India as a whole inclines, statistically speaking, slightly in the direction that Clark suggested, in the areas of *greatest* economic growth it

is more often the secondary, not the tertiary, sector which appears to have registered particular expansion. This runs counter to Clark's thesis, based largely on studies of time series for particular (usually advanced) countries, and is, rather, more in line with Kuznets' findings based on an international analysis relating to a single period of time. Over most of the rest of the country, however, the secondary and tertiary sectors appear to exist in a fairly consistent ratio to one another, irrespective of the local level of economic development (cf. Graph 5 and Map 21). It evidently does not hold, then, that the size of the tertiary economic sector, is, in India, a better guide to the level of economic development than the size of the secondary.

Moreover, the statistical evidence in support of Clark's hypothesis relative to the total non-primary sector is in part illusory, stemming from the failure of the Census to enumerate adequately dependence, either primary or subsidiary on casual labor outside the village, which is largely tertiary in nature, and which in some of the more impoverished areas of India, swells the total of non-primary workers well beyond those which the Census indicates (cf. Table 12 and 13, and the right-hand side of Table 14, and the accompanying discussion in Chapter VI.)

The inevitability of occupational shifts in the directions indicated by Clark as a concomitant of economic deveopment, may also be questioned, in view of the numerous evidences of secondary and, to a lesser degree, tertiary decline brought to light by the historical discussion in Chapter III. One is tempted to say that a traditional economy must first "develop" (i.e., shake loose the old order's hold of custom in regulating economic affairs) before it can "re-develop" in a rationalized manner. But the field data for such relatively prosperous areas as Saurashtra, Delhi, and Ajmer seem to indicate that the old order and the new can be blended harmoniously in the context of Indian life. (see 6 following).

Finally, while it cannot be denied that much of available data lends general support to Clark's hypothesis, the use of the threefold, primary-secondary-tertiary sectoral breakdown of the labor force is found to be somewhat unrealistic when applied to the Indian economy. Much more significant than the difference between secondary and tertiary sectors (e.g., between the village blacksmith listed by the Census under "processing and manufacture", or the secondary sector, and the village barber who falls within the "service", or tertiary sector) is that presented in Chapter IV between the traditional and the modern, or reorganized sectors of the economy (e.g., between the village blacksmith and the laborer in a great iron and steel mill, who are similarly classified by the Census). The failure of the Census to recognize the importance of this distinction is, perhaps, its greatest weakness; and the slowness of students of the macro-aspects of the Indian economy to develop quantitative studies based on this distinction seriously retards our ability to comprehend the true nature of that economy. Map 33 represents a preliminary attempt to present albeit non-quantitatively, some of major regional variations with respect to the traditional and the modern sectors of the Indian economy.

6 **With Respect to the Indian Rural Economy as a Coherent System.**—A characteristic feature of the Indian rural economy is the important role which custom continues to exert in most parts of the country, especially with regard to the intra-village exchange of goods and services. Since the goods and services exchanged are often well in excess of what would be demanded in a cash market-type situation, the size of the non-agricultural sector may considerably exceed Clarkian expectations based solely on the level of economic development. In the face of

dire poverty, however, or the sensed threat of dire poverty, combined with exposure to Western-type, market-oriented economic thinking, the indigenous *jajmani* system begins to break down and customary ties with one's fellow villagers tend more and more to be severed when market value for services is not realized. But this is a matter of necessity, not of choice.

Given the economic means to maintain the old order, in most parts of India the average villager—or at any rate, the average independent cultivator—apparently unhesitatingly chooses to do so. On this hypothesis, induced from the field studies, a scheme was devised (Graph 9) within which the great majority of regions of India could probably be ordered according to the nature of their rural economy, taking into consideration three key variables: degree of commercialization, degree of poverty, and degree of adherence to the old order in intra-village transactions, or "socio-economic conservatism". The scheme indicates that an area of a high degree of commercialization attended by prosperity (e.g., Saurashtra) adheres closely to the old order, while an area of a high degree of commercialization attended by poverty (e.g., the Deccan Lava Plateau) departs most radically from the old order. Finally, an area which is neither commercialized nor prosperous (e.g., North Bihar) adheres to the old order insofar as it is able to do so, often by maintaining households in their caste occupations on a subsidiary basis. Within the extremes set by these three cases, most other areas may be fairly well located, while those which cannot appear to be cases of marked intervention of external forces such as: (a) massive intrusion of corporate capital into the economy (e.g., in the plantation or coalfield areas); (b) prolonged exposure to Western thinking leading to the abandonment of the Hindu economic ethos (e.g., the environs of Calcutta and Kerala), or (c) the disruptive effect of partition (e.g., East Punjab).

7. **With Respect to the need for Additional Research.**—This study has raised a number of questions to which only partial and tentative answers have been given; it relies heavily on subjective, non-quantitative evaluations of various phenomena, particularly, with respect to economic development; it utilizes field data from only twelve widely-scattered areas of India, only eight of which have been studied on a comparable basis; and it suggests certain hypotheses which require additional substantiation. All of these facts point to the final conclusion that there is a great need for continuing research on various aspects of the question of India's occupational structure and the nature of its relationship to the even more important question of the regional variations in the nation's level of economic development.

APPENDIX A

BASIC CENSUS STATISTICS OF POPULATION, DEPENDENCY STATUS AND OCCUPATIONAL STRUCTURE

TABLE 1*

BASIC POPULATION DATA BY ZONES, STATES AND CENSUS NATURAL DIVISIONS[1]

Name (Zone and State Names in Capitals; Census Natural Divisions Numbered)[2]	Population (1,000's) 1951	Population per Square mile	Per cent Urban[3]	Per cent Non-Agricultural[4]
	1	2	3	4
INDIA	**356,744**	**312**	**17·3**	**30·1**
NORTH INDIA	*63,216*	*557*	*13·7*	*25·8*
UTTAR PRADESH	63,216	557	13·7	25·8
1·11 Himalayan Uttar Pradesh	2,522	130	11·7	21·2
2·14 East Uttar Pradesh Plain	17,887	850	7·2	17·2
2·21 Central Uttar Pradesh Plain	16,130	717	14·0	24·8
2·22 West Uttar Pradesh Plain	22,771	657	18·6	34·0
3·21 Uttar Pradesh Hills and Plateau	3,906	248	14·0	24·7
EAST INDIA	*90,130*	*395*	*11·1*	*24·4*
BIHAR	40,226	572	6·7	14·0
2·12 North Bihar Plain	18,173	859	3·7	9·6
2·13 South Bihar Plain	11,187	699	10·6	19·8
3·31 Chota Nagpur	10,866	328	7·7	15·2
ORISSA	14,646	244	4·1	20·7
3·33 Orissa Inland	7,973	173	2·8	17·3
5·11 Orissa Coastal	6,673	473	5·5	24·8
WEST BENGAL	24,810	806	24·8	42·8
1·25 Himalayan West Bengal	2,031	417	10·4	43·4
2·11 West Bengal Plain	22,779	897	26·1	42·7
ASSAM	9,044	176	4·6	26·7
1·21 Assam Plains	7,806	339	4·3	28·5
1·22 Assam Hills	1,238	44	6·2	15·1
1·23 MANIPUR	577	67	0·5	16·6
1·24 TRIPURA	639	158	6·7	25·9
1·26 SIKKIM	138	50	2·0	8·4
SOUTH INDIA	*75,601*	*450*	*19·7*	*35·7*
MADRAS	57,016	446	19·6	35·1
3·54 Madras Deccan	5,038	191	16·4	31·9
4·23 West Madras	6,819	627	12·3	46·7

*Footnotes at end of table.

TABLE 1—*contd.*

Name (Zone and State Names in Capitals; Census Natural Divisions Numbered)[2]	Population (1,000's) 1951	Population per Square mile	Per cent Urban[3]	Per cent Non-Agricultural[4]
	1	2	3	4
MADRAS—*concld.*				
5·12 North Madras	14,433	411	16·4	29·1
5·21 South Madras	30,726	554	23·3	35·8
3·53 MYSORE	9,075	308	24·0	30·1
4·24 TRAVANCORE-COCHIN	9,280	1,015	16·0	45·2
4·25 COORG	229	145	7·1	42·4
WEST INDIA	*40,661*	*272*	*31·2*	*40·3*
BOMBAY	35,956	323	31·0	38·5
3·43 Bombay Deccan-Northern	12,365	274	26·5	30·9
4·52 Bombay Deccan-Southern	4,698	270	26·2	26·8
4·11 Bombay Gujarat	11,397	344	25·6	37·8
4·21 Greater Bombay	2,839	25,579	100·0	99·5
4·22 Bombay Konkan	4,657	298	19·4	35·3
4·12 SAURASHTRA	4,137	193	33·7	53·4
4·13 KUTCH	568	34	20·1	57·9
CENTRAL INDIA	*52,268*	*181*	*15·9*	*26·8*
MADHYA PRADESH	21,248	163	13·5	24·0
3·24 North-West Madhya Pradesh	5,490	146	15·3	29·7
3·32 East Madhya Pradesh	10,199	149	5·7	16·5
3·41 South-West Madhya Pradesh	5,558	231	26·1	32·0
MADHYA BHARAT	7,954	171	18·1	27·8
2·35 Madhya Bharat Lowland	1,692	207	18·4	25·7
3·13 Madhya Bharat Plateau	4,616	168	21·4	32·3
3·14 Madhya Bharat Hills	1,647	152	8·7	17·3
HYDERABAD	18,655	227	18·6	31·8
3·42 North Hyderabad	5,946	214	14·1	22·1
3·51 South Hyderabad	12,709	234	20·7	36·4
3·22 VINDHYA PRADESH	3,575	151	8·6	12·9
3·23 BHOPAL	836	122	16·3	34·4
NORTH-WEST INDIA	*34,838*	*183*	*21·5*	*33·9*
RAJASTHAN	15,291	117	17·3	29·1
2·34 East Rajasthan Plain	6,585	217	18·8	30·2

TABLE 1—*concld.*

Name (Zone and State Names in Capitals; Census Natural Divisions Numbered)[2]	Population (1,000's) 1951	Population per Square mile	Per cent Urban[3]	Per cent Non-Agricultural[4]
	1	2	3	4
RAJASTHAN—*concld.*				
2·41 Rajasthan Dry Area	4,604	61	19·8	31·3
3·11 Rajasthan Hills	2,093	174	10·4	22·6
3·12 Rajasthan Plateau	2,008	161	14·0	27·5
PUNJAB	12,506	338	19·2	34·9
1·13 Himalyan Punjab	973	99	9·1	18·4
2·31 Punjab Plain	11,533	425	20·1	36·3
1·12 HIMACHAL PRADESH AND BILASPUR	1,109	102	4·1	7·3
2·32 P.E.P.S.U.	3,494	347	19·1	27·4
2·33 DELHI	1,744	3,017	82·4	90·1
2·36 AJMER	693	287	43·0	54·5

[1] Source: *Census of India*, 1951, Vol. 1, Part II-A, Section E, and Part II-B, Table B-I.

[2] For location of all places named *see* End Plate No. 1.

[3] The definition of urban varies somewhat from state to state.

[4] Non-agricultural includes entire population outside of agricultural classes I-IV and includes such categories as plantation industries, stock-raising and forestry. Figures relate to the entire population according to the occupation on which they are dependent, not to the working population.

TABLE 2

DEPENDENCY STATUS OF THE TOTAL INDIAN POPULATION, CLASSIFIED BY SEX RURAL VERSUS URBAN DISTRIBUTION AND AGRICULTURAL VERSUS NON-AGRICULTURAL DISTRIBUTION

(Figures in column 1 represent millions of people. All other figures represent percentages of totals in column 1)*

	All Categories			Self-supporting Persons			Earning Dependents			Non-earning Dependents		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
	1	2	3	4	5	6	7	8	9	10	11	12
Total Population .	357	51·4	48·6	29·1	24·4	4·8	10·6	3·8	6·9	59·9	23·1	37·0
Agricultural . .	249	50·6	49·4	28·5	23·5	5·0	12·5	4·2	8·3	59·0	23·0	36·1
Non-Agricultural .	108	53·0	47·0	31·0	26·7	4·4	6·4	2·7	3·7	62·5	23·6	39·9
Rural Population .	295	50·8	49·2	33·1	23·9	5·1	11·9	4·0	7·9	59·0	22·9	36·0
Agricultural . .	240	50·5	49·5	28·6	23·5	5·0	12·6	4·2	8·4	58·7	22·9	35·9
Non-Agricultural .	54.4	51·8	48·2	31·2	25·7	5·5	8·9	3·2	5·7	59·9	23·0	36·9
Urban Population .	61.8	53·7	46·3	30·3	26·9	3·4	4·5	2·5	2·1	65·2	24·4	40·8
Agricultural . .	8·7	51·1	48·9	26·6	21·8	4·8	8·7	3·6	5·1	64·6	25·7	38·9
Non-Agricultural .	53·2	54·2	45·7	30·8	27·6	3·2	3·8	2·3	1·6	65·2	24·2	41·0

*Source : *Census of India*, 1951, Vol. I, Parts II-B and II-C, Table B-I.

Definitions : A "self-supporting person" is one "in receipt of an income..sufficient at least for his [her] own maintenance....Such income may be in cash or kind." An "earning dependent..secures a regular [sic] income.. which.. is not sufficient to support him [her]...." A "non-earning dependent" is "a person who does not secure any [sic] income in cash or in kind .." *Note :* the inclusion of the word "regular" in the second definition and its omission in the third, where "any" is used instead, means that the definitions do not logically cover all cases. (*Census of India*, Vol. I, Part I-B, p. 168).

