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CENSUS OF INDIA 1981

OCCASIONAL PAPER
No. 4 OF 1987

Fertility and Child Mortality Estimates of Tamil Nadu

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GRAPHY DIVISION
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NEW DELHI

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Fertility and Child Mortality Estimates of Tamil Nadu

Demography Division
Office of the Registrar General, India

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P R E F A C E

In the 1981 Census four questions relating to fertility were canvassed. These were age at marriage, number of children ever born, number of surviving children and whether any child was born during last one year. The first three were canvassed for all ever-married women. For operational reasons the question on births during last one year was canvassed for currently married women only.

The questions were canvassed on a 20% sample of enumeration blocks in major states with a population of over 10 million in 1981. The fertility data collected in the 1981 census on the basis of the response to these question in respect of Tamil Nadu have already been published. In the present report an attempt has been made to analyse the fertility data presented in F series. In particular, this report presents estimates of female age at marriage, fertility and child mortality. The latter two estimates have been derived by indirect estimation techniques. These estimates have been presented at district level. At state-level female age at marriage, fertility and child mortality have been presented by religion, educational level and for manual and non-manual workers.

This report has been prepared by Demography Division under the direction of Shri K.S. Natarajan, Assistant Registrar General. I am thankful to the staff and officers of the Demography Division for their hard work. In particular, I am happy to place on record my appreciation of the efforts put in by Shri R.K.Puri, Shri A.K. Biswas, Shri Phool Singh, Deputy Directors, Shri K. Narayanan Unni, Senior Research Officer, Shri S.S. Rawa, Shri Subhash Garg,Assistant Directors and Shri Narayan Yeshwant Gore, Research Officer.

I am also thankful to Shri Brahm Dutt, Senior Technical Assistant(VT) and Shri Ramesh D. Ajbani, Technical Assistant(VT) who prepared varitype plates of the entire manuscript which in itself is a major task to complete in such a short time and with accuracy. Shri P.K. Banerjee, Sr. Technical Assistant(Rotaprint) and Shri Om Parkash, Rota Print Machine Operator, took pains to execute their part of the job i.e. printing with technical competence.

New Delhi
10.4.1987

(V.S.VERMA)
Registrar General, India.

C H A P T E R - I

Population and its Characteristics

The total population of Tamil Nadu as per the 1981 Census is 48.41 millions of which 24.49 millions are males and 23.92 millions females. There are 977 females per 1000 males. This sex ratio is higher than the All India figures as well as the adjoing states of Andhra Pradesh and Karnataka but lower than that of Kerala. The population density in the state is estimated as 372 persons per sq.km. which is higher than national average of 216 per sq.km. Among the major states of the country only Kerala (655), West Bengal (615), Bihar (402), and Uttar Pradesh (377) have higher population density than Tamil Nadu. This is the second most urbanised state in the country with 32.95percent of the population living in urban areas. Literacy rates for males (58.26 percent) and females (34.99 percent) are significantly above the corresponding all India figures. In the following paragraphs a few selected characteristics of the population are analysed at district level. The distributions of currently married females by religion educational level and worker status at the state level are also presented in the chapter. The distribution presented help the reader in appreciating the magnitude of differentials, keeping in view the relevant population proportions.

Table 1.1 presents the district level figures of population, population density, sex ratio, proportions of urban population, literacy rates by sex etc.

Among the sixteen districts of the state, Madurai is the largest in terms of population having more than 4.54 million persons while Nilgiri with only 0.63 millions persons is the smallest. Madras district which is completely urban, forming a part of the Madras urban agglomeration is the most densily populated district in the state with population density of 19274 persons per square kilometer. In fact this is the second highest population density among all districts of the country after Calcutta district. Kanniyakumari district with 845 persons per square kilometer is the second in the state in terms of population density Dharmapuri (208) has the lowest density of population in the state. Only in three districts, viz., Tirunelveli, Ramanathapuram and Pudukkottai females out number males. It is interesting to note that the six contiguous districts of Tiruchchirappalli, Tanjavur, Pudukkottai, Ramanathapuram, Tirunelveli and Kanniyakumari have higher sex ratio compared to the sex ratio of the state as a whole. The only other district with a sex ratio above the state average is North Arcot.

Chengalpattu district had the highest decadal growth rate (29.26 percent) of population during 1971-81 closely followed by Niligiri (27.56 percent) and Madras (27.04 percent). These are the only districts which had growth rates higher than the national growth rate of 25.00 percent during the same period. A substantial portion of the growth of these districts is due to migration. Parts of Chengalpattu district falls in Madras urban agglomeration. Tirunelveli district has shown the lowest growth rate during 1971-81, the growth rate being only 11.66 percent. Coimbatore district, despite being highly urban, has shown only modest growth rate of 18.79%.

Urbanisation levels vary substantially among the districts of the state. It is as low as 9.37 percent in Dharmapuri district while Madras is a completely urban district. Coimbatore (50.46 percent) and Niligiri (48.85 percent) are also highly urbanised. It is interesting to note that Kanniyakumari district, with a high population density of 845 persons per square km. has comparatively low level of urbanisation with only 17.25 percent of the population classified as urban.

Both male and female literacy levels are high in the state. Only Dharmapuri district with a literacy rate of 38.98 percent for males and 18.60 percent for females has literacy rates significantly lower than the correspoinding all India rates of 46.89 percent and 24.82 percent. In case of males the literacy rates in all other districts are above the national average.

In case of females, the literacy rates in Dharmapuri (18.60 percent) South Arcot (23.81 percent) and Pudukkottai (23.86 percent) are below the national average. Madras where 75.60 percent of the males and 60.69 percent of the females are literate has the highest literacy rate in the state followed by Kanniyakumari when the corresponding figures are 68.55 percent and 59.08 percent. The male-females differential in literacy rates is minimum in Kanniyakumari.

The scheduled castes form 18.39 percent of the population of the state. In Chengalpattu (26.21 percent) and South Arcot (25.97 percent) more than one fourth of the population is classified as scheduled castes while

in Kanniyakumari only 4.23 percent of the population belong to this category. Only 1.07 percent of the population belong to the scheduled Tribes. Salem 3.56 percent) and Niligiri (3.31 percent) have more than three percent of the population belonging to the Scheduled Tribes.

There are 11.2 million females in the age group 15-44 years in the state of whom 8.14 million are married. The percentage of females in the age group 15-44 to the total females works out to be 46.8 percent, which is considerably higher than the corresponding figure of 43.4 percent for India excluding Assam (estimated from 5 percent advance sample). The percentage of married females in this age group works out to be 72.62, which is lower that the national average of 80.48 percent. The percentage of married females in the age groups 15-19 and 20-24 are also well below the corresponding percentage for India. Based on the question on age at marriage it is estimated that the mean age at marriage of the currently married females is 18.4 years. There is not much difference between rural and urban areas in mean age at marriage. The number of couples with wife in the age group 15-44 per 1000 persons in the state is estimated as 168 which is very close to the all India rate of 169 (for India excluding Assam). It is the higher proportion of females in the age group 15-44 and sex ratio more favourable to females compared to India that has contributed to the higher proportion of couples in the state, despite higher age at marriage and consequent reduction in proportion married in age groups 15-19 and 20-24.

Among the 16 districts of the state significant variations are noticed in all the indicators. The percentage of married females in the age group 15-44 years varies from 58.38 percent in Kanniyakumari to 80.55 percent in Dharmapuri. It is interesting to note that with the exception of Madras which is a completely urban district, all the districts where percentage of married female in the age group 15-44 years is below 70,namely, Kanniyakumari (58.38 percent), Niligiri (66.79 percent), Tirunelveli (67.19 percent) and Coimbatore (69.48 percent), are bordering Kerala state where the percentage is low. All the districts with the proportion of married females in 15-44 below state average (with the exceptions of Madras) lie in the Southern part of the state. The districts of Chengalpattu (74.76 percent), North Arcot (76.72 percent), South Arcot (77.67 percent), Dharmapuri (80.55 percent), Salem (76.24 percent) and Periyar (73.82 percent) where proportion of married females in the age group 15-44 is more than the state average form a contiguous belt in the northern region of the state.

In the district of Kanniyakumari the mean age at marriage for currently married females is estimated as 20.3 years. Of the sixteen districts of the state the mean age at marriage is below 18, the percent statutory minimum age at marriage, in the districts of Chengalpattu, North Arcot, South Arcot, Dharampuri and Salem. In the rural areas also only in the above districts the mean age at marriage is below 18. In the districts of Periyar, Coimbatore and Ramanathapuram, the mean age at marriage is significantly higher in rural areas compared to urban areas, the difference being more than 0.3 years.

Significant regional variation is noticed in the number of couples per 1000 persons also Kanniyakumari district has the lowest couple population ratio of 137 per 1000 while Salem, with 180 couples per 1000 persons, is at the other end. In the districts of Salem (180) and Periyar (177) where the couple population ratios are much higher than the state level figure it is noticed that the proportion of females in the reproductive age groups as well as the proportion of married females among them are also high.

There are 7.14 million currently married females in the rural areas and 3.34 million currently married females in the urban areas of the state. The following paragraphs analyse the distribution of these females by religion, educational level and worker category.

It is seen that 92.03 percent in rural areas and 83.62 percent in urban areas of the currently married females are Hindus. Muslims constitute 2.83 percent of the currently married females in rural areas and 9.61 percent in urban areas while Christians account for 5.07 percent in rural areas and 6.47 percent in urban areas. All other religions acoount for only insignificant proportion of the currently married females.

In the rural areas 78.44 percent of the currently married females are illiterate while this proportion is only 43.58 percent in urban areas. In rural areas the categories "Literate but below middle". Middle but below matric" and "Matric but below graduate"

respectively account for 15.45 percent, 3.20 percent and 2.73 percent of the currently married females while in urban areas these categories respectively account for 28.22 percent, 11.41 percent and 14.64 percent of the currently married females. Graduates form only 0.18 percent of the married females in rural areas and 2.15 percent in urban areas.

From the Table 1.5 it is seen that 49.82 percent of the currently married females are workers, 40.81 percent being main workers and 9.01 percent marginal workers. The percentage of non-workers among currently married females in rural areas works out to be 50.18 percent. In urban areas 16.35 percent of the married females are workers, 14.86 percent as main workers and 1.49 percent as marginal workers. The proportion of non-workers in urban areas among married females is 83.65 percent indicating that a much larger proportion of the married females in urban areas are full time housewives. In rural areas only 1.00 percent of the married females are main workers engaged in non-manual occupations. In urban areas the corresponding figure is 4.28 percent. In rural areas only a very small proportion of the female main workers are engaged in non manual occupations while in urban areas this proportion is quite high.

C H A P T E R - II

Estimates of child mortality

The 1981 census collected data on children ever born and children surviving sexwise. The questions on children ever born and children surviving were canvassed for all ever married women. The number of children ever born and the children surviving have been tabulated by the age of the mother. These tables are available at district level separately for rural and urban areas. From these two sets of data child mortality for the years preceeding 1981 can be estimated by using Brass technique.

The essence of the Brass child mortality procedure is that the proportions of children dead classified by the age of the mother could be converted into estimates of child mortality by selecting suitable multipliers (K_i). These multipliers will differ according to the fertility pattern. As an indicator of fertility pattern Brass suggested the ratio P_1/P_2 or P_2/P_3 where P_1, P_2 and P_3 are the average number of children ever born per woman in the age-group 15-19, 20-24 and 25-29. The multipliers for converting the proportions dead into estimates of child mortality were derived by Brass, using Brass fertility polynomial. This fertility polynomial was mathematical function and had some limitations. In view of this, the multipliers were later modified by Trussell who generated a different set of multipliers using model fertility schedules developed by Coale

and Trussel and the regional model life tables generated by Coale and Demeney. In estimating the child mortality we have used the Trussel equation.

The Brass procedure as modified by Trussel helps us to estimate q(1) i.e., the probability of a new born child dying before age 1, q(2) i.e., the probability of a new born child dying before age 2, q(3) the probability of a new born child dying before age 3, and q(5) the probability of a new born child dying before age 5. In the original Brass estimation procedure it was assumed that the child mortality would remain constant for a period preceding the census (survey). This assumption was, however, relaxed later on. Coale and Trussel developed a procedure which is valid when mortality declined. This procedure assigned the estimated q(x), to a few years prior to census. In other words, when mortality is declining these estimates would not refer to the year before the census but would refer to different points of time prior to the census. These have been termed as YPC, i.e., year prior to census and have been presented alongwith state level estimates.

Table 2.1 shows the estimates of child mortality q(1), q(2), q(3) and q(5). While the trend indicated by these estimates seems generally satisfactory, it is noticed that in most of the districts the progression of the estimates of q(1), q(2), q(3) and q(5) is not acceptable. This is true for both rural and urban areas. For example, male child mortality in urban areas of the state are estimated as 84, 83, 92 and 106. Similarly, in district of Chengalpattu the male child mortality estimates in urban areas are 94, 93, 95 and 112.

These erratic nature of estimates are sometimes observed for q(2) and q(3) also. In other words, mortality from birth to age 1 is estimated to be higher than from birth to age 2, which is not possible. Such estimates, however, arise because of inaccuracies in reporting of age, number of children born and surviving, small number of events reported and other factors like migration. Brass, in his presentation, had mentioned that the estimates of q(1) could not be relied upon because of the small number of children born to women in this age group leading to sampling errors. It is, therefore, necessary that the estimates of q(1) are graduated. However, due to early marriage of females the objection of small number of births to women in the age group 15-19 may not be valid for India. Nevertheless, our estimates of child mortality in this age-group lead us to the conclusion that the estimates of q(1) need generally to be graduated.

In such cases where the progression has not been acceptable we have graduated the values to remove the irregularities. The graduation has been done by taking the average of values of life expectancy corresponding to q(2), q(3) & q(5), if the values of q(2), q(3) and q(5) were found to be all consistent. The expectations of life at birth corresponding to q(2), q(3) and q(5) were worked out from the South Asian pattern of Model Life Tables and their average taken. Corresponding to this average value of e_o^o, the value of q(1) was interpolated. This interpolated value of q(1) has been taken as the graduated value of q(1). The graduated value of q(2), wherever necessary

has been based on q(3) and q(5) estimates.