TABLE 3

DETAILED OCCUPATIONAL STRUCTURE OF THE TOTAL, RURAL AND URBAN POPULATIONS OF INDIA 1951

(All figures except for first line are percentages of self- supporting male workers primarily dependent on the occupations specified)†

Occupational Categories and Sub-categories	Total Population	Rural Population	Urban Population
Total No. of Self-supporting Male Workers (1,000,000's)	86·5	70·3	16·2
A. AGRICULTURAL CLASSES	67·6*	80·5	11·7
I. Cultivators of land wholly or mainly owned	45·1	54·2	5·9
II. Cultivators of land wholly or mainly unowned	8·5	10·2	2·0
III. Cultivating labourers	12·8**	15·1	2·8
IV. Non-cultivating owners of lands; agricultural rent receivers	1·2***	1·2	1·0
B. ALL INDUSTRIES AND SERVICES	32·4	19·4	88·3
0. Primary Industries Not Elsewhere specified	2·1*	2·3	1·6
0·1 Stock-raising	0·6	0·7	0·4
0·2 Rearing of small animals and insects	0·03*	0·03	0·02
0·3 Plantation industries	0·6***	0·9	0·2
0·4 Forestry and collection of products not elsewhere specified	0·2	0·2	0·4
0·5 Hunting (including trapping and game propagation)	0·01	0·01	0·01
0·6 Fishing	0·4	0·4	0·5
1. Mining and Quarrying	0·5*	0·5	0·6
1·0 Non-metallic mining and quarrying not elsewhere specified	0·01**	0·01	0·02
1·1 Coal-mining	0·3*	0·3	0·2
1·2 Iron-ore mining	0·01***	N	0·02
1·3 Metal mining except iron-ore mining	0·06	0·03	0·2
1·4 Crude petroleum and natural gas	N	N	0·01
1·5 Stone quarrying, clay and sand pits	0·1	0·1	0·2
1·6 Mica	0·03*	0·03	0·03
1·7 Salt, saltpetre and saline substances	0·02	0·02	0·04
2. Processing and Manufacture—Foodstuffs, Textiles, Leather and Leather Products Thereof	5·4	3·2	15·0
2·0 Food industries otherwise unclassified	0·2	0·09	0·6
2·1 Grains and pulses	0·2***	0·2	0·6
2·2 Vegetable oils and dairy products	0·3	0·2	0·6
2·3 Sugar industries	0·1	0·1	0·3
2·4 Beverages	0·2	0·2	0·2
2·5 Tobacco	0·3*	0·2	1·0
2·6 Cotton textiles	2·1	1·1	6·7
2·7 Wearing apparel (except footwear) and made-up textile goods	0·7	0·4	2·0

† *See* notes at end of table.

Source—Census of India, 1951, Vol. I, Parts II-B and II-C, Tables B-I and B-III.

TABLE 3—*contd.*

Occupational Categories and Sub-categories	Total Population	Rural Population	Urban Population
2·8 Textile industries otherwise unclassified	0·6*	0·3	2·1
2·9 Leather, leather products and footwear	0·6	0·5	1·1
3. Processing and Manufacture—Metals, Chemicals and Products Thereof	1·4	0·6	4·7
3·0 Manufacture of metal products otherwise unclassified	0·7	0·4	1·8
3·1 Iron and steel—basic manufacture	0·1	0·03	0·5
3·2 Non-ferrous metals—basic manufacture	0·01	0·01	0·03
3·3 Transport equipment	0·2	0·05	1·1
3·4 Electrical machinery, apparatus, appliances and supplies	0·05	0·02	0·2
3·5 Machinery (other than electrical machinery)	0·1	0·03	0·6
3·6 Basic industrial chemicals fertilizers and power alcohol	0·02	0·01	0·1
3·7 Medical and pharmaceutical preparations	0·02	N	0·1
3·8 Manufacture of chemical products otherwise unclassified	0·07	0·02	0·3
4. Processing and Manufacture Not Elsewhere Specified	2·5	1·9	5·3
4·0 Manufacturing industries not elsewhere specified	0·6	0·4	1·5
4·1 Products of petroleum and coal	0·01	0·01	0·2
4·2 Bricks, tiles and structural clay products	0·2	0·1	0·3
4·3 Cement—cement pipes and other cement products	0·03	0·02	0·1
4·4 Non-metallic mineral products	0·4	0·4	0·7
4·5 Rubber products	0·02	0·01	0·1
4·6 Wood and wood products other than furniture and fixtures	1·1	0·9	1·8
4·7 Furniture and fixtures	0·04	0·02	0·1
4·8 Paper and paper Products	0·03	0·01	0·1
4·9 Printing and allied industries	0·1	0·02	0·7
5. Construction and Utilities	1·5*	0·9	4·1
5·0 Construction and maintenance of works—otherwise unclassified	0·08	0·07	0·1
5·1 Construction and maintenance—buildings	0·8	0·4	2·4
5·2 Construction and maintenance—roads, bridges and other transport works	0·1	0·1	0·2
5·3 Construction and maintenance—telegraph and telephone lines	0·01	N	0·03*
5·4 Construction and maintenance—irrigation and other agricultural works	0·1	0·1	0·2
5·5 Works and services—electric power and gas supply	0·08	0·02	0·3
5·6 Works and services—domestic and industrial water supply	0·06*	0·04	0·1
5·7 Sanitary works and services including scavengers	0·3**	0·2	0·7

TABLE 3—*contd.*

Occupational Categories and Sub-categories	Total Population	Rural Population	Urban Population
6. Commerce	6·2	3·0	20·1
6·0 Retail trade otherwise unclassified	2·2	1·2	6·8
6·1 Retail trade in foodstuffs (including beverages and narcotics)	2·3	1·2	6 8
6·2 Retail trade in fuel (including petrol)	0·2*	0·08	0·6
6·3 Retail trade in textile and leather goods	0·6	0·2	2·3
6·4 Wholesale trade in foodstuffs	0.2	0 07	0·6
6·5 Wholesale trade in commodities other than foodstuffs	0·3	0·08	0·4
6·6 Real estate	0·02*	N	0·1
6·7 Insurance	0·04	0·01	0·2
6·8 Money lending banking and other financial business	0·3	0·07	1·2
7. Transport, Storage and Communications	2·1	0·8	7·9
7·0 Transport and communications otherwise unclassified and incidental services	0·04	0·02	0·1
7·1 Transport by road	1·0	0·3	3·9
7·2 Transport by water	0·2	0·1	0·9
7·3 Transport by air	0·02	0·01	0·1
7·4 Railway transport	0·6	0·3	2·3
7·5 Storage and warehousing	0·01	N	0·04
7·6 Postal services	0·1	0·05	0·5
7·7 Telegraph services	0·02	0·01	0·1
7·8 Telephone services	0·01*	N	0·1
7·9 Wireless services	N	N	0·02
8. Health, Education and Public Administration	3·5	1·6	11·6
8·1 Medical and other health services	0·4*	0·2	1·1
8·2 Educational services and research	0·7	0·5	1·8
8·3 Army, Navy and Air Force	(Included in sub-division 8·8)		
8·4 Police (other than village watchmen)	0·4	0·2	1·6
8·5 Village officers and servants including Village watchmen	0·3	0·3	0·2
8·6 Employees of Municipalities and local boards (but not including persons classifiable under any other division or sub-division)	0·2	0·04	1·0
8·7 Employees of State Governments (but not including persons classifiable under any other division or sub-division)	0·9	0·3	3·4
8·8 Employees of the Union Government (but not including persons classifiable under any other division or sub-division)	0·6	0·1	2·4
8·9 Employees of non-Indian governments	0·01	N	0·4

TABLE 3—*concld.*

Occupational Categories and Sub-categories	Total Population	Rural Population	Urban Population
9. Services not elsewhere specified	7·0*	4·6	17·5
9·0 Services otherwise unclassified	3·4*	2·5	7·3
9·1 Domestic services (but not including services rendered by members of family households to one another)	1·2**	0·6	3·9
9·2 Barbers and beauty shops	0·6	0·5	0·9
9·3 Laundries and laundry services	0·5*	0·4	0·9
9·4 Hotels, restaurants and eating houses	0·5	0·2	1·8
9·5 Recreation services	0·2	0·1	0·6
9·6 Legal and business services	0·3	0·08	1·0
9·7 Arts, letters and journalism	0·1	0·01	0·2
9·8 Religious, charitable and welfare services	0·4	0·3	0·9

NOTES : N-Negligible.

*Indicates that female self-supporting workers in this category or sub-category are over one-fifth as numerous as male self-supporting workers.

**As above, but over one-third.

***As above, but over one-half.

†Excluded from this table are all persons classified by the Census as "deriving their means of livelihood from non-productive occupations". This includes 670,000 males, distributed as follows : 47,000 living principally on income from non-agricultural property; 199,000 living principally on pensions, remittances, scholarships and funds; 39,000 inmates of jails, asylums, almshouses and recipients of doles, 344,000 beggars and vagrants and 41,000 others.

TABLE 4

Employment in Processing and Manufacture in 1901 *and* 1951.

(All figures in thousands of workers, both sexes included)

	1901	1951	Increase (+) or Decrease (—)
A *Foodstuffs, Textiles, Leather and Products Thereof*	**8,062**	**7,594**	**—468**
1 Foodstuffs and Products Thereof	2,150	1,100	—1,050
2 Sugar Industries	102	194	+92
3 Beverages	240	208	—32
4 Tobacco	14	464	+451
5 Cotton Textiles	3,243	3,034	—209
6 Wearing Apparel, except Footwear and Made-up Textile Goods	556	850	+294
7 Textile Industries Otherwise Unclassified (Jute, Wool, Silk, Hemp and Flax)	615	983	+368
8 Leather, Leather Products and Foot wear	1,143	760	—383
B *Metals, Chemicals and Products Thereof*	**770**	**1,559**	+789
1 Metal Products	648	943	+295
2 Transport Equipments	29	272	+243
3 Electrical Machinery and Equipment	..	51	+51
4 Machinery, Including Engineering Workshops	19	154	+135
5 Manufacture of Chemical Products	74	138	+64
C *Not Elsewhere Specified*	**2,930**	**3,123**	**+193**
1 Products of Petroleum and Coal	2	16	+14
2 Bicks, Tiles and Other Structural Clay Products	70	231	+161
3 Cement, Cement Pipes and Other Cement Products	0·6	34	+33
4 Non-metallic Mineral Products	822	599	—223
5 Rubber Products	..	24	+24
6 Wood and Wood Products Other than Furniture and Fixtures	1,375	1,339	—36
7 Furniture and Fixtures	3	44	+41
8 Paper and Paper Products	7	40	+33
9 Printing and allied Industries	33	152	+120
10 Manufacturing Industries Otherwise Unclassified	617	643	+26

NOTES : The total working force in 1901 was put at 117,281,000; in 1951 at 141,351,000. The 1901 Population was 235,479,000; the 1951 Population 356,879,000. All 1901 data relate to the area of the present Indian Union, exclusive of Jammu and Kashmir, which was not included in the 1951 Census. Detailed figures for 1951 included estimates of earning dependents which were added to the enumerated figures for self-supporting workers.

Source : India, Planning Commission (Labour and Employment Division) *Occupational Pattern of Indian Union from* 1901 *to* 1951, New Delhi, 1951 (mimeographed ms.) Annexure I.

APPENDIX B

STANDARDIZED SCORES OF SELECTED INDICES OF ECONOMIC DEVELOPMENT FOR EIGHTEEN REGIONS OF INDIA

I STRUCTURAL INDICES

State	Item	1		2		3		4		5		6		7		8	
		Urban population as % of Total Population		% of Total Population in cities of over 100,000		Non-Agricultural Population as % of Total Population		Non-Agricultural Population as % of Rural Popuation		Factory Workers per 1,000 Total Population		Agricultural Labourers as % of Rural Population		Employees as % of Non-Agricultural Workers		Trade Union Members Per 1,000 Population	
	(Date)	(1951)		(1951)		(1951)		(1951)		(1950)		(1951)		(1951)		(1951-52)	
	(Weight)	(2)		(1·5)		(2)		(1·5)		(1·5)		(1·5)		(1)		(1)	
		%	Score	%	Score	%	Score	%	Score	%	Score	%	Score	%	Score	%	Score
1	Assam, Manipur and Tripura	4·5	1·5	0·0	0·0	33·2	55·9	22·7	52·0	7·1	25·1	5·5	97·5	67·6	100.0	10·8	52·7
2	Bihar	6.7	9·4	2·1	14·6	14·5	12·7	9·4	13·8	4·8	16·0	25·7	26·2	50·4	55.8	5·8	25·5
3	Bombay	31·1	97·8	14·2	97·2	44·8	82·7	17·8	37·9	21·3	80·2	14·3	66·4	56·4	71·2	12·2	60·3
4	Himachal Pradesh	4·1	0·0	0·0	0·0	9·0	0·0	4·6	0·0	0·7	0·0	4·8	100·0	36·3	19·5	..	..
5	Hyderabad	18·6	52·5	6·6	45·3	33·8	57·3	20·2	44·8	3·2	9·8	28·2	17·3	37·6	22·9	1·4	1·8
6	Madhya Bharat and Bhopal	17·1	47·1	8·9	61·3	29·6	47·6	14·7	29·0	8·1	29·1	17·0	56·9	40·5	30·3	2·1	5·7
7	Madhya Pradesh	13·6	34·4	3·1	21·1	25·1	37·2	14·5	28·4	5·2	17·8	29·3	13·4	47·4	48·1	2·1	5·3
8	Madras	19·7	56·5	5·9	40·7	37·0	64·7	11·9	21·0	7·3	25·9	33·1	0·0	45·9	44·2	3·3	12·1
9	Mysore and Coorg	23·7	71·0	13·0	89·0	32·7	54·7	12·9	23.8	8·5	30·5	21·4	41·3	58·9	77·6	2·8	9·6
10	Orissa	4·1	0·0	0·7	4·8	20·8	27·3	16·7	34·7	1·2	1·9	25·0	28·6	29·6	2·3	1·3	1·2
11	P.E.P.S.U.	19·1	54·3	0·0	0·0	26·8	41·1	15·0	29·9	3·3	10·3	12·6	72·4	28·7	0·0	..	..
12	Punjab and 1/2 Delhi	23·0	68·5	9·2	63·2	39·6	70·7	23·3	53·7	5·1	17·2	9·3	84·7	36·4	19·8	2·0	4·7
13	Rajasthan and Ajmer	18·4	51·8	4·9	33·9	28·2	44·3	17·8	37·9	4·6	15·3	6·8	92·9	31·5	7·2	1·1	0·0
14	Saurashtra and Kutch	31·7	100·0	9·0	62·0	52·3	100·0	37·3	94·0	7·0	24·8	14·3	66·3	29·9	3·1	3·0	10·5
15	Travancore-Cochin	16·1	43·5	3·3	22·5	48·0	90·1	39·4	100·0	3·1	9·6	26·7	22·6	54·3	65·8	6·0	26·6
16	Uttar Pradesh and 1/2 Delhi	14·6	38·0	6·4	44·0	27·8	43·4	16·2	33·3	3·5	10·9	9·8	82·3	30·6	4·9	3·4	12·8
17	Vindhya Pradesh	8·5	15·9	0·0	0·0	14·1	11·8	7·4	8·0	1·2	2·2	18·3	52·3	32·3	9·2	..	..
18	West Bengal	24·8	75·0	14·6	100·0	51·4	97·9	25·2	59·2	26·4	100·0	17·7	54·4	64·3	91·5	19·5	100·0