The estimates presented in Table 2.1 are the ungraduated estimates. The graduated figures wherever graduation was considered necessary are also shown in brackets.

Analysis of the data relating to Tamil Nadu indicates that the child mortality in this state is quite low. The table also shows the estimates of child mortality for males and females in different districts of the state. The discussions in the following paras are based on the graduated values. q(1) which corresponds to infant mortality is 86 (94 in rural areas and 68 in urban areas). The child mortality is relatively low compared to other states of India. Districtwise analysis of child mortality indicates that the mortality is very low in the districts of Madras, Salem, Periyar, Coimbatore, Pudukkottai and Kanniyakumari. The infant mortality rates in Madras and Kanniyakumari districts are lower than 60 - the target laid down in national health policy for the year 2001. On the other hand, child mortality is much higher than the state average in the districts of North Arcot, South Arcot, Ramanathapuram and Tirunelveli. As would be expected the child mortality estimates in the rural areas are much higher than those in the urban areas. The differentials between the rural-urban areas were greater in case of the districts of Sourth Arcot, Coimbatore, Madurai and Tirunelveli. There was hardly any differential between rural and urban child mortality in the district of Kanniyakumari. The rural-urban

differentials were low in the districts of Salem, Periyar, Nilgiri, Thanjavur and Pudukkottai also. Another feature worth noting is that both the infant and child mortality are lower for females compared to males. This is true both in the urban areas and the rural areas. However, in the districts of Madras (which is a wholly urban district), Salem and in the urban areas of Dharmapuri the female infant and child mortality was observed to be slightly higher than the male mortality. Another noticeable feature of these estimates is that generally the advantage of lower female infant mortality in the younger ages is lost by age 5 lending credence to the view of differential health and nutritional care of male and female child.

It is observed that q(5) for females is higher than q(5) for males in the districts of Dharmapuri, Salem, Madurai, Tiruchirapalli and Ramanathapuram. Even when the female mortality was less than the male mortality at age 5, the gap was found to be very narrow in most of the districts.

The infant mortality rate of 86 obtained by this method of indirect estimation compares favourably with the results obtained from the sample registration scheme. According to SRS, the infant mortality rates of 1980 are 93 for all areas, 103 for rural areas and 64 for urban areas. The estimates derived from census are somewhat lower for rural areas and higher for urban areas.

The YPC calculations for various districts show that q(1) applies to the less than 1 year prior to census, q(2) to 2.0 to 2.04 years prior to census, q(3) to 3.8 to 3.9 years before the census and q(5) 6 to 6.3 years prior to census.

Child mortality estimates in Tamil Nadu by religion and educational level of mother

Table 2.2 shows the estimated child mortality rates for major religions viz., Hindus, Muslims and Christians in the state. In view of the small numbers involved, child mortality has not been calculated for other religions.

It is observed that the child mortality is highest among Hindus and lowest among Muslims. Both in the rural areas as well as urban areas the ranking of the religions for child mortality remains the same.

It is noticed that in almost all the cases due to graduation, the q(1) values have reduced sharply. Thus the graduated q(1) values for Christians has been shown as 75 against the estimated value of 126. Even though this appears drastic, it is evident that q(1) cannot be 126, when q(2), q(3) and q(5) are 93, 95 and 110 respectively. The latter three values indicate expectation of life at birth of around 63-64 years. On this basis the graduated q(1) value of 75 seems realistic.

Child mortality rates for females are lower than those for males in case of all the religions, both in the urban areas as well as rural areas.

Table 2.3 shows the child mortality estimates by educational levels of the mother. This table clearly brings out the impact of the mother's educational level on child mortality. As the educational level of the mother increases child mortality rates decline very sharply. For example, the probability of dying by age two represented by q(2) was 19 only in case of children born to graduate mothers, 47 for those mothers who are matriculates but below graduates, 77 for those mothers who are middle but below matric, 88 for those mothers who are literate but below middle and 124 for illiterate mothers. In case of graduate mothers, only 29 children per 1000 live births died by age 5 as against 153 for illiterate mothers, 108 for literate but below middle mothers, 78 for middle but below matriculate mothers and 53 for matriculate mothers. In this educational category, it is not possible to estimate q(1) as there were hardly any females in the age group 15-19 who are graduates.

One very striking observation is that as the educational level of the mother increases the disparity between rural and urban child mortality rates widen. For example q(5) for graduate mothers in the rural areas was 55 as against 24 in the urban areas. For matriculate mothers the respective figures were 68 and 46 while those for middle but below matriculates were 93 and 69 and for illiterate the two rates were 156

and 140. This would imply that besides the educational level of the mother the availability of prompt health services and environment also play a major role in reducing child mortality.

Child Mortality estimates for Tamil Nadu by class of workers

These estimates have been worked out for main workers only. In the rural areas the workers has been classified into four categories which are cultivators, agriculture labourers, manual workers and non-manual workers. In the urban areas the classification is only two fold namely manual and non-manual. Child mortality estimates for various types of workers are presented in Table 2.4.

In the rural areas, q(1) was the highest for agricultural labourers (138), followed by manual workers (134), cultivators (92) and non-manual labourers (70). There is very little difference in child mortality between agricultural labourers and manual workers in the rural areas. While q(1) for manual workers was a little lower than that amongst agricultural labourers, the estimates of q(2) and q(5) were little higher in case of manual workers. The female child mortality estimates by age 2, age 3 and age 5 amongst manual workers was comparatively higher among the manual workers

than among the agricultural labourers. But among non-manual workers the child mortality was very low even in the rural areas as compared to that prevailing among agricultural labourers, manual workers as well as cultivators. For example the number of deaths per 1000 live births by age 5 were 180 for manual workers, 174 for agricultural labourers, 142 for cultivators and 99 only for non-manual workers.

In the urban areas the mortality amongst children of manual workers was much higher than that amongst children of non-manual workers. q(1) was 138 for manual workers and 50 only for non-manual workers. q(2) was 143 for manual workers and 63 for non-manual workrers, q(3) was 148 for manual workers and 66 for non-manual workers, while q(5) was 167 for manual workers and 64 for non-manual workers.

Another noticeable feature is that in the urban areas the child mortality between age 1 and age 5 had increased much appreciably (from 138 to 167) in case of manual workers than in case of non-manual workers (50 to 64).

Upto age 2 female child mortality both in the rural areas as well as the urban areas is estimated to be higher than the male child mortality amongst all classes of workers. But by age 3 the gap between male and female child mortality starts narrowing down and by age 5 the female mortality is either higher than the male mortality (as against cultivators and manual workers in the rural areas) or gap between the two is almost negligible.

C H A P T E R - III

Fertility

In the 1981 census, four questions relating to fertility were canvassed. These were age at marriage, number of children ever born, number of surviving children and whether any child was born during the last one year. The first three questions were canvassed for all ever married women, while the last one was canvassed only in case of currently married women. The data has been tabulated at state level by religion, educational level and economic activity of the female. The data has also been tabulated at district level separately for rural & urban areas by age group but without cross classification by religion and educational level.

The data presented in the census permits presentation of fertility indicators at state level by religion and educational level of the females. For the first time it has become possible to provide estimates of fertility at the district level from the census data. The fertility indicators presented herein and their definitions are as follows:

Age specific fertility rate: The average number of children born alive during the last year per woman of a particular age group.

Age specific marital fertility rate:	The average number of children born alive during the last year per married woman of a particular age group.
General fertility rate	The number of children born alive during the last year per 1,000 women of child bearing ages. In 1981 tabulation, the age group 15-49 and in the 1971 tabulation the age group 13-47 have been considered as child bearing ages.
General marital fertility rate	The number of children born alive during the last year per 1,000 married women of child bearing ages. In the 1981 tabulation the age group 15-49 and in the 1971 tabulation the age group 13-47 have been considered as child bearing ages.
Total fertility rate	Total number of children that would have born alive per woman, had the current schedule of age specific fertility rates been applicable for the entire reproductive period. It is calculated as the sum of the age specific fertility rates in five year age groups multiplied by five.
Total marital fertility rate	Total number of children that would have born alive per married woman had the current schedule of age specific marital fertility rates been applicable for the entire reproductive period. It is calculated as the sum of age specific marital fertility rates in five year age groups multiplied by five.

A few limitations with regard to these indices must be noted. In the census, the question on births during the last one year was canvassed only for currently married women for operational reasons. It was felt that in a massive operation like the census, sensitive questions as to whether there was any birth during the last one year could not be canvassed in the case of the single, widowed or divorced women. There may have been some births during the last one year before the day of enumeration to women who might have become widowed or might have been divorced subsequently but before or during the census enumeration period. Such births would not have been netted. Another class of births that would have been left out would relate to babies born during the last one year to mothers who may have died before the census date. Also, in calculating indices such as the ASFR, TFR, GMFR and GFR the mid-year population should usually be used as the denominator. However in the absence of any data on deaths during last year of females, the number of females classified by age groups as reported in the census has been used as the denominator without any adjustment. The effect of these three limitations would be partly to underestimate the relevant fertility indicators. The limitations of an enquiry of this nature in which retrospective data is attempted to be collected must also be kept in mind, particularly the likelihood of omissions of events, inaccurecies in dating of births and distortions in age reporting. These limitations would imply that the estimates of current fertility presented herein should be considered as indicative of broad trends rather than of actual levels. The

section on P/F ratio technique presented later may provide a better estimate of levels than the unadjusted census rates.

Table 3.1 presents the Age specific fertility rates (ASFR) and Age specific marital fertility rates (ASMFR) by religion for total, rural and urban areas. The table also presents General fertility rate (GFR), Total fertility rate (TFR), General marital fertility rate (GMFR) and Total marital fertility rate (TMFR). Marital fertility rates as well as Total fertility rates indicate that fertility is high in rural areas compared to urban areas. This is true in case of Hindus who constitute about 92% of the female population in rural areas and 83% in urban areas. In case of Muslims & Jains the General marital fertility rate is higher in urban compared to rural areas. The total marital fertility rate (TMFR) is however higher in rural areas in case of these communities. The higher GMFR in rurban areas may therefore be attributed to the differential in rural urban age structure of these two communities. Jains form only a microscopic minority in Tamil Nadu. Both in rural & urban areas Muslims have higher fertility followed by Christians, Hindus and Jains. Marital fertility is however higher among christians followed by Muslims, Hindus and Jains. The age structure of the married is responsible for this change in the respective position of Muslims & Christians.

Table 3.2 presents the ASFR, ASMFR, GFR, GMFR TFR and TMFR by educational levels. As expected, among literates, educational level has direct impact on

fertility. Fertility rates both in rural and urban areas decrease with increase in level of education. However, it is noticed that all fertility indicators like GFR, TFR, GMFR and TMFR for illiterate females are lower than those for literate but below middle. This seems baffling since illiterates are generally found to have higher fertility than literate. One of the explanation seems to be the differential omission of children in census. It is seen from table 3.10 that the sex ratio of children ever born among illiterate women is the lowest leading to the conclusion that such women tend to omit female children from reporting. An examination of the sex ratio of the surviving children among the same category indicates that among this category female mortality is relatively higher. Taken together these lead to the conclusion that most of the dead children are not reported in response to question on births during last year particularly by illiterate females. This explains their low marital fertility rate reported in census.

Table 3.3 presents the ASFR, ASMFR, TFR, TMFR, GFR and GMFR for manual and non-manual worker. In this table manual worker has been defined as a worker who performs occupation which may be classified in any one of the divisions 5,6,7,8,9 of national occupational classification i.e. service workers, farmers, fishermen, hunters, and related workers, production and related workers, transport equipment operators and labourers. Others have been included in non-manual workers. Like educational level, occupation also has direct impact on

the level of fertility. Working women exhibit lower fertility rate than others. Women performing non-manual jobs both in rural and urban areas have lower fertility than those performing manual jobs.

Table 3.4 presents the ASFR and ASMFR for the districts of the state separately for rural and urban areas. Table 3.5 presents the GFR, GMFR, TFR and TMFR at district level. Among the districts lowest value of TFR is noticed in Periyar and the highest value in Dharamapuri district. Among urban areas maximum value of total fertility rate is observed in Kanniyakumari. Detailed analysis of the regional variations in fertility has been done based on the adjusted rates presented in the latter section of the chapter. Some of the differentials in the unadjusted rates may be due to the differential omission of births during last year.

The question on births during last one year was also canvassed in 1971 census for all the currently married women. In that census data on births during last one year was presented according to age groups, 13-17, 18-22, 23-27, 28-32, ...43-47, 48+. Hence the results are not directly comparable with those of 1981 census. However, the values of GMFR and TMFR can be broadly compared for 1971 and 1981 censuses. The values of TMFR, and GMFR for 1971 and 1981 censuses have been presented in table 3.6. This table shows that in Tamil Nadu General marital fertility rate has declined in urban and rural areas. However, the trend based on TMFR is just the reverse. TMFR has

increased in rural areas and has remained the same in urban areas. Similar trend in TMFR is observed among Hindus. In case of all other religions the TMFR has increased. The trend indicated by GMFR may be due to lower percentage of married females in age groups 15-19, 20-24 in 1981 compared to 1971 resulting in over all reduction in proportion married in 15-44.

From the data on number of children ever born to ever married women, average number of children ever born per woman by age of mother has been calculated. Since most of the women complete their reproductive period by the age group 45-49, the average number of children ever born to women in the age group 45-49 can be taken as an index of the completed level of fertility. Though the age grop 50 and over may be considered more appropriate it has generally been observed from a number of studies that the number of children born reported by the women of this age group is more affected by omission and recall lapse. In table 3.7, average number of children born per women in the age group 45-49 has been presented for rural and urban areas according to religion, educational level and economic activity. From the table it may be seen that the number of children ever born per woman is higher in urban areas than rural areas which is contrary to the conclusion drawn earlier that fertility is higher in rural areas in comparison to urban areas. The reason of this may be the comparatively more under reporting the number of children ever born by rural women than those of urban women.

Muslims have the highest level of completed fertility followed by Christians, Jains and Hindus. In rural areas Christians have the highest level while in urban areas, Muslims have the highest level of completed fertility. Among the literate women the completed level of fertility reduces with the increase in level of education. Similarly the working women have the lower level of completed fertility in comparison to other women. Even among the working women those who are engaged in non manual jobs have lower level of completed fertility than those performing manual work. From Table 3.8 showing completed fertility by districts it is clear that the average number of children everborn by age group 45-49 is highest in Nilgiri district and lowest in Periyar district.

Sex ratio of children ever born and children surviving

Table 3.9 presents the sex ratio of children ever born (CEB) and children surviving (CS) according to age of women. Sex ratio has been defined as number of females children 1000 male children. Over all sex ratio of CEB (916) in Tamil Nadu is much below the expected level of 950 and decreases as the age of mother increases. There is no significant difference in sex ratio of CEB according to rural-urban areas. If the mothers are divided in three major age groups 15,15-34 and 35+ the sex ratio of related CEB is much higher than 950 in first age group and within the expected range for 2nd age group. The sex ratio of CEB reported by woman in the third age group i.e.

35+ above is much below the expected level. Similar trend is also observed in case of the sex ratio of children surviving. This points out to the fact "very often older woman may not include their female children in their account". The over all sex ratio of children surviving is 898 which is distinctly lower than the sex ratio of children ever born. This indicates that in Tamil Nadu female mortality is high.

Age wise comparison of the sex ratio of surviving children with that of children ever born indicates that upto mothers age 35, the sex ratio of surviving children is higher than that of CEB. After that age however the ratio for surviving children is lower than that of CEB. Since the former group would have younger children, it appears that female mortality is declining fast in younger ages.

Table 3.10 presents the same statistics for different religions, educational levels and type of workers for total, rural and urban areas. As stated earlier at state level there is not much difference betwwen rural and urban areas in the sex ratio of CEB. Similar trend is seen among Hindus and Christians. But among Jains & Muslims the rural/urban differentials exist. Sex ratio by educational level for CEB is around the expected level of 950 in case of women with educational level middle and above, but is lower in case of literate but below matric and illiterate. Further the sex ratio of surviving children improves for all educational categories except illiterate. It appears that illiterate

woman fail to report their female children and that mortality among female children in this group may be relatively higher than males.

Table 3.11 presents the sex ratio of children ever born and surviving by districts. The sex ratio of CEB varies between 941 (Nilgiri) to 889 (Salem). The sex ratio of children surviving varies between 932 (Tirunelveli) to 857 (Salem). Except in Dharmapuri, Salem & Pudukkottai, rural urban differentials are not significant. The very low sex ratio of CEB and CS reported in Salem would need further investigation.

Ever married and currently married women having three or more children is an indicator of the family limitation practice. About 53.6% of women have reported three or more live births. There is not much difference in this percentage among rural and urban areas. As expected the percentage increases with age both in rural and urban areas and in case of EMW and CMW also. Table 3.12 & Table 3.13 presents the same statistics for selected age groups namely 25-29, 30-34, 35-39 & 40-44 by religions, educational levels and economic activity at state level. While about 71% of Hindus in age group 40-44 are reported to have 3 or more CEB, the corresponding proportion is distinctly higher among followers of other religions.

Over two fifths of ever married females whose educational level is below matric, have given birth to 3 or more children by the time they are in age group

25-29. This proportion jumps to over three fifth by the next age group. Only for women with educational level matric and above, this proportion declines. Rural/urban differentials are particularly noticeable among this group. Large differences in this percentage are also noticed among women who are doing non-manual work and other work.

North Arcot district has reported the highest percentage of married women who have three or more children. It is lowest in Periyar district (Table 3.14).

Table 3.15 presents the percentage of women of age 50 & above who are reported to have given birth to no child according to various religions, educational levels and economic activities while table 3.16 presents the same statistics for different districts of the state. The percentage of childless women of age 50+ in Tamil Nadu is 8.70. There is no significant difference in this percentage between rural and urban areas. In case of religions the percentage of childless women of age 50+ is highest among Hindus followed by Jains, Muslims and Christians. The apparently high rural/urban differentials among Jains is due to very few number in rural areas. Among the literate women who are graduate and above, the percentage is highest. Among other educational groups the differences are minor. A higher proportion of women who are engaged in non-manual jobs, are childless. At district level the percentage of childless women of age 50+ is maximum (10.23%) in Dharmapuri and minimum (5.82%) in Nilgiri.

Table 3.17 presents the distribution of currently married women for total, rural and urban areas seperately according to duration of marriage. Duration of marriage was not canvassed in census but has been derived as the difference between age of the respondent and her age at first marriage.

It is noticed that proportion of currently married women whose duration of marriage is less than 5 years, less than 10 years, less than 15 years & less than 20 years is higher among Muslims when compared with Hindus and Christians.

Estimation of fertility using P/F technique

As already noted, the 1981 census collected data on children ever born and births during last one year. The question on children ever born was canvassed for all ever married women and that on birth during last one year canvassed for all currently married women. If one were to make an assumption that very few births have occured to widowed and divorced females during the last one year, the births during last one year could be converted into age specific fertility rates. From these two sets of data, fertility for the year 1980 can be estimated using P/F ratio technique suggested by William Brass, where P stands for the average parity of the women in a particular age group and F stands for the average parity equivalent obtained from period fertility rates by cumulation and interpolation.

The essence of Brass fertility estimation procedure is the adjustment of the age pattern of fertility derived from information on births during last one year by the level of fertility implied by the average parity of women in age groups 20-24 and 25-29. Since the current fertility has been obtained from the census question on births during last one year preceding the census, the age of mother would be at time of census, not at the time of birth. In otherwords, there would be half a year displacement in age specific fertility rate. Brass had developed a set of multipliers which can be used in such situations. These multipliers are dependent on the values of (f_1/f_2) i.e. the ratio of the age specific fertility rate in the age group 15-19 to that in 20-24 and the mean age of fertility schedule $(\bar{m})$.

Table 3.18 presents the parameters used to locate multipliers (Ki's) seperately for total, rural and urban areas for different categories of women. The same parameters at district level have been presented in table 3.19. Both the parameters i.e. $\bar{m}$ and f_1/f_2 determine the shape of fertility curve.

The mean age of the fertility schedule $(\bar{m})$ is 27.4, 27.6 and 27.0 for total, rural and urban areas respectively. The value of $\bar{m}$ is higher in rural areas compared to urban areas except for Jains who constitute a very small proportion of the population. For Christians the value of $\bar{m}$ is highest

both in rural and urban areas while the value of f1/f2 is lowest for them. The latter is due to higher age at marriage for females in this community. Irrespective of level of education, the mean age of fertility schedule ($\bar{m}$) is higher in rural areas compared to urban areas. This may be attributed to the effective adoption of birth control measures by urban females curtailing births during late thirties and early forties. The value of $\bar{m}$ in case of women performing non-manual jobs is higher in urban areas compared to rural areas. The value of $\bar{m}$ varies from 29.5 in Kanniyakumari district to 25.9 in Salem district (Table 3.19). Sharp inter district variations are also noticed in rural and urban areas. The value of $\bar{m}$ in rural areas is higher compared to urban areas in all the districts other than Salem and Kanniyakumari. The value of f1/f2 is highest in case of Dharmapuri district for total (.384), rural (.390) and urban (.319) areas and lowest in Kanniyakumari for total (.070), rural (0.081) and urban (0.060) areas. A higher value of (f1/f2) would imply a early start of fertility.

The P/F ratios for various ages groups by religion have been presented in table 3.20 for total, rural and urban areas. The P/F ratios are above one, leading to the conclusion that current fertility levels are under reported.

In most of the cases the P/F ratios increase in older age groups indicating reduction in fertility in older age groups. A fluctuating P/F ratios would indicate age reporting bias. In Tamil Nadu the P/F ratios for age groups 20-24, 25-29, 30-34 are reasonably

close and are around 1.3. After the age 35 the ratio increases steadily. In the increase in P/F ratio in older age group may be due to adoption of terminal method of family planning. Similar trend is also observed in rural areas. In urban areas however, the P/F ratio increases steadily from the age group 20-24 onwards indicating fall in fertility in urban areas. For reasons explained earlier in the para P3/F3 has been considered as adjustment factor for inflating current fertility rates. This factor is highest in case of Jains followed by Muslims, Christians and Hindus. As pointed out earlier Jains constitute a small proportion and mostly live in urban areas.

Table 3.21 presents the values of P/F ratios according to the educational levels and economic activities performed by the women. For educated women P3/F3 is highest for women who are middle but below matric and minimum for those who are Graduate and above. The value of P3/F3 is higher for the women doing manual jobs compared to those who perform non-manual jobs.

Table 3.22 presents the P/F ratios for various age groups at district level. Similar to the patterns observed at state level, at district level also the P/F ratio declines in age group 20-24 compared to age group 15-19 and increases in older age groups. It is observed that generally the ratios P3/F3 and P4/F4 corresponding to age groups 25-29 and 30-34 are closer. The ratio P3/F3 has been used as correction

factor for adjusting the current fertility rates. P3/F3 is highest (1.4336) for Nilgiri district and lowest (1.1664) for Dharmapuri district. In rural areas ratio varies from 1.5044 (Nilgiri) to 1.1493 (Dharmapuri) while in urban areas the maximum value of P3/F3 is 1.4905 (South Arcot) and minimum value is 1.1982 (Periyar).

In the rural areas of the districts of Chengalpattu, North Arcot, South Arcot and Dharmapuri the P/F ratio declines upto age group 30-34 and then fluctuates. In the rural areas of districts Pudukkottai, Tirunelveli and Ramanathapuram, the ratio declines upto the age group 45-49. In Madurai-rural the P3/F3 value is not far removed from values at other adjoining age groups though the P/F ratio fluctuates almost in the whole reproductive period. In case of rural areas of districts Periyar, Coimbatore, Nilgiri, Tiruchchirappalli and Kanniyakumari, the P/F ratio falls upto age group 20-24 and then increases continuously upto last age group while in rural areas of Salem and Thanjavur the ratio declines upto age group 30-34 and then increases upto the age group 45-49. This would lead one to the conclusion that in these districts current fertility has declined even in rural areas. The application of P/F ratio method in such cases may over estimate the fertility level. The P3/F3 in these districts except Coimbatore and Nilgiri is either of same level as other districts or lower leading one to believe that the quantum of over estimation may not be high. In Coimbatore and Nilgiri, however, the adjusted estimates may be distinctly higher. In urban areas of all the

districts of Tamil Nadu except Tiruchchirappalli and Pudukkottai where P/F ratio fluctuates, the P/F ratio increases from 25-29 age group to 45-49 age group. The adjustment factor P3/F3 may lead to over estimates of fertility in urban areas. In view of this, adjusted estimates have been presented only for total areas of a district without rural-urban break up. This, it is believed would reduce the extent of over estimation in most of the cases.

The Table 3.23 presents the adjusted ASFR, ASMFR, TFR, TMFR, GFR and GMFR for total, rural and urban areas of the state. The adjustment has been done using the P3/F3 as adjustment factor. It should be kept in view that the adjusted rates for urban areas are likely to be over estimates. The adjusted TFR for state as a whole is 3.9 and TMFR is 5.5. The GFR is 123 and GMFR is 169. Birth rate calculated from reported number of births works out to 24.37%. The three years moving average of birth rate centered in 1980 is 28.3. Clearly the birth rate seems under reported. The birth rate for Tamil Nadu based on census data adjusted by P/F ratio technique is 31.96 . This rate seems to be on higher side when compared to a rate of 28.3 based on SRS.

The adjusted fertility rates by different classifications of women are presented in table 3.24. Similar fertility parameters alongwith crude birth rate relating to all the districts of Tamil Nadu are presented in table 3.25.

The latter table presents the adjusted and un-adjusted crude birth rate, total fertility rate, total marital fertility rate, general fertility rate and general marital fertility rate at district level. Adjusted birth rates for the districts of Madras, Salem, Periyar, Coimbatore, Tiruchchirappalli and Thanjavur are lower than the state average.

To sum up the analysis leads to the following conclusions.

In case of urban areas an examination of the P/F ratios indicate that fertility has declined. Similar is the case in rural areas of Coimbatore and Nilgiri. Application of P/F ratio in such cases may lead to over estimates of fertility rates. In rural areas of other districts the estimates adjusted by P/F ratio technique may be reasonably usable.

TABLES

Table 1.1

Population and selected indicators - 1981

State/District	Total population (000's)	Density (per sq. km.)	Sex Ratio (females per 1000 males)	Percentage decadal variation of population, 1971-81	Percentage of urban population	Percentage of literates		Percentage of	
						Males	Females	SC	ST
1	2	3	4	5	6	7	8	9	10
TAMIL NADU	48,408	372	977	17.50	32.95	58.26	34.99	18.35	1.07
1. Madras	3,277	19,274	934	27.04	100.00	75.60	60.69	13.36	0.16
2. Chengalpattu	3,617	460	957	29.26	38.93	59.72	35.75	26.21	1.27
3. North Arcot	4,414	360	979	17.53	23.01	53.48	28.04	19.89	2.12
4. South Arcot	4,202	386	972	16.15	15.70	49.38	23.81	25.97	1.28
5. Dharmapuri	1,997	208	959	19.03	9.37	38.98	18.60	13.86	2.31
6. Salem	3,442	398	949	15.01	28.93	49.95	28.07	16.28	3.56
7. Periyar	2,068	252	956	15.11	22.01	51.76	27.31	16.36	0.73
8. Coimbatore	3,060	410	950	18.79	50.46	64.04	41.59	16.24	0.73
9. Nilgiri	630	247	957	27.56	48.85	67.74	44.79	23.04	3.31
10. Madurai	4,536	359	975	15.18	36.24	59.48	34.94	15.33	0.30
11. Tiruchchirappalli	3,612	326	985	13.16	26.13	58.43	32.61	18.62	1.34
12. Thanjavur	4,064	491	988	14.46	23.06	62.63	37.94	23.21	0.15
13. Pudukkottai	1,157	248	1,007	22.11	13.28	53.64	23.86	16.57	0.13
14. Ramanathapuram	3,335	265	1,023	16.62	28.21	58.92	32.02	16.68	0.20
15. Tirunelveli	3,574	313	1,044	11.66	34.64	63.30	41.45	16.49	0.33
16. Kanniyakumari	1,423	845	985	16.43	17.25	68.55	59.08	4.23	0.45