I STRUCTURAL INDICES—*concld.*

State	Item (Date) (Weight)	9 Cooperative Members per 1,000 Population (1950-51) (1)		10 Agricultural Credit Society Members Per Million Agricultural Population (1953-54) (1)		11 Registered Banks Per Million People (1954) (1·5)		12 Joint Stock Companies Per Million Population (1952-53) (1·5)		13 Miles of Surfaced Road Equivalent Per Million Population (1950) (1·5)		14 Miles of Surfaced Road Equivalent Per 1,000 Square Miles (1950) (1·5)		All Structural Indices	
		%	Score	No.	Score	Offices	Score	Units	Score	Mile	Score	Mile	Score	Average Score Unweighted	Average Score Weighted
1	Assam, Manipur and Tripura	33·1	34·9	51·1	33·4	5·3	6·2	44·8	8·9	1627	100·0	170	15·5	36·7	39·7
2	Bihar	15·8	9·9	16·8	1·0	3·8	3·9	13·5	1·9	413	10·3	236	24·7	16·1	13·9
3	Bombay	61·8	76·5	121·6	100·0	16·1	22·0	142·3	30·7	645	27·5	209	20·9	62·2	60·4
4	Himachal Pradesh	36·1	39·3	34·0	17·3	6·3	7·6	12·6	1·7	577	22·5	59	0·0	16·0	14·4
5	Hyderabad	78·0	100·0	88·8	69·0	4·7	5·3	11·3	1·4	273	0·0	62	0·4	30·6	30·0
6	Madhya Bharat and Bhopal	21·4	18·0	34·7	17·9	7·2	8·9	31·8	6·0	368	7·0	60	0·1	26·1	27·9
7	Madhya Pradesh	19·2	14·8	32·2	15·6	7·1	8·8	32·7	6·2	546	20·2	89	4·2	23·1	20·1
8	Madras	56·7	69·1	106·8	86·0	16·3	22·3	64·1	13·2	554	20·8	247	26·2	36·4	35·4
9	Mysore and Coorg	58·1	71·2	109·8	88·9	13·4	18·1	50·4	10·1	799	38·8	238	25·0	46·4	45·7
10	Orissa	19·3	14·9	30·3	13·8	1·2	0·1	8·1	0·7	396	9·1	97	5·3	10·3	10·7
11	P.E.P.S.U	12·3	4·8	24·9	8·7	18·3	25·3	50·9	10·3	1260	72·9	436	52·6	29·4	32·4
12	Punjab and 1/2 Delhi	57·2	69·9	94·3	74·2	19·9	27·6	178·8	38·8	776	37·1	274	30·0	47·1	48·7
13	Rajasthan and Ajmer	10·7	2·5	15·7	0·0	8·5	10·8	40·0	7·8	687	30·6	83	3·4	24·2	27·5
14	Saurashtra and Kutch	9·0	0·0	28·9	11·6	14·3	19·4	53·9	10·9	598	24·0	74	2·1	37·8	45·4
15	Travancore-Cochin	38·1	42·2	78·0	58·8	69·2	100·0	112·9	24·1	765	36·3	776	100·0	53·0	54·2
16	Uttar Pradesh and 1/2 Delhi	27·1	26·2	38·3	21·3	6·7	8·2	44·6	8·9	358	6·3	203	20·1	25·8	27·4
17	Vindhya Pradesh	13·2	6·1	31·5	14·9	1·1	0·0	5·0	0·0	643	27·3	97	5·3	11·8	12·0
18	West Bengal	37·8	41·7	71·3	52·5	9·6	12·5	452·4	100·0	..	..	..	.	73·7	74·7

II PRODUCTIVITY INDICES

Item	1		2		3		4		5		6		7	
	Average Annual Income *Per Capita*		Average Annual Food Production *Per Capita* of Agricultural Population		Yield of Major Food-grains as % of National Yield (Per Acre)		Value Added by Factory Manufacturing (*Per Capita* Per Year)		Consumption of Electricity Per 1,000 Popuoation		Corporate Capital *Per Capita*		All Productivity Indices	
(Date (Weight)	(1950-51) (7		(Year not given (2)		(1954-50) (2)		(1949) (3)		(3)		(3)			
State	Rupees	Score	Lbs.	Score	%	Score	Rupees	Score	KWH	Score	Rupees	Score	Average Score Unweighted	Average Score Weighted
1 Assam, Manipur and Tripura	262	49·8	574	89·6	110	57·1	1·2	3·2	0·7	0·0	4·5	3·2	33·8	33·1
2 Bihar	171	9·7	331	34·7	92	38·8	6·4	19·7	6·7	9·7	2·5	1.7	19·0	15·4
3 Bombay	302	67·4	489	70·4	115	62·2	31·6	100·0	62·1	100·0	131·2	100·0	83·3	81·8
4 Himachal Pradesh	177	12·3	432	57·6	63	9·2	0·7	1·6	..	..	1·2	0·7	16·3	13·3
5 Hyderabad	221	31·7	236	13·3	94	40·8	..	..	3·2	4·1	7·2	5·3	19·0	21·1
6 Madhya Bharat and Bhopal	248	43·6	380	45·8	54	0·0	..	..	4·2	5·7	24·0	18·1	22·6	27·5
7 Madhya Pradesh	277	56·4	606	96·8	83	29·6	2·6	7·6	8·7	13·0	3·3	2·3	34·3	35·8
8 Madras	241	40·5	431	57·3	133	80·6	4·5	13·7	16·0	25·0	11·4	8·6	37·5	35·1
9 Mysore and Coorg	218	30·4	301	28·0	99	45·9	..	..	61·1	98·5	19·1	14·4	43·4	41·4
10 Orissa	172	10·1	372	44·0	68	14·3	0·5	1·0	0·8	0·0	3·4	2·4	11·9	9·9
11 P.E.P.S.U.	298	65·6	462	64·3	152	100·0	3·7	11·1	5·8	8·2	12·0	8·9	43·0	43·6
12 Punjab and 1/2 Delhi	312	71·8	588	92·8	142	89·8	3·8	11·5	21·1	33·3	33·0	25·0	54·0	53·8
13 Rajasthan and Ajmer	231	36·1	184	1·6	116	63·3	..	..	3·2	4·1	13·3	10·0	23·0	25·0
14 Saurashtra and Kutch	321	75·8	381	46·0	108	55·1	..	..	13·7	21·2	25·9	19·6	43·5	50·3
15 Travancore-Cochin	291	62·6	177	0·0	97	43·9	..	..	27·4	43·4	15·9	12·0	34·0	40·7
16 Uttar Pradesh and 1/2 Delhi	264	50·7	419	54·6	112	59·2	4·1	9·8	9·5	14·3	10·2	7·6	32·7	33·9
17 Vindhya Pradesh	149	0·0	350	39·0	97	43·9	0·2	0·0	..	..	0·2	0·0	16·6	9·8
18 West Bengal	376	100·0	620	100·0	140	87·8	26·9	85·0	61·6	99·2	110·9	84·4	92·7	94·1

III CONSUMPTION AND WELFARE INDICES

Item	1		2		3		4		5		6		7		8	
	Average Annual Income *Per Capita*		Average Annual Wages per Factory Worker		Average Annual Wage Per Agricultural Labourer Family		Bank Deposits *Per Capita*		State Revenue *Per Capita*		Rural Education Expenditure *Per Capita* Rural Population		Male Literacy		Matriculates or Equivalent Granted Per Million Population	
(Date) (Weight).	(1950-51) (5)		(1949) (1)		(1951) (1)		(1951) (1·5)		(1950-51) (2)		(1948-49) (1)		(1951) (1·5)		(1948-49) (1)	
State	Rupees	Score	Rupees	Score	Rupees	Score	Rupees	Score	Rupees	Score	Rupees	Score	%	Score	No.	Score
1 Assam, Manipur and Tripura	262	49·8	1,037	70·3	601	45·5	4·9	5·4	10·6	32·1	1·63	44·8	26·5	35·5	479	17·0
2 Bihar	171	9·7	1,067	73·3	534	33·9	5·6	6·3	6·6	0·0	2·24	72·4	19·9	20·5	385	17·0
3 Bombay	302	67·4	1,330	100·0	368	4·9	78·4	100·0	18·8	96·8	2·85	100·0	34·5	53·8	937	40·6
4 Himachal Pradesh	177	12·3	921	58·5	..	..	2·9	2·8	..	..	1·45	36·7	12·6	3·9	367	11·2
5 Hyderabad	221	31·7	..	..	455	20·1	10·5	12·6	14·5	62·8	1·01	16·8	15·1	9·6	362	10·9
6 Madhya Bharat and Bhopal	248	43·6	..	..	399	10·3	15·6	19·2	13·7	56·4	0·92	12·7	16·9	13·7	304	8·0
7 Madhya Pradesh	277	56·4	822	48·5	390	8·7	6·6	7·6	8·4	14·6	0·87	10·4	21·9	25·1	374	11·6
8 Madras	241	40·5	767	42·9	365	4·4	12·1	14·7	10·2	28·7	2·05	63·8	28·6	40·3	761	31·5
9 Mysore and Coorg	218	30·4	..	..	396	9·8	20·8	25·9	14·5	63·1	1·57	42·1	30·5	44·6	935	40·5
10 Orissa	172	10·1	608	26·8	340	0·0	1·2	0·6	7·4	6·6	0·96	14·5	27·3	37·4	210	3·1
11 P.E.P.S.U.	298	65·6	825	48·8	913	100·0	4·8	5·3	13·8	57·0	0·90	11·8	17·7	15·5	807	33·9
12 Punjab and 1/2 Delhi	312	71·8	1,011	67·6	607	46·6	45·0	57·0	13·2	52·7	2·27	73·8	23·8	29·4	1,635	76·6
13 Rajasthan and Ajmer	231	36·1	..	..	604	46·1	11·3	13·6	11·0	34·8	0·68	1·8	14·3	7·7	445	15·2
14 Saurashtra and Kutch	321	75·8	..	..	..	..	44·1	55·9	19·2	100·0	1·06	19·0	26·1	34·6	576	22·0
15 Travancore-Cochin	291	62·6	559	21·8	541	35·1	19·3	23·9	16·3	77·3	1·90	57·0	54·8	100·0	2,088	100·0
16 Uttar Pradesh and 1/2 Delhi	264	50·7	978	64·3	551	36·8	12·2	11·8	8·5	15·2	1·13	22·2	17·8	15·7	937	40·6
17 Vindhya Pradesh	149	0·0	344	0·0	..	..	0·7	0·0	..	..	0·64	0·0	10·9	0·0	150	0·0
18 West Bengal	376	100·0	929	59·3	622	49·2	70·8	90·2	14·0	58·6	2·43	81·0	27·3	37·4	862	36·7

III CONSUMPTION AND WELEARE INDICES—*concld.*

State	Item (Date) (Weight)	9 Newspapers & Period Per Million Population (1952-53) (1)		10 Electricity Consumers Per 1,000 population (1955) (1)		11 Motor Vehicles per Million Population (1953) (1)		12 Government Hospital Beds Per Milllion Population (1957) (1)		13 Concentration Ratio of Land-holding (1957) (2)		All Consumption and Welfare Indices	
		Units	Score	Units	Score	Units	Score	Units	Score	Coeff.	100 Score	Average Sc Un-weighted	Average S Weighted
1 Assam, Manipur and Tripura		5·4	6·5	0·9	0·5	130	0·8	282	22·7	0·37	100·0	33·9	39·1
2 Bihar		5·4	6·6	1·4	3·2	353	13·6	..	..	0·62	13·8	22·1	16·9
3 Bombay		36·1	76·7	15·9	80·3	1,861	100·0	276	21·4	0·56	34·5	67·4	67·7
4 Himachal Pradesh		4·5	4·5	...	..	116	0·0	586	86·6	..	..	24·1	19·2
5 Hyderabad		3·8	2·9	2·4	8·5	782	38·2	..	..	0·58	27·6	22·0	26·1
6 Madhya Bharat and Bhopal		8·2	13·0	4·2	18·1	532	23·8	316	29·8	0·49	58·6	25·6	32·3
7 Madhya Pradesh		7·4	11·2	4·0	17·0	522	23·3	..	..	0·56	34·5	22·4	29·5
8 Madras		18·4	36·3	7·9	37·8	770	37·5	347	36·3	0·61	17·2	33·2	31·8
9 Mysore and Coorg		11·5	20·5	19·6	100·0	1,074	54·9	606	90·8	0·52	48·3	47·6	44·2
10 Orissa		6·4	8·7	0·8	0·0	370	14·6	..	..	0·60	20·7	11·9	12·1
11 P.E.P.S.U.		14·0	26·3	3·6	14·9	1,417	17·2	298	26·0	0·44	75·9	38·3	45·2
12 Punjab and 1/2 Delhi		46·3	100·0	17·3	87·8	1,151	59·3	650	100·0	0·42	82·8	69·6	68·6
13 Rajasthan and Ajmer		18·4	36·3	3·8	16·0	815	40·1	375	42·2	0·56	34·5	27·0	28·9
14 Saurashtra and Kutch		18·1	35·6	11·5	56·9	1,160	59·8	..	..	0·40	89·7	54·9	64·0
15 Travancore-Cochin		23·6	48·2	9·7	47·3	835	41·2	605	90·5	0·66	0·0	54·2	54·7
16 Uttar Pradesh and 1/2 Delhi		17·7	34·7	3·9	16·5	466	20·1	174	0·0	0·55	37·9	28·4	32·0
17 Vindhya Pradesh		2·5	0·0	..	..	265	8·5	219	9·4	..	..	2·0	1·3
18 West Bengal		38·8	84·3	12·3	61·2	282	9·5	359	38·9	0·50	55·2	58·6	67 0

IV OVERALL SCORES

	State	All Indices Combined	
		Average Score Unweighted	Average Score Weighted
1	Assam, Manipur and Tripura	34·6	37·3
2	Bihar	19·2	15·4
3	Bombay	68·2	70·0
4	Himachal Pradesh	19·0	15·4
5	Hyderabad	25·3	26·0
6	Madhya Bharat and Bhopal	24·7	29·3
7	Madhya Pradesh	23·9	28·5
8	Madras	35·3	34·1
9	Mysore nd Coorg	46·9	43·9
10	Orissa	11·3	10·9
11	P.E.P.S.U.	34.6	40·5
12	Punjab and 1/2 Delhi	56.8	57·0
13	Rajasthan and Ajmer	24·7	27·2
14	Saurashtra and Kutch	43.6	52·8
15	Travancore-Cochin	49.9	50·4
16	Uttar Pradesh and 1/2 Delhi	27.4	31·1
17	Vindhya Pradesh	9.8	8·3
18	West Bengal	70.1	78·8

SOURCES OF DATA FOR SELECTED INDICES OF ECONOMIC DEVELOPMENT AND NOTES ON SAME*

1. *Census of India,* 1951, Vol. I, for Indices I, 1-4, 6 (in part), and 7; III, 7 and for population data for all other Indices on a *per capita basis,* except where otherwise specified.