Table 1.2

Selected Nuptiality Indices - 1981

State/District	Number of females in the age group 15-44 (00's)		Percentage of married females to total females in the age groups				Mean age at marriage@			Couples per 1000 population
	Total	Married	15-44	10-14	15-19	20-24	Total	Rural	Urban	
1	2	3	4	5	6	7	8	9	10	11
TAMIL NADU	11,201,2	8,134,3	72.62	0.36	22.81	75.49	18.4	18.3	18.4	168
1. Madras	792,0	522,4	69.75	0.27	21.04	67.39	18.6	—*	18.6	169
2. Chengalpattu	819,1	612,3	74.76	0.42	27.46	79.85	17.9	17.7	18.2	169
3. North Arcot	971,6	745,4	76.72	0.70	34.11	83.52	17.4	17.4	17.7	169
4. South Arcot	949,3	737,4	77.67	0.53	31.42	85.70	17.7	17.6	18.0	175
5. Dharmapuri	427,3	344,2	80.55	1.02	41.59	88.57	17.5	17.5	17.6	172
6. Salem	811,0	618,3	76.24	0.41	30.44	81.81	17.8	17.8	17.7	180
7. Periyar	497,0	366,9	73.82	0.32	20.54	76.44	18.8	18.9	18.5	177
8. Coimbatore	735,2	510,8	69.48	0.24	16.44	67.52	19.0	19.2	18.7	167
9. Nilgiri	155,4	103,8	66.79	0.45	18.73	66.82	18.3	18.2	18.4	165
10. Madurai	1,043,2	747,4	71.64	0.24	21.42	74.71	18.5	18.6	18.4	165
11. Tiruchchirappali	848,3	615,0	72.50	0.29	21.07	77.16	18.3	18.3	18.4	170
12. Thanjavur	960,5	695,0	72.36	0.18	19.64	78.08	18.2	18.2	18.2	171
13. Pudukkottai	262,1	191,3	72.99	0.27	17.38	77.32	18.9	18.9	18.6	165
14. Ramanathapuram	769,9	544,5	70.72	0.20	16.90	73.94	19.0	19.1	18.7	163
15. Tirunelveli	826,4	555,3	67.19	0.15	12.07	65.81	19.5	19.6	19.3	155
16. Kanniyakumari	332,9	194,4	58.38	0.05	4.91	44.60	20.3	20.3	20.1	137

@ Refers to mean age at marriage of currently married females.

* The district is completely urban

In columns (2) and (3), the totals may not tally due to rounding.

Table 1.3

Distribution of currently married women by religion

Religion	Rural		Urban	
	No. of currently married women (00's)	Percentage to total	No. of currently married women (00's)	Percentage to total
1	2	3	4	5
All Religions	7,142,3	100.00	3,335,0	100.00
Hindu	6,572,8	92.03	2,788,8	83.62
Muslim	202,0	2.83	320,5	9.61
Christian	361,9	5.07	215,9	6.47
Sikh	1	N	5	0.02
Jain	3,2	0.04	8,3	0.25
Others	2,1	0.03	6	0.02
Religion not stated	3	N	3	0.01

N - Negligible

Table 1.4

Distribution of currently married women by educational level

Educational Level	Rural		Urban	
	No. of currently married women (00's)	Percentage to total	No. of currently married women (00's)	Percentage to total
1	2	3	4	5
All Educational levels	7,142,3	100.00	3,335,0	100.00
Illiterate	5,602,6	78.44	1,453,4	43.58
Literate but below middle	1,103,6	15.45	941,1	28.22
Middle but below Matric	228,2	3.20	380,6	11.41
Matriculate but below Graduate	195,3	2.73	488,2	14.64
Graduate and above	12,7	0.18	71,7	2.15

Table 1.5

Distribution of currently married women by Category of Worker

Category of worker	Rural		Urban	
	No. of currently married women (00's)	Percentage to total	No. of currently married women (00's)	Percentage to total
1	2	3	4	5
All women	7,142,3	100.00	3,335,0	100.00
All workers	3,558,2	49.82	545,2	16.35
(a) Main workers	2,914,4	40.81	495,7	14.86
Cultivators	834,7	11.69	-	-
Agricultural Labourers	1,739,1	24.35	-	-
Manual workers	269,4	3.77	352,8	10.58
Non-manual workers	71,2	1.00	142,8	4.28
(b) Marginal workers	643,7	9.01	49,5	1.49
Cultivators	154,8	2.17	-	-
Agricultural Labourers	435,9	6.10	-	-
Manual workers	45,3	0.63	45,0	1.35
Non-manual workers	7,8	0.11	4,5	0.14
(c) Non-workers	3,584,2	50.18	2,789,9	83.65

Note:- In this table cultivators and agricultural labourers have been included under manual workers in urban areas.

Table 2.1

Child mortality estimates for state and its various districts based on 1981 Census

State/District	TRU	q(1)			q(2)			q(3)			q(5)		
		P	M	F	P	M	F	P	M	F	P	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tamil Nadu	T	104 (86)	114 (89)	93 (93)	103	110	96	114	116	111	132	134	131
	R	116 (94)	129 (97)	103 (91)	116	123	108	127	129	124	146	147	145
	U	78 (68)	84 (71)	71 (66)	78	83	74	88	92	84	104	106	102
Madras	T	53	56	50	58	61	54	66	68	65	79	81	76
	R	-	-	-	-	-	-	-	-	-	-	-	-
	U	53	56	50	58	61	54	66	68	65	79	81	76
Chengalpattu	T	100 (85)	109 (88)	92 (81)	102	108	94	112	115	109	132	135	128
	R	111 (93)	117 (100)	104 (89)	116	125	106	125	128 (137)	121	146	149	142
	U	81 (71)	94 (73)	67 (69)	80	83	78	93	95	91	108	112	105
North Arcot	T	121 (100)	133 (104)	109 (96)	124	131	116	137	141	133	158	159	156
	R	127 (105)	140 (109)	113 (113)	131	139	123	143	147	139	166	166	166
	U	100 (85)	105 (89)	94 (80)	100	108	92	116	120	111	129	134	124

Note: Figures within brackets are graduated figures.

Table 2.1

Child mortality estimates for state and its various districts based on 1981 Census

State/District	TRU	q(1)			q(2)			q(3)			q(5)		
		P	M	F	P	M	F	P	M	F	P	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
South Arcot	T	132 (104)	148 (108)	116 (99)	127	135	118	143	148	139	167	168	165
	R	139 (109)	156 (114)	121 (104)	134	143	124	152	157	147	177	178	176
	U	82 (72)	90 (75)	73 (69)	85	88	81	93	97	88	110	113	106
Dharmapuri	T	89 (81)	100 (83)	78 (79)	98	102	93	108	109	105	122	122	123
	R	92 (83)	105 (85)	78 (81)	101	104	96	111	112	109	125	124	125
	U	52 (66)	33 (64)	71 (65)	77	69	54 (73)	77 (86)	84	69 (85)	96	95	97
Salem	T	80 (74)	81 (69)	79 (78)	88	88 (83)	89	95	87	103	112	101	124
	R	87 (77)	91 (70)	83 (83)	94	93 (84)	96	101	89	114	116	101	131
	U	64 (65)	59 (66)	68 (64)	74	76	72	80	82	78	101	99	104
Periyar	T	104 (76)	111 (77)	96 (72)	94	100 (92)	87	94 (102)	96 (103)	94	110	113	107
	R	106 (79)	112 (78)	100 (75)	99	108 (94)	90	100 (106)	98 (103)	101	113	114	111
	U	100 (70)	110 (73)	88 (66)	82	83	81	82 (92)	90 (96)	74 (87)	102	112	92

Note: Figures within brackets are graduated figures.

Table 2.1

Child mortality estimates for state and its various districts based on 1981 Census

State/District	TRU	q(1)			q(2)			q(3)			q(5)		
		P	M	F	P	M	F	P	M	F	P	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Coimbatore	T	100	123	78	90	99	81	95	103	87	113	118	107
		(76)	(80)	(71)				(101)		(93)			
	R	118	138	98	111	122	100	112	121	102	134	140	127
		(90)	(91)	(83)		(114)		(122)		(113)		(134)	
	U	86	110	63	74	81	63	81	89	74	94	99	89
		(64)	(68)	(59)									
Nilgiri	T	100	126	72	105	113	97	113	123	103	133	136	129
		(86)	(92)	(81)									
	R	114	154	69	108	116	99	126	131	120	153	159	147
		(93)	(99)	(88)						(121)			
	U	83	91	75	103	110	95	101	115	87	111	112	109
		(76)	(87)	(76)	(93)					(102)		(128)	
Madurai	T	105	118	93	107	114	100	118	120	117	137	135	138
		(88)	(91)	(86)									
	R	118	136	100	124	133	114	138	138	137	156	155	158
		(100)	(103	(97)									
	U	85	89	81	78	80	76	87	90	84	100	98	103
		(67)	(68)	(66)									
Tiruchchirappalli	T	104	113	96	104	112	96	118	119	116	134	134	135
		(87)	(90)	(84)									
	R	111	122	99	112	119	105	126	127	124	140	140	141
		(92)	(95)	(89)									
	U	86	86	86	84	94	74	95	97	93	116	116	116
		(74)	(79)	(77)			(92)		(105)	(103)			

Note: Figures within brackets are graduated figures.

Table 2.1

Child mortality estimates for state and its various districts based on 1981 Census

State/District	TRU	q(1)			q(2)			q(3)			q(5)		
		P	M	F	P	M	F	P	M	F	P	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Thanjavur	T	102	114	89	95	104	86	100	106	95	122	128	115
		(79)	(86)	(73)					(116)				
	R	110	121	98	98	108	88	104	110	98	125	131	118
		(81)	(88)	(75)					(119)				
	U	78	94	60	84	91	76	87	91	84	112	118	105
		(73)	(78)	(60)				(97)	(104)				
Pudukkottai	T	73	83	63	83	90	76	98	103	93	111	116	105
		(73)	(78)	(69)									
	R	77	93	63	86	94	78	100	107	93	114	121	107
		(75)	(80)	(70)									
	U	52	42	62	68	70	65	83	78	88	85	85	86
		(59)	(60)	(58)				(76)	[illegible]	(75)			
Ramanathapuram	T	124	132	115	118	127	109	129	132	126	149	148	149
		(96)	(99)	(92)									
	R	136	143	128	131	140	121	142	145	138	159	160	158
		(103)	(109)	(99)					(151)				
	U	97	106	89	89	97	80	99	101	96	123	119	127
		(78)	(81)	(74)				(105)	(148)				
Tirunelveli	T	120	143	93	128	133	121	148	153	143	166	170	162
		(105)	(109)	(100)									
	R	127	165	86	140	150	131	163	165	161	181	185	176
		(114)	(119)	(108)									
	U	107	108	106	105	105	105	122	133	111	139	141	137
		(89)	(93)	(86)									
Kanniyakumari	T	87	77	99	68	74	60	72	79	66	87	88	85
		(58)	(62)	(55)									
	R	68	40	103	67	72	61	73	80	66	88	90	87
		(59)	(62)	(55)									
	U	146	197	84	70	83	56	67	70	64	80	82	78
		(58)	(58)	(52)		(68)		(75)	(75)				

Note:- Figures within brackets are graduated figures.

Table 2.2

Child mortality estimates by religion based on 1981 Census

Religion	TRU	q(1) P	q(1) M	q(1) F	q(2) P	q(2) M	q(2) F	q(3) P	q(3) M	q(3) F	q(5) P	q(5) M	q(5) F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
HINDU	T	106 (87)	117 (90)	94 (84)	105	112	98	116	119	114	135	136	134
	R	117 (95)	130 (98)	103 (92)	117	125	109	129	131	127	148	149	147
	U	78 (69)	84 (72)	73 (66)	79	84	74	89	93	85	105	107	103
MUSLIM	T	78 (73)	88 (75)	68 (71)	83	87	79	95	99	91	114	115	113
	R	97 (77)	113 (80)	81 (75)	91	96	85	101	106	96	119	117	122
	U	69 (70)	76 (73)	62 (68)	78	81	75	92	95	89	110	113	107
CHRISTIAN	T	126 (75)	127 (77)	124 (71)	93	100 (94)	87	95	101	89	110	112	109
	R	130 (84)	113 (89)	150 (80)	107	115	99	110	117	103	125	128	122
	U	119 (61)	145 (62)	90 (59)	72	76	68	70 (78)	74 (80)	67 (76)	85	85	85

Note: Figures within brackets are graduated figures.

Table 2.3

Child mortality estimates by educational level of mother based on 1981 Census

Educational level of mother	TRU	q(1)			q(2)			q(3)			q(5)		
		P	M	F	P	M	F	P	M	F	P	M	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Illiterate	T	115	127	103	124	131	116	135	138	133	153	153	153
	R	121	134	108	128	136	120	139	141	137	156	156	157
	U	93	103	82	107	111	102	121	126	116	140	140	141
Literate but below middle	T	91 (73)	102 (77)	80 (70)	88	95	82	95	99	90	108	112	105
	R	105 (79)	122 (83)	88 (76)	98	104	91	104	107	100	118	121	114
	U	71	74	68	77	82	70	83	88	78	98	102	94
Middle but below Matric	T	71 (55)	75 (58)	66 (53)	63	69	58	71	73	69	78	82	73
	R	83 (64)	89 (68)	77 (60)	75	81	69	82	85	79	93	99	86
	U	59 (49)	63 (51)	55 (47)	55	59	50	63	64	63	69	72	66
Matric but below Graduate	T	43	45	42	47	50	44	50	54	47	53	55	50
	R	58 (50)	60 (51)	57 (47)	59	62	55	63	68	57	68	72	64
	U	35	37	34	41	44	39	44	47	42	46	48	44
Graduate and above	T	00	00	00	19	19	19	25	25	25	29	32	27
	R	00	00	00	19	38	00	38	37 (47)	39	55	59	51
	U	00	00	00	19	15	23 (22)	23	23	22 (23)	24	26	22 (23)

Note: Figures within brackets are graduated figures.

Table 2.4

Child mortality estimates ... by occupation

Occupational category	TRU	q(1) P	q(1) M	q(1) F	q(2) P	q(2) M	q(2) F	q(3) P	q(3) M	q(3) F	q(5) P	q(5) M	q(5) F
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Main Workers	T	130 (104)	143 (108)	117 (100)	135	144	125	144	146	142	159	159	158
	R	131 (106)	145 (110)	116 (102)	135	145	125	146	148	144	163	164	163
	U	130 (92)	131 (95)	130 (90)	134 (115)	139 (118)	128 (113)	130	134	125	135	137	133
Cultivators	R	110 (92)	119 (94)	101 (90)	112	117	106	126	127	125	142	139	144
Agricultural labourers	R	138	154	123	143	154	131	155	157	152	174	175	172
Manual	R	134	158	111	151	164	138	157	158 (171)	157	180	179	181
	U	138	136	140	143	149	137	148	152	144	167	169	166
Non-Manual	R	93 (70)	105 (71)	66	98 (85)	97 (86)	98 (84)	92	91	94	99	104	95
	U	60 (50)	80 (51)	39	63	63	62 (56)	66 (64)	72 (64)	61	64	65	63
Non-Workers	T	89 (73)	97 (73)	80 (70)	85	90	80	94	97	91	111	112	110
	R	103 (81)	113 (84)	92 (78)	97	103	91	106	109	103	123	124	123
	U	72 (63)	78 (66)	66 (61)	71	76	67	80	84	77	96	97	94

Note: Estimates of child mortality presented in this table are based on data for currently married women only.

Table 3.1

Fertility indices by religion and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			ALL RELIGIONS			
15 - 19	0.042	0.044	0.039	0.185	0.181	0.194
20 - 24	0.185	0.190	0.175	0.245	0.241	0.251
25 - 29	0.175	0.181	0.166	0.190	0.194	0.184
30 - 34	0.110	0.117	0.095	0.118	0.126	0.102
35 - 39	0.059	0.065	0.048	0.065	0.071	0.052
40 - 44	0.022	0.024	0.015	0.026	0.029	0.018
45 - 49	0.007	0.008	0.005	0.009	0.010	0.007
G M F R	-	-	-	129	129	127
T M F R	-	-	-	4.2	4.3	4.0
G F R	94	96	90	-	-	-
T F R	3.0	3.1	2.7	-	-	-
			HINDU			
15 - 19	0.043	0.046	0.039	0.184	0.181	0.191
20 - 24	0.185	0.191	0.174	0.242	0.239	0.248
25 - 29	0.172	0.178	0.161	0.186	0.190	0.178
30 - 34	0.107	0.114	0.090	0.115	0.123	0.096
35 - 39	0.057	0.062	0.045	0.063	0.069	0.049
40 - 44	0.021	0.023	0.015	0.025	0.028	0.017
45 - 49	0.007	0.008	0.005	0.009	0.010	0.006
G M F R	-	-	-	126	127	123
T M F R	-	-	-	4.1	4.2	3.9
G F R	9.3	95	88	-	-	-
T F R	3.0	3.1	2.6	-	-	-

Table 3.1

Fertility indices by religion and residence

Age Group	ASFR			ASMFR		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			MUSLIM			
15 - 19	0.054	0.049	0.056	0.198	0.179	0.209
20 - 24	0.208	0.212	0.205	0.258	0.253	0.261
25 - 29	0.197	0.203	0.193	0.210	0.215	0.208
30 - 34	0.130	0.136	0.125	0.138	0.145	0.134
35 - 39	0.075	0.084	0.070	0.083	0.091	0.077
40 - 44	0.025	0.033	0.019	0.031	0.041	0.024
45 - 49	0.010	0.011	0.009	0.014	0.015	0.013
GMFR	-	-	-	151	148	152
TMFR	-	-	-	4.7	4.7	4.6
GFR	110	110	110	-	-	-
TFR	3.5	3.6	3.4	-	-	-
			CHRISTIAN			
15 - 19	0.017	0.016	0.019	0.192	0.178	0.215
20 - 24	0.156	0.168	0.139	0.282	0.286	0.276
25 - 29	0.203	0.220	0.180	0.239	0.252	0.220
30 - 34	0.140	0.160	0.111	0.155	0.175	0.125
35 - 39	0.079	0.094	0.055	0.088	0.104	0.061
40 - 44	0.028	0.036	0.015	0.033	0.042	0.018
45 - 49	0.007	0.009	0.004	0.009	0.012	0.005
GMFR	-	-	-	151	159	138
TMFR	-	-	-	5.0	5.2	4.6
GFR	97	104	85	-	-	-
TFR	3.2	3.5	2.6	.	.	.

Table 3.1

Fertility indices by religion and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			JAIN			
15 - 19	0.030	0.045	0.024	0.169	0.192	0.155
20 - 24	0.219	0.232	0.214	0.269	0.285	0.263
25 - 29	0.160	0.159	0.160	0.169	0.176	0.167
30 - 34	0.071	0.066	0.073	0.074	0.070	0.075
35 - 39	0.042	0.034	0.046	0.046	0.039	0.048
40 - 44	0.009	0.012	0.007	0.010	0.015	0.007
45 - 49	0.000	0.000	0.000	0.000	0.000	0.000
G M F R	-	-	-	121	119	122
T M F R	-	-	-	3.7	3.9	3.6
G F R	91	86	93	-	-	-
T F R	2.7	2.7	2.6	-	-	-

Table 3.2

Fertility indices by educational level and residence

Age Group	ASFR			ASMFR		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			ALL EDUCATIONAL LEVELS			
15 - 19	0.042	0.044	0.039	0.185	0.181	0.194
20 - 24	0.185	0.190	0.175	0.245	0.241	0.251
25 - 29	0.175	0.181	0.166	0.190	0.194	0.184
30 - 34	0.110	0.117	0.095	0.118	0.126	0.102
35 - 39	0.059	0.065	0.048	0.065	0.071	0.052
40 - 44	0.022	0.024	0.015	0.026	0.029	0.018
45 - 49	0.007	0.008	0.005	0.009	0.010	0.007
GMFR	-	-	-	129	129	127
TMFR	-	-	-	4.2	4.3	4.0
GFR	94	96	90	-	-	-
TFR	3.0	3.1	2.7	-	-	-
			ILLITERATE			
15 - 19	0.056	0.054	0.067	0.177	0.176	0.184
20 - 24	0.196	0.195	0.199	0.231	0.230	0.236
25 - 29	0.175	0.177	0.165	0.186	0.188	0.176
30 - 34	0.114	0.117	0.104	0.124	0.126	0.113
35 - 39	0.063	0.065	0.056	0.070	0.072	0.062
40 - 44	0.023	0.025	0.018	0.028	0.030	0.022
45 - 49	0.008	0.008	0.006	0.010	0.010	0.008
GMFR	-	-	-	117	119	111
TMFR	-	-	-	4.1	4.2	4.0
GFR	93	94	88	-	-	-
TFR	3.2	3.2	3.1	-	-	-

Table 3.2

Fertility indices by educational level and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			LITERATE BUT BELOW MIDDLE			
15 - 19	0.040	0.036	0.046	0.198	0.194	0.204
20 - 24	0.200	0.197	0.205	0.263	0.263	0.264
25 - 29	0.187	0.194	0.178	0.200	0.208	0.190
30 - 34	0.109	0.119	0.097	0.116	0.127	0.103
35 - 39	0.058	0.066	0.048	0.062	0.072	0.051
40 - 44	0.019	0.024	0.015	0.022	0.027	0.018
45 - 49	0.006	0.007	0.004	0.007	0.009	0.005
G M F R	-	-	-	149	159	136
T M F R	-	-	-	4.3	4.5	4.2
G F R	103	106	99	-	-	-
T F R	3.1	3.2	3.0	-	-	-
			MIDDLE BUT BELOW MATRIC			
15 - 19	0.031	0.030	0.032	0.204	0.200	0.208
20 - 24	0.194	0.195	0.194	0.265	0.269	0.263
25 - 29	0.174	0.186	0.164	0.187	0.201	0.178
30 - 34	0.088	0.104	0.078	0.093	0.111	0.082
35 - 39	0.037	0.046	0.032	0.039	0.050	0.034
40 - 44	0.011	0.015	0.010	0.013	0.017	0.011
45 - 49	0.004	0.007	0.003	0.004	0.009	0.003
G M F R	-	-	-	148	170	134
T M F R	-	-	-	4.0	4.3	3.9
G F R	92	100	87	-	-	-
T F R	2.7	2.9	2.6	-	-	-

Table 3.2

Fertility indices by educational level and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			MATRIC BUT BELOW GRADUATE			
15 - 19	0.017	0.017	0.017	0.183	0.174	0.188
20 - 24	0.135	0.141	0.132	0.256	0.267	0.250
25 - 29	0.164	0.177	0.158	0.193	0.209	0.186
30 - 34	0.093	0.118	0.084	0.101	0.129	0.091
35 - 39	0.036	0.055	0.030	0.039	0.060	0.033
40 - 44	0.008	0.016	0.006	0.009	0.019	0.007
45 - 49	0.004	0.006	0.003	0.004	0.008	0.004
G M F R	-	-	-	157	185	146
T M F R	-	-	-	3.9	4.3	3.8
G F R	86	96	82	-	-	-
T F R	2.3	2.7	2.2	-	-	-
			GRADUATE AND ABOVE			
15 - 19	0.003	0.000	0.003	0.050	0.000	0.006
20 - 24	0.058	0.049	0.060	0.223	0.221	0.223
25 - 29	0.139	0.138	0.139	0.203	0.223	0.199
30 - 34	0.091	0.121	0.086	0.104	0.142	0.098
35 - 39	0.038	0.058	0.034	0.042	0.064	0.038
40 - 44	0.003	0.012	0.001	0.003	0.015	0.001
45 - 49	0.001	0.000	0.002	0.002	0.000	0.002
G M F R	-	-	-	142	164	139
T M F R	-	-	-	3.1	3.3	3.1
G F R	81	84	80	-	-	-
T F R	1.7	1.9	1.6	-	-	-

Table 3.3

Fertility indices by economic activity and residence

Age Group	ASFR			ASMFR		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			MAIN WORKER			
15 - 19	0.039	0.041	0.025	0.162	0.163	0.149
20 - 24	0.160	0.171	0.105	0.215	0.218	0.196
25 - 29	0.153	0.160	0.124	0.172	0.175	0.158
30 - 34	0.103	0.107	0.083	0.115	0.119	0.099
35 - 39	0.056	0.059	0.043	0.065	0.068	0.053
40 - 44	0.015	0.016	0.010	0.020	0.021	0.015
GMFR	-	-	-	112	115	90
TMFR	-	-	-	3.7	3.8	3.3
GFR	81	85	62	-	-	-
TFR	2.6	2.8	1.9	-	-	-
			NON-MANUAL			
15 - 19	0.025	0.044	0.014	0.157	0.189	0.120
20 - 24	0.061	0.092	0.050	0.199	0.230	0.184
25 - 29	0.123	0.137	0.118	0.180	0.189	0.177
30 - 34	0.095	0.104	0.091	0.113	0.122	0.109
35 - 39	0.037	0.043	0.034	0.044	0.051	0.041
40 - 44	0.007	0.010	0.005	0.010	0.015	0.008
GMFR	-	-	-	91	96	89
TMFR	-	-	-	3.5	4.0	3.2
GFR	62	68	60	-	-	-
TFR	1.7	2.2	1.6	-	-	-

Table 3.3

Fertility indices by economic activity and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
			MANUAL (Urban)			
15 - 19			0.025			0.151
20 - 24			0.125			0.198
25 - 29			0.127			0.149
30 - 34			0.079			0.093
35 - 39			0.047			0.058
40 - 44			0.012			0.018
G M F R			-			99
T M F R			-			3.3
G F R			63			-
T F R			2.1			-
			CULTIVATOR (Rural)			
15 - 19		0.053			0.179	
20 - 24		0.192			0.234	
25 - 29		0.171			0.183	
30 - 34		0.111			0.120	
35 - 39		0.057			0.064	
40 - 44		0.015			0.020	
G M F R		-			114	
T M F R		-			4.0	
G F R		89			-	
T F R		3.0			-	

Table 3.3

Fertility indices by economic activity and residence

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
		AGRICULTURAL LABOURER (Rural)				
15 - 19		0.041			0.158	
20 - 24		0.172			0.212	
25 - 29		0.157			0.171	
30 - 34		0.106			0.118	
35 - 39		0.061			0.070	
40 - 44		0.016			0.021	
G M F R		-			116	
T M F R		-			3.8	
G F R		85			-	
T F R		2.8			-	
		MANUAL OTHER THAN C & AL (Rural)				
15 - 19		0.025			0.158	
20 - 24		0.135			0.207	
25 - 29		0.154			0.174	
30 - 34		0.104			0.118	
35 - 39		0.060			0.070	
40 - 44		0.017			0.023	
G M F R		-			117	
T M F R		-			3.7	
G F R		75			-	
T F R		2.5			-	

Table 3.4

Districtwise age specific fertility rates and age specific marital fertility rates by residence

District	ASFR/ ASMFR	T R U	Age Groups						
			15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9	10
1. Madras	ASFR	T	0.042	0.165	0.154	0.080	0.038	0.008	0.004
		R	-	-	-	-	-	-	-
		U	0.042	0.165	0.154	0.080	0.038	0.008	0.004
	ASMFR	T	0.200	0.246	0.174	0.086	0.041	0.010	0.005
		R	-	-	-	-	-	-	-
		U	0.200	0.246	0.174	0.086	0.041	0.010	0.005
2. Chengalpattu	ASFR	T	0.053	0.202	0.184	0.115	0.062	0.022	0.007
		R	0.057	0.207	0.191	0.123	0.069	0.024	0.009
		U	0.049	0.194	0.175	0.103	0.051	0.017	0.005
	ASMFR	T	0.195	0.253	0.198	0.123	0.069	0.026	0.010
		R	0.190	0.246	0.202	0.132	0.076	0.029	0.012
		U	0.204	0.263	0.192	0.110	0.055	0.021	0.006
3. North Arcot	ASFR	T	0.065	0.216	0.200	0.130	0.071	0.025	0.009
		R	0.070	0.222	0.206	0.135	0.074	0.027	0.009
		U	0.054	0.200	0.183	0.112	0.056	0.019	0.007
	ASMFR	T	0.192	0.259	0.215	0.141	0.078	0.031	0.012
		R	0.189	0.256	0.218	0.146	0.083	0.033	0.012
		U	0.200	0.269	0.203	0.122	0.063	0.023	0.010
4. South Arcot	ASFR	T	0.055	0.204	0.186	0.125	0.074	0.027	0.009
		R	0.059	0.210	0.192	0.133	0.079	0.028	0.010
		U	0.040	0.177	0.154	0.083	0.045	0.014	0.005
	ASMFR	T	0.176	0.238	0.195	0.133	0.081	0.032	0.012
		R	0.176	0.237	0.210	0.142	0.086	0.034	0.013
		U	0.178	0.241	0.166	0.087	0.049	0.017	0.007