2. *Nalanda's Yearbook,* 10th Ed., 1958 (Nalanda Pub. Co., Calcutta) for Indices, 1, 8, 10, 13 and 14; II, 3; and III, 6, 8, 9, 11 and 12.

3. *Satistical Abstract of India,* 1952-53, for indices I, 12; II, 6; and III, 5.

4. *Seminar on Rationale of Regional Variations in the Agrarian Structure of India* (Matheran, October, 1956), (The Indian Society of Agricultural Economics, Bombay), for Indices I, 6, (in part); III, 3 and 13.

5. *Banking and Monetary Statistics of India,* 1954 (Reserve Bank of India, Bombay) (for Indices I, 9 and 11, and III, 4.

6. *Fourth Census of Indian Manufcturers,* 1949, for indices II, 4; and III, 2.

7. *Statistics of Factories,* 1951 and *Large Scale Manufacturing Establishments* 1950 for index I, 5.

8. *Agricultural Atlas of India,* 1952, for index II, 2.

9. *Public Electrcity Supply, All India Statistics,* 1955 (Min. of Irrigation and Power, Simla 1956 for Indices II, 5; & III, 10.

10. S. Mehra, "Income Levels and Occupational Distribution," unpublished ms. for identical Indices II, 1 and III, 1.

*All are government publications published by the Manager of Publications, Delhi, unless otherwise specified.

NOTES :

1 Index I, 6 is based on averages of the Census figures for population mainly dependent on agricultura labor, and the Agricultural Labor Enquiry figures for agriculural labor without land and agriultural labor with or without land. The reasons for this combination of data are too complex to be outlined here.

2 Indices I, 13 and 14 are based on data for both surfaced and unsurfaced road mileages. In computing surfaced road equivalents two miles of non-surfaced road were counted as equal to one mile or surfaced road.

3 Identical indices II, I and III, 1 are based on non-official data supplied by the Indian Institute of Public Opinion in their *Quarterly Economic Report,* Sept.-Oct., 1956.

4 Index II, 3 is based on data on acreage and yields of wheat and rice. The yield of the princial grain of these two for each state was computed as a percentage of the national yield for tha grain.

BIBLIOGRAPHY

BIBLIOGRAPHY*

U.N., GOVERNMENT AND QUASI-GOVERNMENT SOURCES (PUBLISHED)

Census Materials

Census of India. 1951, 17 vols. issued in 63 separately bound parts [Vol. I, bound in five parts relates to *All-India,* Vols. II-XVII to the several states (more than one state may be covered by a single Volume)], published in various places between circa 1953 and 1957. All volumes and parts may be obtained through the Manager of Publications, Delhi.

Census of India Brochures

Population Zones, Natural Regions, Sub-Regions and Divisions, Paper No. 2 of 1952.

Sample Verification of the 1951 *Census Count,* Paper No. 1 of 1953.

Summary of Demographic and Economic Data—1951 Census, Paper No. 3 of 1953.

District Census Handbooks: Issued by the several State Governments for the 307 administrative districts of India between 1953 and 1957.

Census of Indian Manufactures (annual, commencing in 1946), Delhi: Manager of Publications.

Periodicals, Yearbooks, Directories, and Purely Statistical Works

Bureau of Commercial Intelligence and Statistics: connection with Government uncertain; *see* listing under "OTHER PUBLISHED WORKS...."

India, Central Statistical Organization, *Statistical Abstract—India* (annual), New Series commencing with 1949-50, Delhi: Manager of Publications.

India, Deptt. of Commercial Intelligence and Statistics, *Large Industrial Establishments in India* (every one or two years), Delhi: Manager of Publications.

India, Labour Bureau, *Statistics of Factories, 1951, with a Review on the Working of the Factories Act, 1948, During the Year, 1951,* Delhi: Manager of Publications.

India, Ministry of Commerce and Industry, *All-India Directory of Cottage Industries* (4 vols.), New Delhi: Ministry of Commerce and Industry, 1953.

India, Ministry of Community Development and Cooperation, *Annual Reports,* New Delhi: Ministry of Community Development and Cooperation.*

India, Ministry of Information and Broadcasting, *India: a Reference Annual,* Delhi: Director, Publications Division.

India, Ministry of Irrigation and Power, *Public Electricity Supply*: All *India Statistics,* 1955, New Delhi: Ministry of Irrigation and Power, 1956.

India, Ministry of Labour, *Indian Labour Gazette* (*monthly*), Delhi: Manager of Publications.

————, *India Labour Year Book,* (Annual), Simla: Labour Bureau.

India, Ministry of Transport, *Basic Road Statistics of India, 1948* (and annual supplements), Delhi: Manager of Publications.

Indian Statistical Institute, *Annual Report, April, 1956—March, 1957,* Calcutta: I.S.I., 1957.

Reserve Bank of India, *Banking and Monetary Statistics of India,* Bombay: Reserve Bank of India, 1954.

————, *Trend and Progress of Banking in India* (Annual), Bombay: Reserve Bank of India.

*A relatively small number of entries which the author was unable to study, but which are believed to be of value are marked by an asterisk. All citations included in the original (1960) version of this work (*see* preface) are here retained; but save for the addition of two relevant papers by the author no attempt has been made at bringing the bibliography up to date.

U.N. *Statistical Yearbook (Annual)*, New York: United Nations.

Reports of Special Commissions

India, Ministry of Commerce and Industry, *Report of the Textile Enquiry Committee,* New Delhi: Ministry of Commerce and Industry, 1958.*

India, Ministry of Labour, Agriculture Labour Enquiry, *Report on Intensive Survey of Agricultural Labour, Employment, Unemployment, Wages and Levels of Living,* 7 vols., Delhi: Manager of Publications, 1955.

————, *Rural Man-Power and Occupational Structure,* . Delhi: Manager of Publications, 1954.

India, National Income Committee, Final *Report of the National Income Committee, February, 1954,* Delhi: Manager of Publications, 1954.

————, *First Report of the National Income Committee, April, 1951,* Calcutta: Eka Press, 1951.

India, National Planning Committee, *Land Policy, Agricultural Labour and Insurance (Report of the Sub-Committee),* Bombay: Vora & Co., 1948.

————, *Rural and Cottage Industries (Report of the Sub-Committee),* Bombay: Vora & Co., 1948.

India, Planning Commission, *The First Five-Year Plan* Delhi: Manager of Publications, 1952.

————, *The Second Five-Year Plan,* Delhi: Manager of Publications, 1958.

————, *Report of the Village and Small-Scale Industries (Second Five-Year Plan) Committee (Karve Committee),* Delhi: Manager of Publications, 1956.

Indian Statistical Institute, *Annual Report, April, 1956-March, 1957,* Calcutta: Indian Statistical Institute, n.d., c. 1957.

Reserve Bank of India, *All-India Rural Credit Survey: Report of the Committee of Direction,* Vol. I, *The Survey Report* (bound in two separate parts and vol. II, *The General Report*), Bombay: Reserve Bank of India, 1956 and 1954 respectively.

Other Government Textual Works, Published

District Gazetteers: issued under various titles, at various places (in the appropriate states or provinces of India), and at different dates, in many cases with several editions per district. (Most districts of India are covered. Early editions date from the late 19th century.)

The Imperial Gazetteer of India, 26 Vols., (Published under the authority of His Majesty's Secretary of State for India in Council) Oxford: The Clarendon Press, 1909 (New Edition); Vol. XXVI, *Atlas,* revised in 1931.

India, Labour Bureau and Labour and Employment Division, Planning Commission, *Women in Employment (1901-1956)* New Delhi: Planning Commission, 1958 (mimeographed).

India, Ministry of Labour, *Economic and Social Status of Women Workers in India,* Simla: Labour Bureau, 1953.*

India, Office of the Economic Adviser, *Statistical Summary of the Social and Economic Trends in India (in the Inter-War Period)* (S. Subramaniam, ed.) Delhi: Government of India Press, 1945.

Indian Statistical Institute, *History and Activities, 1931-1957,* Calcutta: I.S.I., 1958.

International Labour Office, *Labour Force Tabulations in Recent Population Censuses,* Geneva: I.L.O., 1949.

————, *The World's Working Population: I. Some Demographic Aspects, II. Its Industrial Distribution, III. Its Distribution by Status and Occupation*

(Reprinted from *The International Labour Review,* Vol. 73, Nos. 2 & 5, February & May, 1956, Vol. 74, No. 2, August 1956), Geneva: I.L.O., 1956.

————, Preparatory Asiatic Regional Conference, *The Economic Background of Social Policy Including Problems of Industrialisation,* New Delhi: I.L.O., 1947.

National Council of Applied Economic Research, *Techno-Economic Survey of Bihar,* Vol. I, Bombay: Asia Publishing House, 1959.

U.N., Committee of Experts Convened by the Secretary General, *Report on International Definitions and Measurements of Standards and Levels of Living,* New York: United Nations, 1954.

U.N. Department of Economic Affairs, *Land Reform—Defects in Agrarian Structure as Obstacles to Economic Development,* New York: United Nations, 1951.

U.N.E.S.C.O., *Traditional Cultures in South-East Asia,* Madras: Orient Longmans, 1958.

U.N. Statistical Office, *National Income and its Distribution in Underdeveloped Countries,* New York: United Nations, 1951.*

Atlases and Maps

Bombay State, Secretariat, Bureau of Economics and Statistics, *Statistical Atlas of Bombay State* (Provincial Part), Bombay: Government of Bombay, 1950 (Rev. Ed.)

District Road Maps, various dates and scales, Public Works Departments of the several Indian States.

Half-Inch Series (2 miles per inch) Survey of India, various dates.

India and Adjacent Countries, 1:1,000,000, Survey of India, various dates.

India and Pakistan, 1:250,000, (Series U-502), U.S. Army Map Service, various dates.

India, Ministry of Food and Agriculture, *Indian Agricultural Atlas,* Dehra Dun: Survey of India, 1952.

India, Ministry of Information and Broadcasting, *India in Maps,* New Delhi: Ministry of Information and Broadcasting, 1950.

India, Ministry of Irrigation and Power, Central Water and Power Commission, *Power Atlas of India,* New Delhi: Ministry of Irrigation and Power, 1956.

India, National Atlas Organization, *National Atlas of India* (S. P. Chatterjee-Ed.) Calcutta: National Atlas Organization, 1957.

India, Showing Forests, Irrigation, and Water Power, 70 miles per inch, Survey of India for the Registrar General, 1955.

Madras State, Directorate of Information and Publicity. *Madras in Maps and Pictures.* Madras: Government of Madras, 1955 (2nd Ed.)

Map of India Showing Community Development and National Extension Service Blocks, scale not indicated, Ministry of Information and Broadcasting, circa: 1957.

Quarter-Inch Series, 4 miles per inch, Survey of India, various dates.

Railway Map of India, 67 miles per inch, Survey of India, 1957.

Road Map of India, 40 miles per inch, Survey of India, 1958 (2nd Ed.)

Tribal Map of India, 80 miles per inch, Department of Anthropology, Government of India, 1956.

West Bengal, State Statistical Bureau, *Statistical Atlas, West Bengal,* Calcutta: Government of West Bengal, 1953.

OTHER PUBLISHED WORKS, EXCEPT FOR ARTICLES

Dealing with Economic Development in General

Adler, John H. *The Underdeveloped Areas: Their Industrialization.* New Haven, Conn: Yale Institute of International Studies (Memorandum No. 31), 1949.*

Agarwala, A.N. and Singh, S.P. (eds.). *The Economics of Underdevelopment.* London: Oxford University Press, 1958.

Aitken, Hugh G.J. (ed.). *The State and Economic Growth: Papers of a Conference Held on October* 11-13-1956, *under the Auspices of the Committee on Economic Growth.* New York: Social Science Research Council, 1959.

Bauer, P.T. *Economic Analysis and Policy in Underdeveloped Countries. Durham,* N.C. : Duke University Press, 1957.*

————, and Yamey, B.S. *The Economics of Underdeveloped Countries.* London: James Nisbit & Co., Ltd., 1957.

Bonne, Afred. *Studies in Economic Development, with Special Reference to conditions in the Underdeveloped Areas of Western Asia and India.* London: Routledge & Kegan Paul, Ltd., 1957.

Buchanan, Norman S. and Ellis, Howard S., *Approaches to Economic Development,* New York: The Twentieth Century Fund, 1955.

Chipman, J.S. *The Theory of Inter-Sectoral Money Flows and Income Formation* (The Johns Hopkins University Studies in Historical and Political Science-Series 68, No. 2, 1950) Baltimore: The Johns Hopkins Press, 1951.*

Clark, Sir Colin. *The Conditions of Economic Progress.* London: Macmillan & Co., Ltd., 1940 (1st Ed.) and 1957 (3rd Ed.).

Fisher, A.G.B. *Economic Progress and Social Security.* London: Macmillan & Co. Ltd., 1945.

Galenson, Walter (ed.). *Labor and Economic Development.* New York: Longmans Green & Co., 1959.

Ginsburg, Norton (ed.). *Geography and Economic Development.* Chicago: The University of Chicago Press (Dept. of Geography Research Paper No. 62), 1960.

Hazlewood, Arthur. *The Economics of "Under-developed" Areas: An Annotated Reading List of Books, Articles, and Official Publications.* London: Oxford University Press, 1959 (2nd Ed.).*

Higgins, Benjamin H. *Economic Development: Principles, Problems, and Policies.* New York: W.W. Norton & Co., Inc., 1959.

Hoselitz, Bert F. (ed.). *The Progress of Under-developed Areas.* Chicago: University of Chicago Press, 1952.

Kindleberger, Charles P. *Economic Development.* New York: McGraw-Hill Book Co., 1958.