Table 3.4

Districtwise age specific fertility rates and age specific marital fertility rates by residence

District	ASFR/ ASMFR	TRU	Age Groups						
			15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9	10
5. Dharmapuri	ASFR	T	0.088	0.229	0.187	0.122	0.069	0.029	0.011
		R	0.091	0.233	0.188	0.126	0.070	0.030	0.012
		U	0.059	0.185	0.176	0.087	0.059	0.016	0.003
	ASMFR	T	0.211	0.258	0.198	0.131	0.075	0.034	0.014
		R	0.211	0.260	0.199	0.135	0.076	0.036	0.015
		U	0.205	0.240	0.193	0.093	0.063	0.020	0.004
6. Salem	ASFR	T	0.055	0.182	0.135	0.070	0.035	0.010	0.004
		R	0.056	0.187	0.132	0.069	0.032	0.010	0.004
		U	0.051	0.172	0.141	0.074	0.035	0.012	0.005
	ASMFR	T	0.179	0.223	0.144	0.076	0.037	0.012	0.005
		R	0.175	0.221	0.141	0.074	0.036	0.012	0.004
		U	0.190	0.226	0.152	0.079	0.039	0.014	0.006
7. Periyar	ASFR	T	0.033	0.172	0.130	0.061	0.026	0.010	0.005
		R	0.030	0.163	0.126	0.061	0.026	0.011	0.005
		U	0.043	0.197	0.144	0.061	0.026	0.006	0.005
	ASMFR	T	0.161	0.224	0.140	0.066	0.028	0.011	0.006
		R	0.154	0.214	0.135	0.066	0.028	0.012	0.006
		U	0.179	0.255	0.155	0.065	0.028	0.007	0.007
8. Coimbatore	ASFR	T	0.028	0.156	0.145	0.074	0.033	0.010	0.004
		R	0.024	0.145	0.136	0.070	0.033	0.010	0.005
		U	0.033	0.165	0.152	0.077	0.034	0.010	0.004
	ASMFR	T	0.172	0.231	0.160	0.080	0.037	0.011	0.005
		R	0.156	0.215	0.151	0.076	0.036	0.011	0.006
		U	0.185	0.244	0.169	0.083	0.037	0.011	0.005

Table 3.4

Districtwise age specific fertility rates and age specific marital fertility rates by residence

District	ASFR/ ASMFR	T R U	Age Groups 15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9	10
9. Nilgiri	ASFR	T	0.035	0.168	0.148	0.082	0.040	0.015	0.005
		R	0.033	0.159	0.131	0.072	0.031	0.018	0.005
		U	0.038	0.178	0.165	0.093	0.051	0.011	0.005
	ASMFR	T	0.189	0.251	0.170	0.092	0.045	0.018	0.007
		R	0.177	0.234	0.150	0.081	0.035	0.022	0.007
		U	0.202	0.271	0.190	0.104	0.057	0.013	0.007
10. Madurai	ASFR	T	0.040	0.175	0.164	0.106	0.054	0.021	0.006
		R	0.041	0.180	0.166	0.109	0.057	0.024	0.006
		U	0.038	0.167	0.161	0.100	0.048	0.014	0.006
	ASMFR	T	0.186	0.234	0.179	0.114	0.060	0.025	0.008
		R	0.180	0.229	0.180	0.118	0.063	0.029	0.008
		U	0.196	0.244	0.178	0.107	0.052	0.016	0.007
11. Tiruchchirappalli	ASFR	T	0.036	0.178	0.165	0.095	0.048	0.013	0.005
		R	0.034	0.179	0.171	0.087	0.048	0.013	0.004
		U	0.037	0.178	0.162	0.098	0.049	0.013	0.005
	ASMFR	T	0.172	0.231	0.179	0.103	0.054	0.016	0.006
		R	0.205	0.266	0.192	0.096	0.053	0.016	0.005
		U	0.162	0.219	0.174	0.106	0.054	0.016	0.007
12. Thanjavur	ASFR	T	0.036	0.188	0.172	0.103	0.052	0.017	0.005
		R	0.036	0.193	0.174	0.103	0.054	0.017	0.006
		U	0.036	0.173	0.164	0.102	0.044	0.017	0.004
	ASMFR	T	0.184	0.241	0.183	0.109	0.057	0.020	0.007
		R	0.181	0.239	0.183	0.109	0.059	0.020	0.007
		U	0.193	0.248	0.180	0.110	0.049	0.021	0.005

Table 3.4

Districtwise age specific fertility ratesand age specific marital fertility ratesby residence

District	ASFR/ ASMFR	T R U	Age Groups						
			15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9	10
13. Pudukkottai	ASFR	T	0.033	0.211	0.211	0.152	0.071	0.030	0.010
		R	0.032	0.213	0.214	0.154	0.072	0.032	0.009
		U	0.040	0.204	0.192	0.137	0.063	0.019	0.010
	ASMFR	T	0.191	0.273	0.225	0.161	0.077	0.035	0.012
		R	0.188	0.269	0.309	0.163	0.078	0.037	0.012
		U	0.206	0.299	0.210	0.148	0.070	0.023	0.014
14. Ramanathapuram	ASFR	T	0.032	0.189	0.205	0.142	0.084	0.036	0.009
		R	0.030	0.190	0.211	0.149	0.092	0.040	0.011
		U	0.036	0.187	0.190	0.124	0.062	0.024	0.006
	ASMFR	T	0.190	0.256	0.221	0.152	0.092	0.042	0.012
		R	0.188	0.253	0.226	0.160	0.101	0.047	0.014
		U	0.193	0.262	0.209	0.133	0.068	0.028	0.008
15. Tirunelveli	ASFR	T	0.020	0.172	0.215	0.162	0.101	0.041	0.012
		R	0.020	0.176	0.222	0.177	0.110	0.046	0.013
		U	0.022	0.164	0.201	0.135	0.084	0.031	0.008
	ASMFR	T	0.169	0.261	0.234	0.174	0.111	0.048	0.015
		R	0.167	0.268	0.242	0.191	0.122	0.054	0.017
		U	0.171	0.249	0.221	0.144	0.091	0.036	0.010
16. Kanniyakumari	ASFR	T	0.009	0.133	0.227	0.151	0.095	0.035	0.008
		R	0.011	0.135	0.201	0.127	0.075	0.031	0.007
		U	0.009	0.133	0.232	0.156	0.099	0.036	0.008
	ASMFR	T	0.190	0.298	0.272	0.164	0.104	0.040	0.010
		R	0.186	0.296	0.242	0.137	0.081	0.035	0.009
		U	0.191	0.299	0.279	0.170	0.109	0.041	0.010

Table 3.5

GFR, GMFR, TFR, and TMFR by district

District	TRU	GFR	GMFR	TFR	TMFR
1	2	3	4	5	6
1. Madras	T	85	121	2.5	3.8
	R	-	-	-	-
	U	85	121	2.5	3.8
2. Chengalpattu	T	103	138	3.2	4.4
	R	105	138	3.4	4.4
	U	101	138	3.0	4.3
3. North Arcot	T	112	146	3.6	4.6
	R	115	147	3.7	4.7
	U	104	145	3.2	4.4
4. South Arcot	T	106	136	3.4	4.3
	R	110	140	3.6	4.5
	U	84	116	2.6	3.7
5. Dharmapuri	T	116	145	3.7	4.6
	R	119	146	3.8	4.7
	U	98	132	2.9	4.1
6. Salem	T	79	103	2.4	3.4
	R	77	99	2.5	3.3
	U	82	111	2.4	3.5
7. Periyar	T	70	93	2.2	3.2
	R	65	87	2.1	3.1
	U	85	114	2.4	3.5
8. Coimbatore	T	74	104	2.3	3.5
	R	66	94	2.1	3.3
	U	81	115	2.4	3.7
9. Nilgiri	T	84	124	2.5	3.9
	R	75	111	2.2	3.5
	U	93	139	2.7	4.2
10. Madurai	T	88	122	2.8	4.0
	R	89	120	2.9	4.0
	U	87	125	2.7	4.0

Table 3.5

GFR, GMFR, TFR, and TMFR by district

District	TRU	GFR	GMFR	TFR	TMFR
1	2	3	4	5	6
11. Tiruchchirappalli	T	84	115	2.7	3.8
	R	88	128	2.7	4.2
	U	83	111	2.7	3.7
12. Thanjavur	T	89	122	2.9	4.0
	R	90	121	2.9	4.0
	U	86	125	2.7	4.0
13. Pudukkottai	T	109	149	3.6	4.9
	R	110	157	3.6	5.3
	U	106	152	3.3	4.9
14. Ramanathapuram	T	104	146	3.5	4.8
	R	106	148	3.6	5.0
	U	99	141	3.2	4.5
15. Tirunelveli	T	105	154	3.6	5.1
	R	109	160	3.8	5.3
	U	98	142	3.2	4.6
16. Kanniyakumari	T	98	163	3.3	5.4
	R	89	145	2.9	4.9
	U	100	167	3.4	5.5

Table 3.6

GMFR and TMFR by religion - 1971 & 1981

Religion	Rural Urban	GMFR 1971	GMFR 1981	TMFR 1971	TMFR 1981
1	2	3	4	5	6
All Religions	Rural	133	129	4.0	4.3
	Urban	133	127	4.0	4.0
Hindu	Rural	131	127	4.0	4.2
	Urban	131	123	3.9	3.9
Muslim	Rural	150	148	4.4	4.7
	Urban	147	152	4.3	4.6
Christian	Rural	156	159	4.9	5.2
	Urban	147	138	4.4	4.6
Jain	Rural	105	119	2.8	3.9
	Urban	133	122	3.6	3.6

Table 3.7

Average number of children ever born per woman in the age group 45-49 by different classification of women

Classification	Total	Rural	Urban
1	2	3	4
Tamil Nadu	4.19	4.12	4.35
A. Religion			
Hindu	4.13	4.07	4.28
Muslim	4.80	4.61	4.94
Christian	4.61	4.73	4.38
Jains	4.28	3.60	4.62
B. Educational level			
Illiterate	4.13	4.07	4.33
Literate but below middle	4.63	4.53	4.72
Middle but below matric	4.38	4.43	4.37
Matriculate but below graduate	3.40	3.63	3.35
Graduate and above	2.19	3.16	2.05
C. Economic activity *			
Main-worker	3.89	3.91	3.78
Non-manual	3.26	3.49	3.13
Manual	-	-	4.03
Cultivator	-	3.93	-
Agricultural Labourers	-	3.88	-
Manual other than C&AL	-	4.20	-

*Relate to the women of age group 40-49.

Table 3.8

Average number of children ever born per woman in the age group 45-49 by district

District	Total	Rural	Urban
1	2	3	4
1. Madras	4.04	-	4.04
2. Chengalpattu	4.29	4.23	4.42
3. North Arcot	4.48	4.42	4.74
4. South Arcot	4.43	4.40	4.61
5. Dharmapuri	4.39	4.37	4.68
6. Salem	3.70	3.53	4.17
7. Periyar	3.46	3.31	4.12
8. Coimbatore	4.12	3.97	4.29
9. Nilgiri	4.98	5.02	4.93
10. Madurai	4.22	4.10	4.45
11. Tiruchchirappalli	3.74	4.11	3.63
12. Thanjavur	4.00	3.91	4.33
13. Pudukkottai	3.94	3.89	4.33
14. Ramanathapuram	4.37	4.30	4.56
15. Tirunelveli	4.58	4.59	4.55
16. Kanniyakumari	4.90	4.71	4.94

Table 3.9

Sex ratio of children ever born and children surviving by age group

Age group	Children ever born			Children surviving		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
All ages	916	916	914	898	892	909
Less than 15	1,144	1,113	1,254	1,116	1,071	1,254
15 - 19	955	957	951	975	891	963
20 - 24	948	947	950	961	962	958
25 - 29	953	954	949	959	960	957
30 - 34	950	953	944	952	955	948
35 - 39	932	931	934	923	918	932
40 - 44	921	922	920	896	892	907
45 - 49	894	894	895	857	848	877
50 +	883	884	880	842	833	862
15 - 49	930	931	930	921	917	928

Table 3.10

Sex ratio of children ever born and children surviving by different classification of women

Classification	Children ever born			Children surviving		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
Tamil Nadu	916	916	914	898	892	909
A- **Religion**						
Hindu	915	915	914	895	890	908
Muslim	909	916	905	905	906	904
Christian	936	935	937	930	926	938
Jain	872	989	825	866	1,001	820
B- **Educational level**						
Illiterate	908	911	898	882	882	884
Literate but below middle	933	943	923	932	941	922
Middle but below matric	947	943	949	951	947	953
Matric but below graduate	954	957	953	960	964	958
Graduate and above	950	937	953	952	952	954
C- **Economic activity**						
Main workers	939	936	956	924	919	957
Non-Manual	952	948	956	948	942	953

Table 3.11

Sex ratio of children ever born and children surviving by districts

District	Children ever born			Children surviving		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
1. Madras	898	-	898	893	-	893
2. Chengalpattu	915	915	914	900	895	910
3. North Arcot	921	920	924	901	893	923
4. South Arcot	919	919	914	891	887	913
5. Dharmapuri	900	898	924	872	867	914
6. Salem	889	884	901	857	844	891
7. Periyar	910	910	910	895	889	914
8. Coimbatore	915	920	910	914	914	913
9. Nilgiri	941	934	950	931	920	943
10. Madurai	907	907	907	886	880	896
11. Tiruchchirappalli	913	912	915	882	873	906
12. Thanjavur	919	918	924	907	904	919
13. Pudukkottai	924	921	945	906	902	938
14. Ramanathapuram	928	928	930	913	911	919
15. Tirunelveli	939	940	936	932	931	935
16. Kanniyakumari	933	937	918	928	930	922