Kuznets, Simon S. *Quantitative Aspects of the Economic Growth of Nations,* four individually bound supplements to *Economic Development and Cultural Change*: I. "Levels and Variability of Rates of Growth", Vol. V, No. 1, Oct., 1956; II. "Industrial Distribution of National Product and Labor Force," Vol. V, No. 4, July, 1957; III. "Industrial Distribution of Income and Labor Force by States, United States. 1919-1921 to 1955"; Vol. VI, No. 4, July, 1958; and IV, "Distribution of National Income by Factor Shares," Vol. VII, No. 3, April, '59.

Lebret, Louis-Joseph. *Guide Pratique de l' Enquete Sociale,* 4, vols. Paris; Presses Universitaire de France, 1951-58.

———— *et al. Economie et Civilization;* Tome I, *Niveaux de Vie, Besoins et Civilization,* Tome II, *Science Economique et Development* Paris: Les Editions Ouvrieres, Economic et Humanisme, 1956 and 1958.

Leibenstein, Harvey. *Economic Backwardness and Economic Growth: Studies in the Theory of Economic Development.* New York: John Wiley & Sons, Inc., 1957.

————, *A Theory of Economic and Demographic Development.* Princeton: Princeton University Press, 1954.

Lewis, W. Arthur. *The Theory of Economic Growth.* Homewood, *Ill*; Richard D. Irwin, Inc., 1955.

Meier, Gerald M. and Baldwin, Robert E. *Economic Development: Theory, History, Policy.* New York: John Wiley & Sons, 1957.*

Myrdal, Gunnar. *Economic Theory and Underdeveloped Regions.* London: G. Duckworth, 1957.

Nurkse, Ragnar. *Some Aspects of Capital Formation in Underdeveloped Countries.* Cairo: National Bank of Egypt Printing Press, 1952.

Office of Population Research, Princeton University. *A Theory of Economic Demographic Development.* Princeton: Princeton University Press, 1954.*

Pigou, A.C. *The Economics of Welfare.* London: MacMillan & Co., Ltd., 1952.

Shannon, Lyle W. (ed.). *Underdeveloped Areas: a Book of Readings and Research.* New York: Harpers, 1957.

Singh, Baljit. *Federal Finance and Underdeveloped Economy.* Bombay; Hind Kitabs. 1952.

Villard, Henry H. *Economic Development.* New York: Rinehart & Co., Inc., 1959.*

Williamson, Harold Francis and Buttrick, John A. (eds.). *Economic Development: Principles and Patterns.* New York: Prentice-Hall, 1954.*

Woytinsky, W.S. and Woytinsky, E.S. *World Population and Production.* New York: Twentieth Century Fund, 1953.

General Background Works on India

Alsdorf, Ludwig. *Vorderindien: Bharat, Pakistan, Ceylon, eine Landes—und Kulturkunde.* Braunschweig, Germany: Georg Westermann Verlag, 1955.

Binani, G.D. and Rama Rao, T.V. (eds.), *India at a Glance: A Comprehensive Reference Book on India.* Calcutta: Orient Longmans, Ltd., 1954 (Rev. Ed.).

Davies, C. Collin. *An Historical Atlas of the Indian Peninsula.* Madras: Geoffrey Cumberlege, Oxford University Press, 1954 (rev. ed.).

Davis, Kingsley. *The Population of India and Pakistan* Princeton: Princeton University Press, 1951.

Ghosh, K.C. *Economic Resources of India and Pakistan.* Calcutta: K.P. Basu Publishing Co., 1956.*

Lothian, Sir A.C. (ed.). *A Handbook for Travellers in India, Pakistan, Burma and Ceylon.* London: John Murray, 1955 (17th Ed.).

Majumdar, R.C. (ed.). *The History and Culture of the Indian People,* 5 vols. Bombay: Bharatiya Vidya Bhawan, 1957.*

————, Raychaudhuri, H.C. and Datta, Kalikinkar. *An Advanced History of India.* London: MacMillan & Co., Ltd., 1958.

Nalanda Yearbook and Who's Who in India and Pakistan (Tarapada Das Gupta—Editor), (annual). Calcutta: Nalanda Press.

Nanavati, Sir Manilal B. (Ed.). *India Speaking,* Vol. 233 *of The Annals of the American Academy of Political* and Social Science, May, 1944.

Oxford Pamphlets on Indian Affairs, 19 Vol. London: Oxford University Press, 1943-45.

Sovani, N.V. *The Population Problem in India: A Regional Approach.* Poona: Gokhale Institute of Politics and Economics (Publ. No. 8), 1942.

Spate, O.H.K. *India and Pakistan: A General and Regional Geography.* London: Methuen & Co. Ltd., 1954.

Stamp, L. Dudley. *India, Pakistan, Ceylon and Burma.* London: Methuen & Co., Ltd., 1957.

The Times of India Directory and Year Book, Including Who's Who (N.J. Nanporia—Editor) (annual). Bombay: The Times of India.*

University of Chicago, The College. *Introduction to the Civilization of India: Emergence of India and Pakistan into the Modern World.* Chicago: Syllabus Division, University of Chicago Press, 1957.

Woytinsky, W.S. *India: The Awakening Giant.* New York, Harper & Bros., 1957.

Primarily Economic Works on India

Akhil Bharat Sarva Seva Sangh Prakashan. *Planning for Sarvodaya.* Wardha: Sarva Seva Sangh, 1958 (2nd Ed.).

Anstey, Vera. *The Economic Development of India.* New York: Longmans, Green & Co., 1952 (4th Ed.).

Baden-Powell, Baden Henry. *A Short Account of the Land Revenue and Its Administration in British India,* Oxford: The Clarendon Press, 1913 (2nd Ed.).

Balakrishna, Ramachandra. *Measurement of Productivity in Indian Industry.* Madras: University of Madras (Economics Series No. 8), 1953.

————. *Regional Planning in India* Bangalore: Bangalore Printing and Publishing Co., 1948.

Balkrishna Kelkar, Vasudev. *Industrial Decline in India.* Allahabad: The Star Press, 1917.

Banerjee, Pramathanath. *A Study of Indian Economics.* Calcutta: University of Calcutta, 1951 (6th Ed.).

Brush, John. *Aboriginal Tribes (Including Tribal Hindus and Tribal Christians)* 1947. (Map on file at the Library of Congress).

Buchanan, Daniel H. *Development of Capitalistic Enterprise in India.* New York: MacMillan & Co., 1934.*

Bureau of Commercial Intelligence and Statistics. *Basic Statistical Analysis of India.* Bombay: Bureau of Commercial Intelligence and Statistics, circa: 1955, (4 folios of unbound mimeographed sheets).

Coale, Ansley and Hoover, Edgar M. *Population Growth and Economic Development in Low-Income Countries: A Case Study of India's Prospects.* Princeton: Princeton University Press, 1958.

Crane, Robert I. *Aspects of Economic Development in South Asia.* New York: Institute of Pacific Relations, 1954.

Dandekar, Vishnu Mahadeo. *Use of Food Surpluses for Economic Development* (Gokhale Institute of Politics and Economics Pube. No. 33), Poona: D.R. Gadgil, 1956.

Das, Nabagopal. *Unemployment, Full Employment and India.* Bombay: Hind Kitabs, 1946.

——. *Studies in Indian Economic Problems.* Calcutta: A. Mukherjee, 1954.*

Desai, M.P. (ed.). *Planning for Basic National Recovery.* Ahmedabad: Navajivan Publishing House, 1957.

Desai, R.C. *Standard of Living in India and Pakistan, 1931-32 to 1940-41,* Bombay: Popular Book Depot, 1953.

Dutt, R. *Economic History of India,* 2 Vols. London: Routledge & Paul, 1950 (7th Ed.)*

Ford Foundation, International Planning Team. *Report on Small Industries in India.* New Delhi: Government of India, Ministry of Commerce and Industry, 1955.

Gadgil, D.R. *Economic Policy and Development: a Collection of Writings* [all by the author] (Gokhale Institute of Politics and Economics, No. 30). New York: Institute of Pacific Relations, 1955.

——. *The Industrial Evolution of India in Recent Times.* Bombay: Oxford University Press, 1948.

——. *Origins of the Modern Indian Business Class.* New York: Institute of Pacific Relations, 1959, 46 pp.*

Gandhi, M.K. *Cent per Cent Swadeshi; or the Economies of Village Industries.* Ahmedabad: Navajivan Press, 1948 (3rd Ed.).

Ganguli, Birendra Nath. *Trends of Agriculture and Population in the Ganges Valley.* London: Methuen & Co., 1938.

Ghate, B.G. *Changes in the Occupational Distribution of the Population.* (Studies in Indian Economics issued by the Office of the Economic Adviser to the Government of India, Second Series: Aspects of Indian Social Economics, No. 1). New Delhi; Government of India Press, 1940.

Ghosh, D. *Pressure of Population and Economic Efficiency in India.* New Delhi: Indian Council of World Affairs, 1946.

Indian Industries. *Large Industrial and Commercial Establishments.* Bombay: Kailash Chandra Agarwal, 1956.

Indian Society of Agricultural Economics. *Land Tenures in India* (Reprinted from the Indian Famine Commission's Report, Vol. II, Pt. IV). Bombay: Vora & Co., 1946.

——. *Seminar on Rationale of Regional Variations in Agrarian Structure of India* (*Matheran, October,* 1956). Bombay: Indian Society of Agricultural Economics, n.d., c. 1957.

Indian Textile Engineers, Ltd. *Map of India Showing Every Town in Which Cotton Mills are Situated with the Number of Spindles and Looms Installed on 1st January,* 1946. Bombay: Indian Textile Engineers, Ltd., circa 1946 (map).

Jathar, G.B. and Beri, S.G. *Indian Economics.* London: Oxford University Press, 1952 (9th Ed.).

Kuchhal, S.C. *The Industrial Economy of India.* Allahabad: Chaitanya Publishing House, 1959.*

Kuznets, Simon; Moore, Wilbert E., and Spengler, Joseph J. *Economic Growth: Brazil, India and Japan. Durham,* N.C.: Duke University Press, 1955.

Lorenzo, A.M. *Agricultural Labour Conditions in Northern India,* Bombay, New Book Co., Ltd., 1947.

——. *Indian Labour in Primary Industries,* Lucknow: Universal Publishers, 1948.

Luthra, K.L. *Impact of Partition on Industries in Border Districts of East Punjab.* N.p., East Punjab: The Board of Economic Enquiry (Pub. No. 1), 1949.

Mehta, M.M. *Structure of Indian Industries: A Statistical Study in the Size Location and Integration of Industrial Units in the Seven Selected Industries of India,* viz., *Cotton, Jute, Sugar, Iron and Steel, Coal, Paper, and Cement.* Bombay: Popular Book Depot, 1955.

Mukherjee, Radha Kamal. *Fields and Farmers in Oudh.* Calcutta: Longmans Green & Co., Ltd., 1929.*

——. *The Indian Working Class.* Bombay: Hind Kitabs, 1951, (3rd Ed.).

Mukherjee, Ramkrishna. *Dynamics of a Rural Society; a Study of the Economic Structure in Bengal Villages.* Berlin: Akademie Verlag, 1957.*

Myers, Charles Andrew. *Labor Problems in the Industrialization of India.* Cambridge, Mass.: Harvard University Press, 1958.

Namjoshi, M.V. *Planes of Living* : Two *Papers* (Part I. "Economic Development and Planes of Living", Part II. "Some Indicators of the Plane of Living in India") New York: Institute of Pacific Relations (Indian Paper No. 5), 1954. (Mimeographed).

Nanavathi, B. Manilal and Anjaria, J.J. *The Indian Rural Problem.* Bombay: The Indian Soviety of Agricultural Economics, 1947 (3rd Ed.).*

Narain, Brij. *Indian Economic Life, Past and Present* Lahore: Uttar Chand Kapur & Sons, 1929.

Ornati, Oscar A. *Jobs and Workers in India* Ithaca, N.Y.: The Institute of International Industrial and Labor Relations, Cornell University, 1955.

Owen, Rowland. *India: Economic and Commercial Conditions in India* (in series of Overseas Economic Surveys issued by the [U.K.] Board of Trade, Commercial Relations and Exports Department). London: H.M.S.O., 1953.

Plantations in India's Economy. Madras: United Planters' Association of Southern India, 1955.

Rao, B.S. *Surveys of Indian Industries,* 2 vols. Bombay: Oxford University Press, 1957-58.*

Rosen, George. *Industrial Change in India: Industrial Growth, Capital Requirements, and Technological Change,* 1937-1955. Glencoe, Illinois: The Free Press, 1958 (for the Center for International Studies, Mass. Institute of Technology).

Sharma, Tulsi Ram. *Location of Industries in India.* Bombay: Hind Kitabs, 1954 (3rd Ed.)

Singh, Baljit. *Economic Planning in India.* Bombay: Hind Kitabs, 1953.

Singh, Tarlok. *Poverty and Social Change: A Study in the Economic Reorganization of Indian Rural Society.* London: Longmans, 1945.

Sovani, N.V. *Planning of Post-War Economic Development in India.* Poona: Gokhale Institute of Politics and Economics, 1951.*

——. *Poona: A Resurvey; The Changing Pattern of Employment and Earnings,* Poona: D.R. Gadgil, 1956.

Thakurdas, Sir Purshotamdas *et al. A Plan of Economic Development for India,* 2 Parts. London: Penguin, 1945.

Thorner, Daniel. *Agrarian Prospect in India.* Delhi: University of Delhi, 1956.*

Vakil, C.N. *Economic Consequences of Divided India: A Study of the Economy of India and Pakistan.* Bombay: Vora & Co., 1950.

Venkatasubbiah, H. *Indian Economy Since Independence.* Bombay: Asia Publishing House, 1958.*

Wadia, P.A. and Merchant, K.T. *Our Economic Problem.* Bombay: New Book Co., 1957 (5th Ed.).

Primarily Cultural and/or Anthropological Works on India.

Bailey, F.G. *Caste and the Economic Frontier: a Village in Highland Orissa.* Manchester: Manchester University Press, 1957.

Beidelman, Thomas. *A Comparative Analysis of the Jajmani System.* (Monographs of the Association of Asian Studies, 8) Locust Valley, N.Y.: Association of Asian Studies (Monograph 8), 1959.

Dube, S.C. *Indian Village.* London: Routledge & Kegan Paul, 1955.

——. *India's Changing Villages.* London: Routledge & Paul, 1958.*

Ghurye, G.S. *Caste and Class in India.* Bombay: Popular Book Depot, 1957.

Hutton, J.H. *Caste in India.* Cambridge, England: University Press, 1946.*

Karve, Irawati. *Kinship Organization in India.* Poona: Deccan College Research Institute, 1953.

Kitts, Eustace J. *A Compendium of the Castes and Tribes Found in India.* Bombay: The Education Society's Press, Byculla, 1885.

Lewis, Oscar. *Village Life in Northern India.* Urbana, Ill.: University of Illinois Press, 1958.

Majumdar, D.N. *Races and Cultures of India.* Bombay: Asia Publishing House.

—— (ed.), *Rural Profiles.* Lucknow: Ethnographic and Folk Culture Society, 1955.

Marriott, McKim (ed.). *Village India: Studies in the Little Community.* Chicago: University of Chicago Press, 1955.

Pittman, G.P. *Village India.* London: Marshall, Morgan and Scott. 1951.*

Prabhu, Pandhari-Nath. *Hindu Social Organization: A Study in Social-Psychological and Ideological Foundations.* Bombay: Popular Book Depot, 1954.

Risley, Sir Herbert H. *The People of India,* London: W. Thacker & Co., 1915 (2nd Ed.).

Senart, Emile. *Caste in India: The Facts and the System* (Translation by Sir E. Denison Ross). London: Methuen & Co., Ltd., 1930.

Singer, Milton (ed.). *Traditional India: Structure and Change.* Special No. of *Journal of American Folklore.* Vol. 71, July-Sept., 1958, No. 281.

Singh, Mohinder. *The Depressed Classes: Their Economic and Social Conditions.* Bombay: Hind Kitabs, 1947.

Srinivas, M.N. (ed.). *India's Villages: A Collection of Articles Originally Published in the Economic Weekly of Bombay.* Calcutta: West Bengal Government Press, 1955.

Subbarao, Bendapudi. *The Personality of India: Pre- and Proto-Historic Foundation of India and Pakistan.* (M.S. University Archaeology Series No. 3) Baroda: Faculty of Arts, Maharaja Sayajirao University of Baroda, 1958.

Thomas, P. *Hindu Religion, Customs and Manners* Bombay: D. B. Taraporevala Sons & Co., 1956.

Thomas, P.J. and Ramakrishnan, K.C. *Some South Indian Villages: A Resurvey.* Madras: University of Madras, 1940.

Wiser, William H. *The Hindu Jajmani System.* Lucknow: Lucknow Publishing House, 1936.

——, and Wiser, Charlotte V. *Behind Mud Walls.* New York: R. R. Smith, Inc., 1930.

Other works on India

Chatterjee, S.P. *Bengal in Maps.* Calcutta: Orient Longmans, 1948.

Damodar Valley Corporation. *D.V.C. Projects at a Glance.* Calcutta: Amal Home, Chief Information Officer, D.V.C. 1956, with subsequent addenda.

Dayal, P. *Bihar in Maps, with Explanatory Text.* Patna: Kusum Prakashan, 1953.

Day, Lal Behari. *Govinda Samanta, or Bengal Peasant Life London: MacMillan,* 1906.

Hart, Henry C. *New India's Rivers.* Calcutta: Orient Longmans, 1956.

India's Crafts Today. Special Number of *Craft Horizons.* Vol. XIX, No. 4, July-August, 1959.

Joseph, S.C. *Kerala, the Communist State.* Madras: The Madras Premier Co.

Premchand. *Godan: a Novel of Peasant India,* translation by Jai Ratan and P. Lal. Bombay: Jaico Publishing House, 1958.

Swarup, Shanti. *The Arts and Crafts of India and Pakistan.* Bombay: Taraporevala's Treasure House of Books, 1957.

Taylor, Carl C. *A Critical Analysis of India's Community Development Programme.* Delhi: Community Projects Administration, 1956.*

Miscellaneous

Atlas over Sverige. Stockholm: Svenska Siillskapet for Antropologi och Geografi, 1957.

Ducoff, Louis Joseph and Hagood, Margaret J. *Labor Force Definition and Measurement: Recent Experience in the U.S.* New York: Social Science Research Council, Committee on Labor Market Research (S.S.R.C. Bulletin No. 56), 1947.

Finch, Vernor C. *Montfort—A Study of Landscape Types in Southwestern Wisconsin.* Chicago: Geographic Society of Chicago (Bulletin No. 9), 1933.

Hartshorne, Richard. *The Nature of Geography: A Critical Survey of Current Thought in the Light of the Past.* Lancaster, Pa.: Association of American Geographers, 1939.

——. *Perspective on the Nature of Geography,* Chicago: Rand McNally & Co., 1959.

James, Preston E. and Jones, Clarence F. (eds.). *American Geography: Inventory and Prospect.* Syracuse, N.Y.: Syracuse University Press, 1954.

Mukherjee, P.K. *Economic Surveys in Under-developed Countries: A Study in Methodology.* Bombay: Asia Publishing House, 1959.

Platt, Robert S. *Latin America: Countrysides and United Regions.* New York: Whittlesey House, McGraw-Hill Book Co., Inc., 1943.

Schwartzberg, Joseph E. *Levels of Economic Development* (World map). Madison, Wisconsin: privately published, 1957.

Warriner, Doreen. *The Economics of Peasant Farming.* London: Oxford University Press, 1939.

PUBLISHED ARTICLES

Not Specifically Relating to India

Bauer, P. T. and Yamey, B.S. "Economic Progress and Occupational Distribution," *The Economic Journal,* Vol. LXI, 1951, pp. 740-755.

——. "Further Notes on Progress and Occupational Distribution," *The Economic Journal,* Vol. LXIV, 1954, p. 106.

Bennet, M.K. "International Disparities in Consumption Levels," *American Economic Review,* Vol. 41, Sept., 1951, pp. 632-649.

——. "On Measurement of Relative National Standards of Living," *Quarterly Journal of Economics,* Vol LI, February, 1957, pp. 317-35.*

Celestine, G. "Dynamique des Niveaux de Production et de Productivite." *Economie et Humanisme,* July-August, 1952, pp. 60-67.*

"Changes in Employment Structure in Latin *America,* 1945-1955," *Economic Bulletin for Latin-America,* Vol, II, No. 1, February 1957, pp. 15-42.

Davis, S.J. "Standards and Content of Living," *American Economic Review,* XXXV, March, 1945, pp. 1-15.

Faulhaber, Robert. "Notes sur le Secteur Primaire en Economie. Humaine," *Economie et Humanisme,* Vol. XII, No. 80, July-August, 1953, pp. 18-20.

Fisher, A.G.B. "A Note on Tertiary Production," Economic Journal, *Vol.* 62, 1952, pp. 820-834.

——. "Production, Primary, Secondary, and Tertiary," *Economic Record,* June, 1939, pp. 24-32.*

Ginsburg, Norton. "Editorial", *Economic Development and Cultural Change,* Vol. VII, No. 2, June, 1959, p. 97.

——. "Natural Resources and Economic Development." *Annals of the A.A.G.,* Vol. 47, No. 3, September, 1957, pp. 197-212.

Hazari, R.K. "Plurality as Underdevelopment", *The Indian Economic Journal,* Vol. VI, No. 1, July 1958, pp. 73-96.

Herman, Theodore. "The Role of Cottage and Small-Scale Industries in Asian Economic Development," *Economic Development and Cultural Change,* Vol. 4, No. 4, July, 1956, pp. 356-370.

Hoselitz Bert. "Generative and Parasitic Cities," *Economic Development and Cultural Change,* Vol. III, No. 3, April, 1955, pp. 278-294.

——. "Non-economic Factors in Economic Development," *American Economic Review,* Vol. 47, May, 1957, pp. 28-41.

—— "Patterns of Economic Growth", *Canadian Journal of Economics and Political Science,* Vol. 21, pp. 416-431. (Nov., 1955)*

Hoyt, Elizabeth E. "Want Development in Underdeveloped Areas", *Journal of Political Economy,* LIX, June 1951, pp. 194-202.

Lebret L. J. and Delprat, R. "Niveaux de Consommation et de Production dans les Dix Zones du Monde. *Economie et Humanisme,* Vol. XI, No. 74, July-August, 1952, pp. 22-53.

Millikan, Max F. "Economic Thought and Its Application and Methodology in India," *American Economic Review* XLVI No. 2, May, 1956, pp. 399-407.

Mooc, Wilbert E. "The exportability of the 'Labor Force' Concept," *American Sociological Review,* Vol. 18, No. 1, February, 1953, pp. 68-72.

——. "Persistent Problems of Labor Force Analysis," *Population Index,* Vol. 17, April, 1951, pp. 78-96.

Nixon, James, W. "Census Statistics of the Population Dependent on Various Types of Economic Activities," *U.N. Population Bulletin,* No. 3, October, 1953, pp. 17-29.

Ramakrishna, M. "Census Economic Classification," *The Economic Weekly,* Vol. XI, Nos. 1 (pp. 21-23) and 2 (pp. 48-50), January 3 and 10, 1959.

Robinson, Arthur H. "The Necessity of Weighting Values in Correlation Analysis of Areal Data," *Annals of the Association of American Geographers,* Vol. 46, June, 1956, No. 2, pp. 233-236.

"The Role of Cities in Economic Development," for a series of papers on this subject see *Economic Development and Cultural Change,* Vol. 3, Nos. 1-3, October, 1954 and January and April, 1955.

Rostow, Walt Whitman. "Rostow on Growth—a Non-Communist Manifesto," *The Economist,* Vol. 192, Nos. 6051 and 6052, 15 Aug., 1959, pp. 409-16, and 22 August 1959, pp. 524-31.

Rottenberg, Simon. "Note on 'Economic Progress and Occupational Distribution' ", *Review of Economics and Statistics,* May, 1953, pp. 168-170.

Salz, Arthur. "Occupation," *Encyclopaedia of the Social Sciences,* Vol. 11, pp. 424-435. New York: The MacMillan Co., 1933.

Sauvy, Alfred. "Introduction a l'Etudo des Pays Sous-Developpes," *Population* (Paris), Vol. 6, 1951, No. 4, pp. 601-608.

——. "Progres Technique et Repartition Professionelle de la Population," *Population* (Paris), Vol. IV, 1949, No. 1, pp. 57-67.

Schatz Sayre P. "A Dual-Economy Model of an Under-developed Country," *Social Research,* Vol. 3, 1956, pp. 419-437

Sengupta, Jati Kumar. "On the Relevance of the Sectoral Concept in the Theory of Economic Development," *The Indian Economic Journal,* Vol. VI, No. 1, July, 1958, pp. 50-61.

Singer, H. W. "Economic Progress in Under-Developed Countries," *Social Research,* Vol. 16, March, 1949, p. 2 ff.

Spengler, Joseph J. "Economic Factors in Economic Development," *American Economic Review,* Vol. 47, May, 1957, pp. 42-56.

——. "Economic Factors in the Development of Densely Populated Areas," *Proceedings of the American Philosophical Society,* Vol. 95, No. 1, February 13, 1951, pp. 21-24.

Srinivas, M.N. 'Village Studies and Their Significance," *The Eastern Anthropologist,* Vol, VIII, Nos. 3 and 4, March-August 1958, pp. 215-228.

Triantis, S.G. "Economic Progress, Occupational Redistribution and the Terms of Trade," *The Economic Journal,* Vol. 63, 1953, pp. 627-637.

White, C. Langdon. "Industrialization: A Panacea for Underdeveloped Nations?" *Yearbook of the Association of Pacific Coast Geographers,* Vol. 17, 1955, pp. 3-20.

——. "The World's Underdeveloped Lands." *Focus,* Vol. X, No. 1, September, 1959.

Wolfe. Martin. "Concept of Economic Sectors." *Quarterly Journal of Economics,* Vol. 69, 1955, pp. 402-420.

Yatsushiro Toshio. "Economic Development and Culture Dynamics—Some Observations from Anthropology Relative to the Economic Development of Underdeveloped Areas." The *Eastern Anthropologist,* Vol. 7 No. 1, September-November, 1953.

Specifically Relating to India

Bidval, B.K. "The Variation in Population in Amravati District," *Geographical Review of India,* Vol. 13, No. 1, March, 1951, pp. 9-14.*

Brimmer, Andrew F. "The Setting of Entrepreneurship in India," *The Quarterly Journal of Economics,* Vol. LXIX, November, 1955, pp. 553-576.

Bose, N.K. "Modern Bengal," *Man in India,* Vol. 38, No. 4, October-December, 1958, pp. 229-295.

Bose, S.C. "Density and Pattern of Population in the Lower Damodar Basin," *Calcutta Geographical Review,* Vol. 8, Nos. 1 and 2, March-June, 1946, pp. 43-52.*

——. "Sequence of Occupance in the Damodar Valley Coalfields," *Geographical Review of India,* Vol. 13 No. 3 September, 1951, pp. 34-39.*

Brush, John. "The Iron and Steel Industry of India," Geographical Review, Vol. 42, 1952, pp. 37-55.

Buschmann, K.H. "Settlements and Habitations in India," *Geographical Review of India, Vol.* 16, No. 3. September, 1954, pp. 19-39, and No. 4, December, 1954, pp. 13-37.*

Chaudhri, N.K. Syam. "The Enumeration and Treatment of Tribes in the Indian Census: a Study in Retrospect," *Man in India,* Vol. 32, No. 3, July-September, 1952, pp. 160-6.*

Davis, Kingsley, "Demographic Fact and Policy in India," in *Demographic Studies of Selected Areas of Rapid Populationn Growth.* Milbank Memorial Fund, 1954.

D'Souza, Victor S. "An Operational Definition of Backward Groups in India," *The India Journal of Agricultural Economics,* Vol. 13, No. 2, April-June, 1958.

Ganguli, B.N. "Rethinking on Indian Economics," *Indian Economic Journal,* Vol. III, No. 3, January, 1956, pp. 235-255.

Geddes, Arthur. "Half a Century of Population Trends in India," *Geographical Journal,* XCVIII, November-December, 1941, pp. 228-253.

——. "The Population of India; Variability of Change as a Regional Demographic Index," *The Geographical Review,* Vol. 32, No. 4, October, 1942, pp. 562-573.

Gopal, M.H. "The Social Survey—Its Role and Development with Special Reference to India," *The Indian Economic Journal,* Vol. VI. No. 2, October, 1958, pp. 195-216.*

Gosal, Gurdev Singh. "The Occupational Structure of India's Rural Population—A Regional Analysis," *National Geographical Journal* of India, Vol. IV, Part 3, September 1958, pp. 137-148.