Table 3.12

Percentage of ever married and currently married women with three or more children by age group

Age group	Ever married women			Currently married women		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
All ages	53.55	53.87	52.85	53.57	54.23	52.17
Less than 15	-	-	-	-	-	-
15 - 19	1.15	1.12	1.21	1.16	1.14	1.20
20 - 24	11.94	11.64	12.55	12.28	11.82	13.19
25 - 29	41.29	41.59	40.71	42.23	42.76	41.22
30 - 34	61.41	61.78	60.64	63.51	64.34	61.81
35 - 39	71.22	71.07	71.54	73.93	74.24	73.22
40 - 44	71.82	71.54	72.50	75.62	75.71	75.43
45 - 49	71.84	71.39	72.90	76.43	76.25	76.85
50 +	64.53	64.42	64.76	73.44	73.47	73.36

Table 3.13

Percentage of ever married women and currently married women with three or more children in selected age groups by classification of women

Classification		Ever married women				Currently married women			
		25-29	30-34	35-39	40-44	25-29	30-34	35-39	40-44
1		2	3	4	5	6	7	8	9
Tamil Nadu	R	41.83	62.26	71.51	71.54	42.76	64.34	74.24	75.71
	U	40.71	60.64	71.54	72.50	41.22	61.81	73.22	75.43
A- **Religion**									
Hindu	R	41.34	61.72	70.69	70.96	42.29	63.83	73.76	75.20
	U	39.50	59.00	69.57	71.89	39.99	60.89	72.42	74.84
Muslim	R	54.66	70.66	77.53	75.03	55.44	72.59	79.73	78.90
	U	53.68	71.45	76.11	75.92	54.92	73.14	80.26	79.54
Christian	R	38.81	67.20	77.82	80.07	43.98	68.76	79.86	83.02
	U	36.07	42.22	68.92	75.25	36.36	57.20	73.15	77.23
Jain	R	54.48	73.90	63.56	82.16	55.22	74.32	67.64	84.68
	U	55.67	71.91	78.25	77.66	55.84	72.39	79.65	80.26
B- **Educational level**									
Illiterate	R	42.01	61.95	70.86	70.74	43.10	64.22	73.75	75.09
	U	45.95	53.79	72.07	71.10	46.96	65.77	74.56	75.06
Literate but below middle	R	44.37	66.13	75.49	77.10	45.12	67.86	77.74	80.08
	U	48.38	69.38	77.57	78.10	49.04	70.66	78.92	80.34
Middle but below matric	R	42.88	65.53	76.69	77.45	43.41	66.64	78.07	80.17
	U	44.05	67.10	74.75	77.01	44.32	57.92	75.72	78.66
Matric but below graduate	R	30.86	50.66	65.25	69.55	31.11	51.41	66.22	71.49
	U	26.50	44.73	57.23	64.49	26.63	45.18	57.84	65.56
Graduate and above	R	7.01	25.95	46.76	67.08	6.93	25.89	50.54	67.87
	U	4.88	16.62	33.03	41.05	4.88	16.70	33.44	41.49
C- **Economic activity**									
Main worker	R	39.93	59.72	68.95	69.49	41.29	62.54	72.58	74.77
	U	32.24	49.19	64.40	66.07	33.06	50.85	67.14	70.76
Non-Manual	R	27.99	45.64	62.09	67.22	28.36	46.56	64.45	72.55
	U	15.15	32.62	53.13	60.50	14.84	32.86	53.73	62.54
Manual	U	39.62	59.11	69.17	68.37	41.36	62.56	73.36	74.63
Cultivator	R	41.87	61.35	69.35	70.07	42.83	63.45	72.00	73.96
Agricultural labourer	R	39.66	59.54	68.73	68.84	41.21	62.69	72.85	74.85
Manual other than C & AL	R	39.37	61.52	71.50	72.51	40.82	65.12	75.45	77.70

Table 3.14

Percentage of ever married and currently married women with three or more children in the selected age groups by district

District	R U	Ever married women				Currently married women			
		25-29	30-34	35-39	40-44	25-29	30-34	35-39	40-44
1	2	3	4	5	6	7	8	9	10
1. Madras	R	-	-	-	-	-	-	-	-
	U	39.37	56.57	68.53	69.03	39.60	57.16	69.47	71.27
2. Chengalpattu	R	45.22	65.03	74.14	73.20	46.01	67.13	76.83	77.61
	U	43.42	61.53	72.59	73.29	43.80	62.46	73.67	75.89
3. North Arcot	R	50.70	69.64	77.40	76.05	51.89	71.81	80.20	80.71
	U	50.46	67.40	75.16	75.14	51.18	69.23	77.59	78.97
4. South Arcot	R	47.65	68.73	76.60	75.70	48.36	70.58	78.90	79.58
	U	45.66	66.39	75.08	75.08	45.98	67.19	76.24	78.63
5. Dharmapuri	R	49.53	67.37	74.98	74.09	50.96	69.74	77.71	78.63
	U	47.32	65.62	76.07	74.76	48.26	67.32	77.19	78.82
6. Salem	R	38.16	54.90	63.66	64.07	39.29	57.19	66.53	68.17
	U	39.16	60.26	71.21	70.87	39.93	61.79	73.27	73.78
7. Periyar	R	27.69	45.14	55.93	58.99	28.50	47.16	58.56	62.38
	U	33.64	54.40	66.12	69.16	33.69	55.82	67.74	70.83
8. Coimbatore	R	30.58	50.79	64.26	69.93	31.49	52.97	68.13	74.17
	U	34.61	55.64	67.38	71.93	35.18	56.91	69.41	74.27
9. Nilgiri	R	40.07	64.00	77.02	80.75	41.22	66.68	79.16	93.55
	U	43.83	63.10	77.48	77.10	44.50	64.52	79.92	79.70
10. Madurai	R	43.19	63.10	71.87	71.55	43.96	65.53	74.87	76.10
	U	43.57	64.30	74.04	75.08	44.36	65.81	76.31	78.74
11. Tiruchchirappalli	R	38.64	57.82	67.21	65.84	39.56	60.11	70.53	70.76
	U	38.06	58.35	69.68	71.74	38.53	59.50	71.35	74.93
12. Thanjavur	R	39.18	59.54	69.02	69.07	39.77	61.16	71.29	72.67
	U	39.92	63.00	72.95	72.05	40.29	64.24	74.86	75.46
13. Pudukkottai	R	41.36	64.59	73.35	71.36	42.04	66.17	76.03	75.86
	U	45.20	63.06	75.98	72.52	45.61	64.73	77.98	75.21

Table 3.14

Percentage of ever married and currently married women with three or more children in the selected age groups by district

District	R U	Ever married women				Currently married women			
		25-29	30-34	35-39	40-44	25-29	30-34	35-39	40-44
1	2	3	4	5	6	7	8	9	10
14. Ramanatha-puram	R	42.38	66.24	75.41	74.65	43.31	68.10	78.16	78.99
	U	43.36	63.88	72.96	73.22	44.21	65.58	75.60	77.09
15. Tirunelveli	R	40.51	65.57	74.97	75.99	41.37	67.70	78.08	79.83
	U	39.03	63.14	73.73	75.09	39.57	64.37	75.59	78.25
16. Kanniyakumari	R	38.14	66.17	78.27	81.45	38.66	67.58	80.29	84.47
	U	35.72	59.18	73.22	76.51	36.25	60.52	74.74	78.58

Table 3.15

Proportion of childless women (aged 50+) by classification of women

Classification	Total	Rural	Urban
1	2	3	4
Tamil Nadu	8.70	8.78	8.51
A- Religion			
Hindu	8.93	8.99	8.80
Muslim	7.21	7.09	7.30
Christian	6.21	6.08	6.46
Jain	8.46	12.42	5.57
B- Educational level			
Illiterate	8.85	8.85	8.84
Literate but below middle	7.84	7.97	7.75
Middle but below matric	6.72	7.20	6.60
Matric but below graduate	8.54	9.33	8.43
Graduate and above	13.76	7.00	14.69
C- Economic activity			
Main worker	10.58	10.15	13.27
Non-manual	13.60	13.36	13.74
Manual	-	-	13.13
Cultivator	-	8.88	-
Agricultural Labourer	-	10.70	-
Manual other than C & AL	-	10.31	-

Table 3.16

Proportion of childless women (aged 50+) by district

District	Total	Rural	Urban
1	2	3	4
1. Madras	9.06	-	9.06
2. Chengalpattu	9.02	9.55	8.06
3. North Arcot	8.53	8.46	8.78
4. South Arcot	8.61	8.37	9.97
5. Dharmapuri	10.23	10.30	9.55
6. Salem	7.71	8.78	4.43
7. Periyar	8.69	8.75	8.41
8. Coimbatore	7.90	7.89	7.91
9. Nilgiri	5.82	5.48	6.23
10. Madurai	9.26	9.71	8.38
11. Tiruchchirappalli	11.11	11.14	11.01
12. Thanjavur	7.77	7.99	7.02
13. Pudukkottai	9.86	9.63	11.46
14. Ramanathapuram	9.24	9.28	9.15
15. Tirunelveli	7.74	6.74	9.86
16. Kanniyakumari	6.20	6.37	5.40

Table 3.17

Distribution of currently married women by duration of marriage and religion

Duration of marriage	T R U	All religions	Hindu	Muslim	Christian	Jain
1	2	3	4	5	6	7
All durations	T	100.00	100.00	100.00	100.00	100.00
	R	100.00	100.00	100.00	100.00	100.00
	U	100.00	100.00	100.00	100.00	100.00
0 - 4	T	16.70	16.66	18.11	16.09	16.96
	R	15.97	15.99	16.71	15.09	15.71
	U	18.28	18.24	18.99	17.77	17.44
5 - 9	T	16.12	16.02	17.57	16.48	16.33
	R	15.61	15.57	16.41	15.91	12.57
	U	17.21	17.07	18.30	17.45	17.79
10 - 14	T	15.28	15.22	16.19	15.39	14.58
	R	15.14	15.12	15.94	15.12	15.00
	U	15.57	15.46	16.35	15.86	14.42
15 - 19	T	13.28	13.27	13.73	13.03	13.61
	R	13.49	13.48	14.28	13.28	13.25
	U	12.82	12.76	13.38	12.61	13.75
20 - 24	T	13.20	13.25	12.68	12.77	11.98
	R	13.62	13.65	13.20	13.23	13.10
	U	12.28	12.30	12.36	12.00	11.55
25 - 29	T	8.76	8.79	8.05	8.93	8.08
	R	9.06	9.05	8.71	9.32	8.31
	U	8.13	8.18	7.64	8.29	7.99
30 - 34	T	7.19	7.24	6.13	7.46	6.75
	R	7.49	7.50	6.63	7.77	9.09
	U	6.55	6.61	5.82	6.94	5.85
35 +	T	8.89	8.99	6.80	9.20	10.91
	R	9.09	9.10	7.52	9.69	11.70
	U	8.48	8.73	6.34	8.39	10.60

*All durations include duration not stated.

Table 3.18

Mean age of fertility and ratio of fertility rates for 15-19 and 20-24 age groups

Classification	$\bar{m}$ f_1/f_2	Total	Rural	Urban
1	2	3	4	5
Tamil Nadu	$\bar{m}$	27.4	27.6	27.0
	f_1/f_2	0.229	0.230	0.225
A. Religion				
Hindu	$\bar{m}$	27.3	27.5	26.9
	f_1/f_2	0.234	0.238	0.224
Muslim	$\bar{m}$	27.6	27.9	27.3
	f_1/f_2	0.258	0.232	0.273
Christian	$\bar{m}$	28.8	29.1	28.0
	f_1/f_2	0.109	0.095	0.134
Jain	$\bar{m}$	26.1	25.6	26.3
	f_1/f_2	0.137	0.193	0.111
B. Educational level				
Illiterate	$\bar{m}$	27.3	27.4	26.7
	f_1/f_2	0.287	0.276	0.337
Literate but below middle	$\bar{m}$	27.2	27.6	26.7
	f_1/f_2	0.197	0.182	0.223
Middle but below matric	$\bar{m}$	26.6	27.1	26.3
	f_1/f_2	0.160	0.156	0.164
Matriculate but below graduate	$\bar{m}$	27.4	28.2	27.1
	f_1/f_2	0.124	0.122	0.125
Graduate and above	$\bar{m}$	28.8	30.0	28.5
	f_1/f_2	0.045	-	0.051
C. Economic activity				
Main-worker	$\bar{m}$	27.2	27.2	27.6
	f_1/f_2	0.244	0.243	0.236

Table 3.18

Mean age of fertility and ratio of fertility rates for 15-19 and 20-24 age groups

Classification	$\bar{m}$ f_1/f_2	Total	Rural	Urban
1	2	3	4	5
Non-manual	$\bar{m}$	28.2	27.5	28.6
	f_1/f_2	0.407	0.477	0.277
Manual	$\bar{m}$	-	-	27.4
	f_1/f_2	-	-	0.203
Cultivator	$\bar{m}$	-	26.8	-
	f_1/f_2	-	0.275	-
Agricultural Labourer	$\bar{m}$	-	27.2	-
	f_1/f_2	-	0.242	-
Manual other than C & AL	$\bar{m}$	-	27.9	-
	f_1/f_2	-	0.185	-

Table 3.19

Mean age of fertility and ratio of fertility rates of 15-19 and 20-24 age groups by district