Harris, Britton. "Urbanization Policy in India," *Papers and Proceedings of the Regional Science Association, Vol.* 5, 1959, pp. 181-203.

Hoselitz, Bert F. "The Cities of India and Their Problems," *Annals of the Association of American Geographers,* Vol. 49, No. 2, June, 1959, pp. 223-231.

Jakhade, V.M. "Effects of Technical Changes in Employment in Agriculture in India," *Reserve Bank of India Bulletin, November, 1955, pp. 1191-1197.*

James, H.E. "Urban Geography of India," *Bulletin of the Geographical Society of Philadelphia, Vol.* 28, 1930, pp. 102-122.

Karan, P.P. "Economic Regions of Chota Nagpur, Bihar," Economic Geography, Vol. 29, 1953, pp. 216-250.

—— and Jenkins, Wm. M., Jr. "Geography of Manufacturing in India," *Economic Geography,* Vol. 35, No. 3, July, 1959, pp. 269-278.

——. "Locational Pattern of New Centres of the Indian Iron and Steel Industry," *The Journal of Geography,* Vol. 56, No. 8, November, 1957, pp. 366-373.

Kingsbury, Robert C. "India's Industrial Growth," *Focus,* Vol. 6, No. 9, May, 1956.

Kirk, Wm. "The Cotton and Jute Industries of India," *Scottish Geographical Magazine,* Vol. 72, No. 1, April, 1956, pp. 38-52.

Kuriyan, George. "Industrial Development in India Since Independence," *Indian Geographical Journal,* Vol. 33, Nos. 3 and 4. pp. 1-8.

——. "Population and its Distribution in Kerala," *The Journal of the Madras Geographical Association,* Vol. 13, No. 2, June, 1938, pp. 125-146.*

Lal, Amrit. "Some Aspects of Functional Classification of Cities and a Proposed Scheme for Classifying Indian Cities," *The National Geographical Journal of India,* Vol. 5, Part 1, March, 1959, pp. 12-24.

Lamb, Helen B. "The Indian Business Communities and the Evolution of an Industrialist Class," *Pacific Affairs,* Vol. 28, No. 2, June, 1955, 17 pp.*

Lawrence, Sir Walter. "The Indian Village," *Geographical Magazine,* 6, No. 6, April, 1938, pp. 373-386.

Laxmi Narayan, H. "The Indian Labour Market and Its Impact on the Pattern of Regional Wage Differentials," *The Indian Economic Review,* Vol. 4, No. 1, February, 1958, pp. 35-58.

Learmonth, A.T.A. and A.M. "Aspects of Village Life in Indo-Pakistan," *Geography,* Vol. 40, No. 189, July, 1955, pp. 145-160.

Maclagen, Gorrie, R. "The Relationship between Density of Population and the Method of Land Utilization in British India," *Comptes Rendus du Congress International de Geographie* (Amsterdam, 1938(, pp. 405-420.*

Majumdar, Asthutosh Ghosh. "A Study of the Regional Distribution of Population According to Economic Status," *Proceedings of the 46th Session of the Indian Science Congress Association, Delhi,* 1959, Part 7, abstracts.

Majumdar, D. N. "Rural Analysis, Problems, and Prospects," *Eastern Anthropologist,* Vol. 9, 1956.

Marriott, McKim. "International and Attributional Theories of Caste Ranking," *Man in India,* "June" 1959, pp. 92-107.

Mathur, K.S. "Caste and Occupation in a Malwa Village," *The Eastern Anthropologist,* Vol. 12, No. 1, September-November, 1959, pp. 47-61.

India, Vol. 39, No. 1, January-March,

——. "Village Studies in India," *Man in* 1959, pp. 45-52.

Mukerji, A.B. "The Bi-Weekly Market at Modinagar," *The Indian Geographer,* Vol. 2, No. 2, December, 1957, pp. 271-293.

Mukerjee, Radha Kamal. "Caste and Social Change in India," *The American Journal of Sociology,* Vol. 43, No. 3, November, 1937, pp. 377-390.

Mukherjee, Ramkrishna, "Economic Structure of Rural Bengal: a Survey of Six Villages," *American Sociological Review,* Vol. 13, December, 1948, pp. 660-672.*

Mukherji, A.B. "Modinagar, a Study in Urban Geography," *Geographical Review*

of India, Vol. 15, No. 4, December, 1953, pp. 8-20.

Neale, Walter A. "Limitations of Indian Village Survey Data," *Journal of Asian Studies,* Vol. 17, No. 3, May, 1958, pp. 383-402.*

Opler, M.E. "The Extensions of an Indian Village," *Journal of Asian Studies,* Vol. 16, No. 1, 1956, pp. 5-10.

——. and Rudra Dutt Singh. "The Division, of Labor in an Indian Village." *A Reader in General Anthropology,* C.S. Coon (ed.) New York, Henry Holt, 1948, pp. 464-496.

Ornati, Oscar. "Wages in India," *Economic Development and Cultural Change,* Vol. 3, No. 3, April, 1955, pp. 241-259.

Parthasarathi, G. "Size of Farm Holding and the 'Year-Round Worker,'" *Artha Vijnana-Journal of the Gokhale Institute of Politics and Economics, Poona, (India),* Vol. 1, No. 1, March, 1959, pp. 70-81.

Patnaik, Nityananda, "Caste and Occupation in Rural Orissa," *Man in India,* 34: 257-270. Ranchi, Bihar.*

Prasad, Ayodhya. "Population Distribution and the Dynamics of Labour Supply in Bihar," *Geographical Outlook,* Vol. I, No. 2, July, 1956, Ranchi, Bihar, pp. 30-35.

Puri, Baij Nath. "Some Aspects of Village Economy in Ancient India," *The Eastern Anthropologist,* Vol. 8, Nos. 3 and 4, March-August, 1955, pp. 246-252.

Raghavan, V. "Variety and Integration in the Pattern of Indian Culture," *Far Eastern Quarterly,* Vol. 15, No. 4, August, 1956, pp. 497-506.*

Raj, K. N. "Employment and Unemployment in the Indian Economy: Problems of Classification, Measurement, and Policy," *Economic Development and Cultural Change,* Vol. 7, Part 1, April, 1959, pp. 258-278.

Rao, C. Radhakrishna. "Quantitative Studies in Sociology: Need for Increased Use in India," *The Eastern Anthropologist,* Vol. 12, No. 3, March-May, 1959, pp. 143-170.

Richards, F. J. "Cultural Regions of India," *Geography,* Vol. 15, No. 83, March, 1929, pp. 20-29.

Sarma, Jyotirmoyee. "The Secular Status of Castes," *The Eastern Anthropologist,* Vol. 12, No. 2, December, 1958—February, 1959, pp. 87-106.

Schwartzberg, Joseph E. "Agricultural Labor in India: a Regional Analysis with Particular Reference to Population Growth," *Economic Development and Cultural Change,* Vol. XI, No. 4, July, 1963, pp. 337-352.

——. "Three Approaches to the Mapping of Economic Development in India, *Annals of the Association of American Geographers,* Vol. 52, No. 4, Dec., 1962, pp. 455-468.

Singer, Milton. "The Cultural Pattern of Indian Civilization," *The For Eastern Quarterly,* Vol. 15, 1955, pp. 23-36.*

——. "Cultural Values in India's Economic Decelopment," *Annals of the American Academy of Political and Social Science,* May, 1956.*

Singh, Kashi Nath. "Functions and Functional Classification of Towns in Uttar Pradesh." *The National Geographical Journal of India,* Vol. 5, Part 3, September, 1959, pp. 121-148.

Singh, S.P. "Demographic. Features of Lucknow." *The National Geographical Journal of India,* Vol. 5, Part 3, September, 1959, pp. 157-175.

Singh, Ujagir. "The Origin and Growth of Kanpur," *The National Geographical Journal of India,* Vol. 5, Part 1, March, 1959, pp. 1-11.

Sinha, Surajit. "Tribal Cultures of Peninsular India as a Dimension of Little

Tradition in the Study of Indian Civilization: A Preliminary Statement," *Man in India,* Vol. 37, No. 2, April-June, 1957, pp. 93-118.

Smith, Marian W. "The Misal: A Structural Village Group of India and Pakistan," *American Anthropologist,* Vol. 54 pp. 41-56, January-March, 1952.*

Sopher, David. "India's Languages and Religions," *Focus,* Vol. 6, No. 6, February, 1956.

Sovani, N.V. and Pradhan, Kusum. "Occupational Mobility in Poona City Between Three Generations," *Indian Economic Review,* Vol. 2, No. 4, August, 1955, pp. 23-36.

Spate, O.H.K. "The Indian Village." *Geography,* Vol. 37, 1952, pp. 142-152.

Srinivas, M.N. "A Note on Sanskritization and Westernization," *Far Eastern Quarterly,* Vol. 15, No. 4, 1956.

——. "Caste in Modern India," *Journal of Asian Studies,* Vol. 16, No. 4, August, 1957, pp. 529-549.

Subrahmanyan, N. "Regional Distribution and Relative Growth of the Cities of Tamil Nad," *The Indian Geographical Journal,* Vol. 16, No. 1, January-March, 1941, pp. 71-83.

Sukhatme, P.V. "National Sample Survey —a Review," *The Indian Economic Journal,* Vol. 1, No. 3, January, 1954, pp. 239-252.

"Symposium: The Indian Village," *Journal of Asian Studies,* Vol. 16, No. 1, November, 1956, pp. 1-30.

Thadani, J. M. "Transport and Location of Industries in India," *Indian Economic Review,* Vol. 1, No. 2, August, 1952, pp. 19-42.

Thorner, Daniel "The Agricultural Labour Enquiry: Refletions on Concepts and Methods," *Economic Weekly (Bombay),* Vol. 8, June 23, 1956, pp. 759-776.

——. "India's Agrarian Reform by Census Redefinition," *Indian Economic Review,* Vol. 3, August, 1956, pp. 1-21.

——. and Thorner, Alice. "Agricultural Manpower in India: Labourers," *Economic Weekly* (Bombay) Vol. 9, 1957, pp. 1443-1449.

——. "Types of Employer-Labourer Relationships in Indian Agriculture," *The Indian Journal of Agricultural Economics,* Vol. 12, No. 2, April-June, 1957.

Trewartha, Glenn T. and Gosal, Gurdev. "The Regionalism of Population Change in India," *Cold Spring Harbor Symposia on Quantitative Biology,* Vol. 22, 1957, pp. 71-81.

——. and Verber, J.L. "Regionalism in Factory Industry in India-Pakistan," *Economic Geography,* Vol. 27, No. 4, October, 1951, pp. 283-6.

UNPUBLISHED MATERIALS

Bhatia, Shyam S. "Analysis of the Regional Agricultural Patterns of India," Ph.D. Thesis, University of Kansas, 1958.

Bose, Ashish. "The Process of Urbanization in India, 1901-1951," Ph.D. Thesis, Delhi School of Economics, University of Delhi, 1960 (seen only in typed manuscript form in 1959).

Cohn, Bernard S. and Marriott, McKim. *Networks and Centers in the Integration of Indian Civilization,"* Preliminary mimeographed version of a paper read at the meeting of the American Anthropological Association, Chicago, December, 1957.

Gosal, Gurdev Singh. "A Geographical Analysis of India's Population," Ph.D. Thesis, University of Wisconsin, 1956.

Gupta, S.C. "A Note on the Methodology of Investigating Occupational Distribution in India," University of Delhi,

Delhi School of Economics, Agricultural Research Section, 1959 (typed preliminary draft).

Hoffman, Lawrence A. "Population and Economic Development in India and Pakistan," Ph.D. Thesis Johns Hopkins University, 1950.

India, Ministry of Food and Agriculture, Directorate of Economics and Statistics. "Village Surveys of Agro-Economic Research Centres: Objectives, Methodology, Definitions and Concepts" (Proceedings of a Workshop meeting at Santiniketan, July 6-10, 1958), (mimeographed).

Indian Statistical Institute. "Classification of Industry and Occupation," Calcutta: Indian Statistical Institute, 1958 (mimeographed).

India, Planning Commission, Labour and Employment Division "Occupational Pattern of Indian Union from 1901 to 1951," New Delhi, 1956 (mimeographed).

Kuriyan, George. "A Pilot Project Regional Survey of Kerala," Madras, University of Madras, Department of Geography, 1959 (typed).

Lal, Amrit. "Some Characteristics of Indian Cities of Over 100,000 Inhabitants with Special Reference to Their Occupational Structure and Functional Specialization," Ph.D Thesis, University of Indiana, 1958.

Marriott, McKim. "Caste Ranking and Community Structure in Five Regions of India and Pakistan," Ph.D. Thesis, University of Chicago. 1955.

Mehra, Mrs. S. "Income Levels and Occupational Distribution," Delhi: University of Delhi, Indraprastha College for Women (mimeographed paper presented at ecnomics seminar, March 13, 1959).

Mitra, Asok (Registrar General of India). Letter thanking the author for his "recommendations for the improvement of the 1961 Census of India," New Delhi: October 23, 1959 (typed).

Parthasarathi, Gogula. "Under-employment *and the Indian Agriculturist.*" Ph.D. Thesis, University of Wisconsin, 1958.

Schwartzberg, Joseph E. "On the Banking of Regions of India According to Level of Economic Development," Delhi, University of Delhi, Delhi School of Economics, 1959 (typed—to be published in the Indian Economic Review).

——. "Recommendations for the Improvement of the 1961 Census of India," Madison, Wisconsin, University of Wisconsin Department of Geography, 1959 (typed—copy forwarded to the Registrar General of India, Asok Mitra, under cover letter dated 20 September, 1959).

——. "Regional Variations in the Characteristics of the Indian Labor Force," Madison, Wisconsin, University of Wisconsin, Department of Geography, 1958 (typed seminar paper).

——. "Three Methods of Mapping Levels of Economic Development, with Specific Reference to the Case of India," paper to be read before Section 7, of the XIXth International Geographical Congress, Stockholm, 1960 (typed).

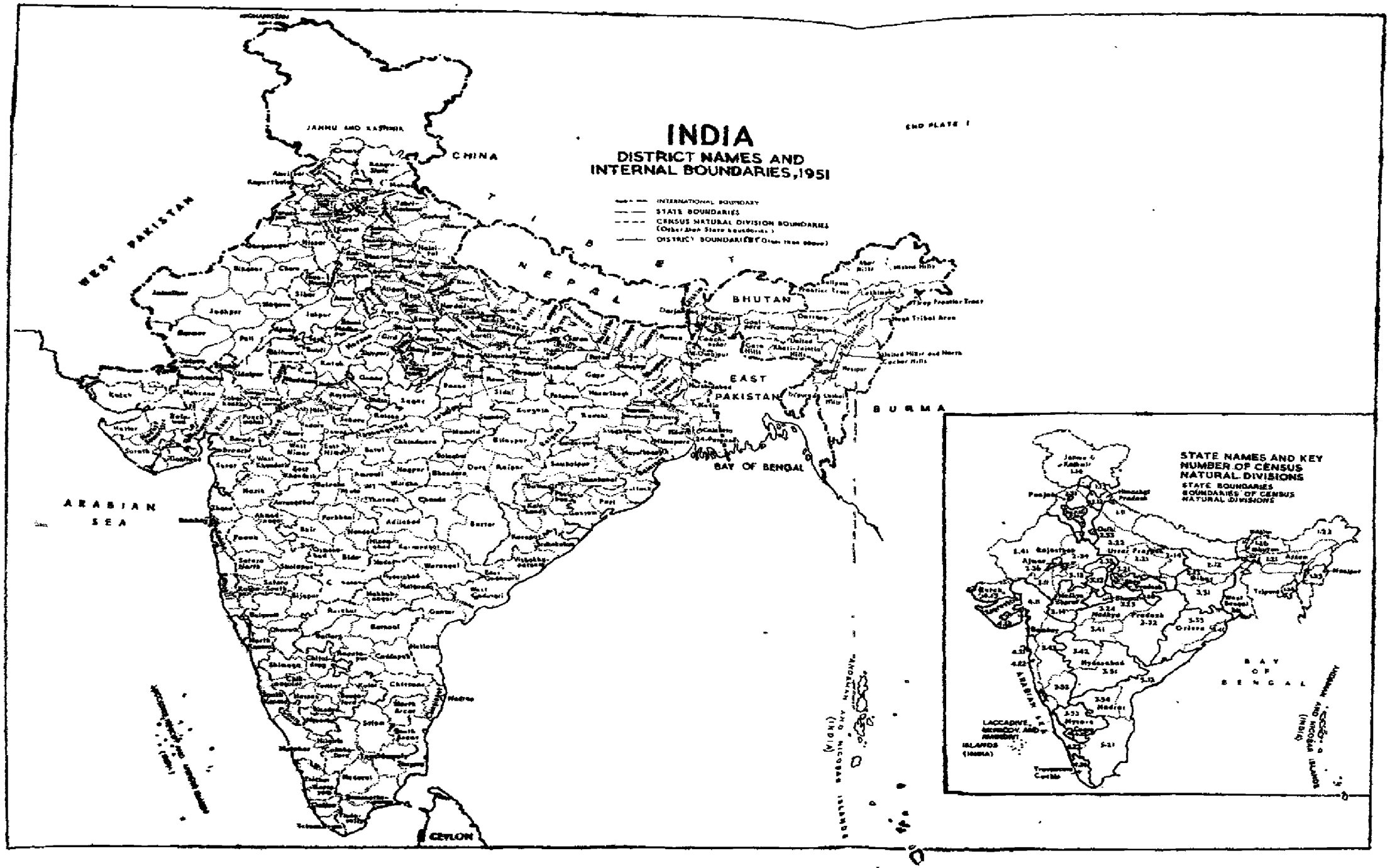
Social Science Research Council (sponsor). "Conference on Commitment of the Industrial Labor Force in Newly Developing Areas, March 28-30, 1958, Chicago, Illinois," Miscellaneous papers (mimeographed).

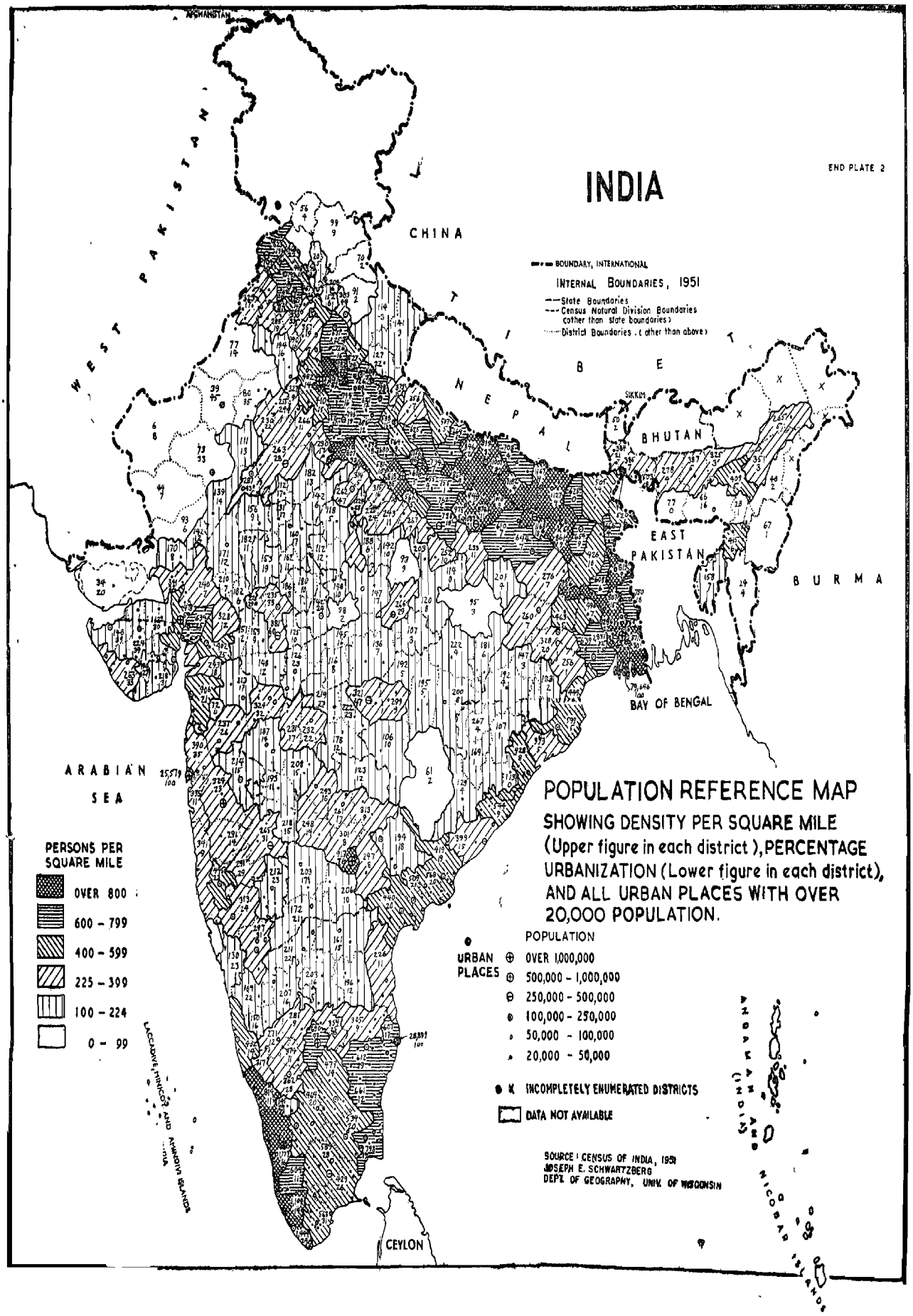
Sovani, N.V. "Indian Economy During 1950-1959," Baltimore: Johns Hopkins University, Department of Economics, 1959 (mimeographed ms. article).

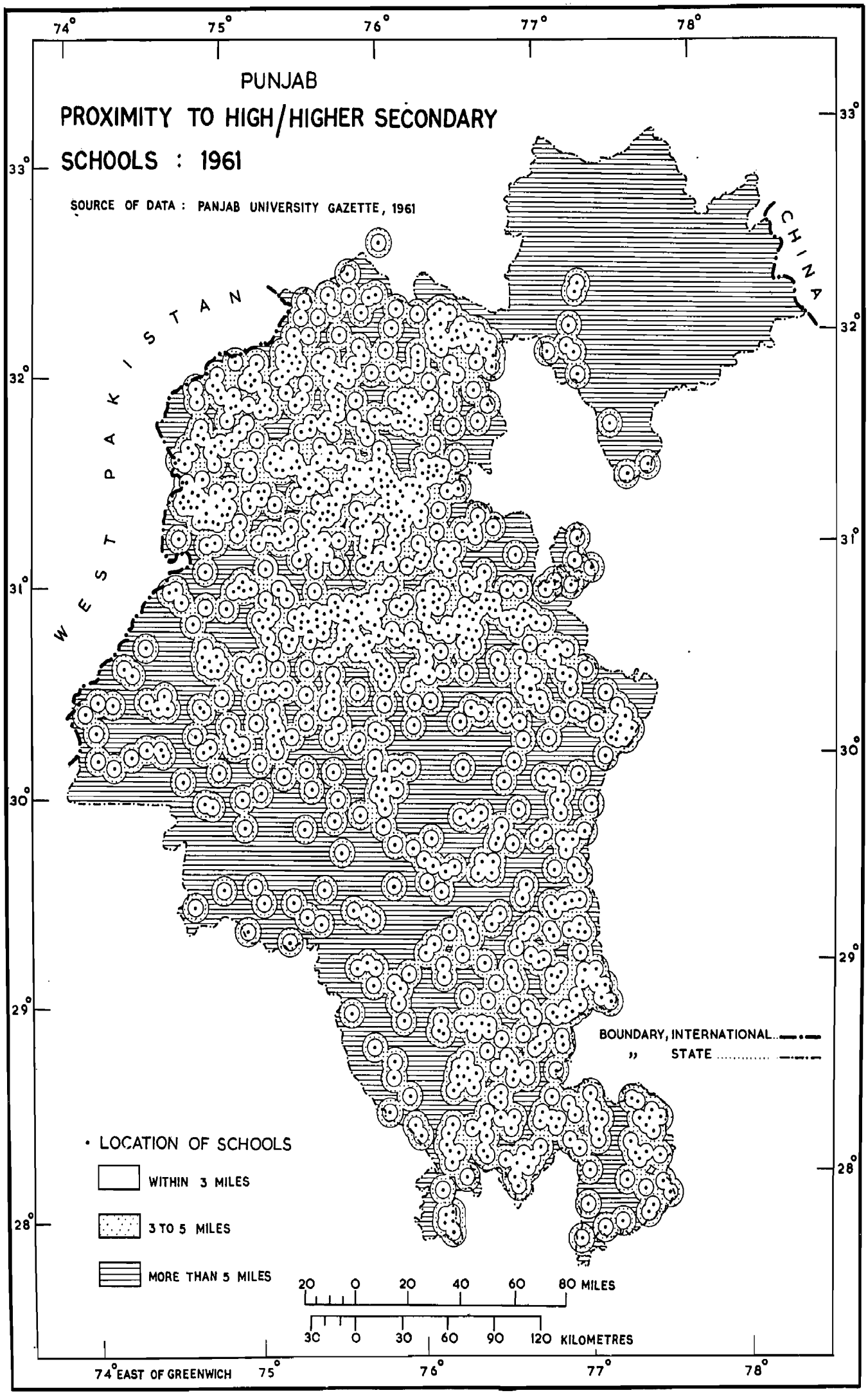
Thorner, Daniel and Alice. "Comparability of Census Economic Data, 1881-1951" (submitted to the First Indian Conference on Research in National Income, Calcutta, 2-5 July, 1958, (mimeographed). Note: used with author's permission. Publication of materials quoted in this study is not allowed.

Upadhyaya, Harcharan Lal. "Industrial Development of India: Human Resources and Their Utilization," Ph. D. Thesis, University of Wisconsin 1957.

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INDIA
DISTRICT NAMES AND
INTERNAL BOUNDARIES, 1951
INTERNATIONAL BOUNDARY
STATE BOUNDARIES
CENSUS NATURAL DIVISION BOUNDARIES
DISTRICT BOUNDARIES
END PLATE I
JAMMU AND KASHMIR
CHINA
NEPAL
BHUTAN
WEST PAKISTAN
EAST PAKISTAN
BURMA
ARABIAN SEA
BAY OF BENGAL
CEYLON
STATE NAMES AND KEY
NUMBER OF CENSUS
NATURAL DIVISIONS
STATE BOUNDARIES
BOUNDARIES OF CENSUS
NATURAL DIVISIONS
BAY OF BENGAL
ARABIAN SEA


INDIA
END PLATE 2
AFGHANISTAN
WEST PAKISTAN
CHINA
TIBET
NEPAL
SIKKIM
BHUTAN
EAST PAKISTAN
BURMA
BAY OF BENGAL
ARABIAN SEA
CEYLON
LACCADIVE, MINICOY AND AMINDIVI ISLANDS
ANDAMAN AND NICOBAR ISLANDS
BOUNDARY, INTERNATIONAL
INTERNAL BOUNDARIES, 1951
State Boundaries
Census Natural Division Boundaries (other than state boundaries)
District Boundaries . (other than above)
PERSONS PER SQUARE MILE
OVER 800
600 - 799
400 - 599
225 - 399
100 - 224
0 - 99
POPULATION REFERENCE MAP
SHOWING DENSITY PER SQUARE MILE (Upper figure in each district), PERCENTAGE URBANIZATION (Lower figure in each district), AND ALL URBAN PLACES WITH OVER 20,000 POPULATION.
POPULATION
URBAN PLACES
OVER 1,000,000
500,000 - 1,000,000
250,000 - 500,000
100,000 - 250,000
50,000 - 100,000
20,000 - 50,000
INCOMPLETELY ENUMERATED DISTRICTS
DATA NOT AVAILABLE
SOURCE: CENSUS OF INDIA, 1951
JOSEPH E. SCHWARTZBERG
DEPT. OF GEOGRAPHY, UNIV. OF WISCONSIN


PUNJAB
PROXIMITY TO HIGH/HIGHER SECONDARY SCHOOLS : 1961
SOURCE OF DATA : PANJAB UNIVERSITY GAZETTE, 1961
74°
75°
76°
77°
78°
33°
32°
31°
30°
29°
28°
WEST PAKISTAN
CHINA
BOUNDARY, INTERNATIONAL
" STATE
• LOCATION OF SCHOOLS
WITHIN 3 MILES
3 TO 5 MILES
MORE THAN 5 MILES
20 0 20 40 60 80 MILES
30 0 30 60 90 120 KILOMETRES
74° EAST OF GREENWICH