District	$\bar{m}$ / f_1/f_2	Total	Rural	Urban
1	2	3	4	5
1. Madras	$\bar{m}$	26.5	-	26.5
	f_1/f_2	0.254	-	0.254
2. Chengalpattu	$\bar{m}$	27.2	27.3	26.9
	f_1/f_2	0.265	0.272	0.251
3. North Arcot	$\bar{m}$	27.3	27.3	27.0
	f_1/f_2	0.302	0.313	0.269
4. South Arcot	$\bar{m}$	27.5	27.6	26.8
	f_1/f_2	0.271	0.281	0.224
5. Dharmapuri	$\bar{m}$	26.9	26.9	26.7
	f_1/f_2	0.384	0.390	0.319
6. Salem	$\bar{m}$	25.9	25.8	26.2
	f_1/f_2	0.300	0.300	0.298
7. Periyar	$\bar{m}$	26.1	26.3	25.6
	f_1/f_2	0.193	0.184	0.219
8. Coimbatore	$\bar{m}$	26.7	26.9	26.6
	f_1/f_2	0.181	0.164	0.197
9. Nilgiri	$\bar{m}$	26.9	26.8	26.9
	f_1/f_2	0.211	0.207	0.215
10. Madurai	$\bar{m}$	27.4	27.5	27.1
	f_1/f_2	0.227	0.227	0.228
11. Tiruchchirappalli	$\bar{m}$	27.0	26.9	27.0
	f_1/f_2	0.203	0.192	0.208
12. Thanjavur	$\bar{m}$	27.1	27.1	27.1
	f_1/f_2	0.192	0.187	0.207

Table 3.19

Mean age of fertility and ratio of fertility rates of 15-19 and 20-24 age groups by district

District	$\bar{m}$ / f_1/f_2	Total	Rural	Urban
1	2	3	4	5
13. Pudukkottai	$\bar{m}$	28.0	28.1	27.6
	f_1/f_2	0.157	0.151	0.195
14. Ramanathapuram	$\bar{m}$	28.5	28.7	27.7
	f_1/f_2	0.170	0.161	0.192
15. Tirunelveli	$\bar{m}$	29.2	29.4	28.7
	f_1/f_2	0.118	0.111	0.134
16. Kanniyakumari	$\bar{m}$	29.5	29.1	29.6
	f_1/f_2	0.070	0.081	0.068

Table 3.20

P/F for various age groups by religion

Religion	TRU	Age Groups						
		15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9
All religions	T	1.5417	1.3054	1.3113	1.3117	1.3769	1.3708	1.3962
	R	1.5626	1.3090	1.2970	1.2774	1.3172	1.2981	1.3109
	U	1.5005	1.3006	1.3377	1.3801	1.5094	1.5425	1.6044
Hindu	T	1.5179	1.2948	1.3031	1.3073	1.3736	1.3686	1.3933
	R	1.5364	1.3008	1.2901	1.2745	1.3158	1.2962	1.3096
	U	1.4740	1.2851	1.3294	1.3792	1.5155	1.5582	1.6198
Muslim	T	1.6206	1.4567	1.4083	1.3865	1.4139	1.3597	1.3789
	R	1.7567	1.4997	1.4112	1.3479	1.3429	1.2782	1.2682
	U	1.5518	1.4830	1.4061	1.4095	1.4603	1.4163	1.4575
Christian	T	1.8135	1.3343	1.3329	1.3007	1.3917	1.4203	1.4606
	R	1.8865	1.3557	1.3350	1.2690	1.3152	1.3316	1.3466
	U	1.6864	1.3041	1.3285	1.3490	1.5186	1.5804	1.6818
Jain	T	1.5808	1.4426	1.4664	1.5249	1.5453	1.6935	1.6118
	R	1.3049	1.3997	1.3716	1.3950	1.4179	1.6332	1.3103
	U	1.7094	1.4744	1.5091	1.5807	1.5958	1.7188	1.7655

Table 3.21

ratio
P/F for various age groups by educational level and economic activity

Educational level	TRU	Age Groups						
		15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9
All educational levels	T	1.5417	1.3054	1.3113	1.3117	1.3769	1.3708	1.3962
	R	1.5626	1.3090	1.2970	1.2774	1.3172	1.2981	1.3109
	U	1.5005	1.3006	1.3377	1.3801	1.5094	1.5425	1.6044
Illiterate	T	1.4936	1.2892	1.2769	1.2639	1.3073	1.2855	1.3003
	R	1.5105	1.2939	1.2705	1.2512	1.2849	1.2605	1.2717
	U	1.4157	1.2609	1.2944	1.3118	1.3907	1.3811	1.4072
Literate but below middle	T	1.5404	1.3269	1.3281	1.3354	1.4091	1.4472	1.4949
	R	1.5905	1.3134	1.3118	1.2959	1.3497	1.3759	1.4075
	U	1.4639	1.3366	1.3414	1.3783	1.4764	1.5264	1.5890
Middle but below matric	T	1.5449	1.4020	1.3404	1.3761	1.4791	1.5453	1.6280
	R	1.5988	1.3700	1.3165	1.3139	1.4165	1.4598	1.5199
	U	1.5008	1.4269	1.3577	1.4202	1.5253	1.6070	1.7025
Matric but below graduate	T	1.5396	1.2573	1.2937	1.2523	1.3166	1.4095	1.4859
	R	1.5729	1.2440	1.2828	1.2064	1.2544	1.3016	1.3669
	U	1.5222	1.2644	1.3006	1.2782	1.3541	1.4718	1.5586
Graduate and above	T	2.6277	0.9392	1.0763	1.2050	1.2864	1.3494	1.3185
	R	-	-	-	-	-	-	-
	U	1.7269	0.9098	1.0760	1.1903	1.2679	1.3076	1.2625
ECONOMIC ACTIVITY								
Main worker	T	1.6312	1.3881	1.4191	1.4122	1.4707	-	-
	R	1.6307	1.3805	1.3973	1.3775	1.4108	-	-
	U	1.7057	1.4914	1.6217	1.6747	1.8824	-	-
Non manual	T	1.5471	1.0113	1.3486	1.4983	1.7190	-	-
	R	1.1775	1.0281	1.2811	1.3641	1.5075	-	-
	U	2.4388	1.1108	1.4272	1.5715	1.8243	-	-
Manual	U	1.7723	1.6125	1.8106	1.8409	1.9476	-	-
Cultivators	R	1.5239	1.2781	1.3013	1.2779	1.3008	-	-
Agricultural labourers	R	1.6511	1.4086	1.4005	1.3846	1.4143	-	-
Manual other than C & AL	R	1.7541	1.4661	1.6568	1.6325	1.6722	-	-

Table 3.22

P/F for various age groups by district

District	TRU	Age groups						
		15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9
1. Madras	T	1.5085	1.3054	1.3353	1.3867	1.5666	1.5913	1.6420
	R	-	-	-	-	-	-	-
	U	1.5085	1.3054	1.3353	1.3867	1.5666	1.5913	1.6420
2. Chengalpattu	T	1.4610	1.2781	1.2527	1.2507	1.3362	1.3098	1.3304
	R	1.4976	1.2975	1.2483	1.2307	1.2882	1.2488	1.2462
	U	1.3958	1.2552	1.2598	1.2781	1.4129	1.4156	1.4870
3. North Arcot	T	1.4239	1.2739	1.2362	1.2172	1.2548	1.2309	1.2511
	R	1.4036	1.2556	1.2077	1.1770	1.2046	1.1762	1.1886
	U	1.4907	1.3343	1.3263	1.3558	1.4401	1.4436	1.5020
4. South Arcot	T	1.5200	1.3266	1.3068	1.3074	1.3353	1.3088	1.3037
	R	1.5033	1.3107	1.2760	1.2685	1.2860	1.2524	1.2399
	U	1.6041	1.4146	1.4905	1.5598	1.6708	1.7127	1.7804
5. Dharmapuri	T	1.2813	1.1962	1.1664	1.1484	1.1952	1.1791	1.1960
	R	1.2715	1.1858	1.1493	1.1281	1.1673	1.1489	1.1636
	U	1.3854	1.3103	1.3541	1.3695	1.5137	1.5392	1.5978
6. Salem	T	1.1761	1.3270	1.3485	1.3651	1.4400	1.4493	1.5112
	R	1.3697	1.3428	1.3376	1.3342	1.3925	1.3927	1.4419
	U	0.7297	1.2908	1.3696	1.4384	1.5622	1.6010	1.7046
7. Periyar	T	1.5563	1.3126	1.3207	1.3557	1.4735	1.5148	1.5867
	R	1.6025	1.3451	1.3710	1.3900	1.4927	1.5280	1.5745
	U	1.4426	1.2298	1.1982	1.2829	1.4616	1.5414	1.7070
8. Coimbatore	T	1.5877	1.3263	1.4050	1.4526	1.6050	1.7080	1.8318
	R	1.7436	1.4050	1.4909	1.5126	1.6620	1.7662	1.8831
	U	1.4700	1.2635	1.3395	1.4100	1.5695	1.6752	1.8082
9. Nilgiri	T	1.4943	1.3260	1.4336	1.4986	1.7321	1.8447	2.0234
	R	1.6163	1.3296	1.5044	1.6360	1.8628	2.0559	2.2395
	U	1.3770	1.3218	1.3675	1.3755	1.6197	1.6526	1.8259

Table 3.22

P/F for various age groups by district

District	TRU	Age group						
		15-19	20-24	25-29	30-34	35-39	40-44	45-49
1	2	3	4	5	6	7	8	9
10. Madurai	T	1.5877	1.3820	1.4245	1.4286	1.4849	1.4775	1.4935
	R	1.6034	1.3975	1.4105	1.3926	1.4275	1.3978	1.4080
	U	1.5622	1.3569	1.4462	1.4899	1.5942	1.6417	1.6720
11. Tiruchchirappalli	T	1.5660	1.3431	1.3273	1.3107	1.3785	1.3635	1.3837
	R	1.4915	1.2538	1.2645	1.3126	1.4489	1.5122	1.5338
	U	1.5923	1.3813	1.3511	1.3106	1.3571	1.3174	1.3394
12. Thanjavur	T	1.6380	1.3435	1.2922	1.2946	1.3688	1.3713	1.3980
	R	1.6720	1.3414	1.2732	1.2604	1.3248	1.3279	1.3450
	U	1.5326	1.3503	1.3552	1.4152	1.5338	1.5352	1.6070
13. Pudukkottai	T	1.6791	1.2336	1.1931	1.1537	1.1659	1.1185	1.1003
	R	1.6979	1.2434	1.1838	1.1425	1.1490	1.0986	1.0748
	U	1.5745	1.1821	1.2536	1.2331	1.2937	1.2747	1.3014
14. Ramanathapuram	T	1.6471	1.2976	1.2983	1.2764	1.2960	1.2587	1.2555
	R	1.7227	1.3100	1.2988	1.2631	1.2676	1.2119	1.1928
	U	1.4946	1.2694	1.2973	1.3097	1.3753	1.4023	1.4519
15. Tirunelveli	T	1.6782	1.2687	1.3155	1.2837	1.3011	1.2845	1.2695
	R	1.6993	1.2471	1.3031	1.2555	1.2521	1.2204	1.2045
	U	1.6327	1.3077	1.3387	1.3381	1.4009	1.4225	1.4114
16. Kanniyakumari	T	1.5342	1.2161	1.3220	1.3135	1.3831	1.4242	1.4913
	R	1.7578	1.2557	1.3399	1.3608	1.4771	1.4941	1.6069
	U	1.4730	1.2067	1.3186	1.3047	1.3654	1.4120	1.4696

Table 3.23

Fertility indicators adjusted by P/F ratio technique

ALL RELIGIONS

Age group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
15 - 19	0.055	0.057	0.052	0.243	0.235	0.259
20 - 24	0.243	0.246	0.234	0.321	0.313	0.336
25 - 29	0.229	0.235	0.222	0.249	0.252	0.246
30 - 34	0.144	0.152	0.127	0.155	0.163	0.136
35 - 39	0.077	0.084	0.064	0.085	0.092	0.070
40 - 44	0.029	0.031	0.020	0.034	0.038	0.024
45 - 49	0.009	0.010	0.007	0.011	0.013	0.009
50 +						
GMFR	-	-	-	169	167	170
TMFR	-	-	-	5.5	5.6	5.4
GFR	123	125	120	-	-	-
TFR	3.9	4.0	3.6	-	-	-

Table 3.24

Unadjusted and adjusted fertility rates by different classification

Classification	Unadjusted				Adjusted			
	TFR	GFR	TMFR	GMFR	TFR	GFR	TMFR	GMFR
1	2	3	4	5	6	7	8	9
TAMIL NADU	3.0	94	4.2	129	3.9	123	5.5	169
Religion								
Hindu	3.0	93	4.1	126	3.9	121	5.3	164
Muslim	3.5	110	4.7	151	4.9	155	6.6	213
Christian	3.2	97	5.0	151	4.3	129	6.7	201
Jain	2.7	93	3.7	121	3.8	133	3.4	177
Educational level								
Illiterate	3.2	93	4.1	117	4.1	119	5.2	149
Literate but below middle	3.1	103	4.3	149	4.1	137	5.7	198
Middle but below matric	2.7	92	4.0	148	3.6	123	5.4	198
Matric but below graduate	2.3	86	3.9	157	3.0	111	5.0	203
Graduate and above	1.7	81	3.1	142	1.8	87	3.3	153
Economic activity								
Main workers	2.6	81	3.7	112	3.7	115	5.3	159
Non-Manual	1.7	62	3.5	91	2.3	84	4.7	123

Table 3.25

Unadjusted and adjusted fertility rates by district

State/District	Unadjusted					Adjusted				
	CBR	TFR	TMFR	GFR	GMFR	CBR	TFR	TMFR	GFR	GMFR
1	2	3	4	5	6	7	8	9	10	11
TAMIL NADU	24.37	3.0	4.2	94	129	31.96	3.9	5.5	123	169
1. Madras	22.75	2.5	3.8	85	121	30.38	3.3	5.1	114	162
2. Chengalpattu	26.11	3.2	4.4	103	138	32.71	4.0	5.5	129	173
3. North Arcot	27.74	3.6	4.6	112	146	34.30	4.5	5.7	138	180
4. South Arcot	26.73	3.4	4.3	106	136	34.94	4.4	5.6	139	178
5. Dharmapuri	27.95	3.7	4.6	116	145	32.60	4.3	5.4	135	169
6. Salem	20.71	2.4	3.4	79	103	27.93	3.4	4.6	107	139
7. Periyar	18.85	2.2	3.2	70	93	24.91	2.9	4.2	92	123
8. Coimbatore	19.77	2.3	3.5	74	104	27.78	3.2	4.9	104	146
9. Nilgiri	22.79	2.5	3.9	84	124	32.67	3.6	5.6	120	178
10. Madurai	22.67	2.8	4.0	88	122	32.29	4.0	5.7	125	174
11. Tiruchchirappalli	22.16	2.7	3.8	84	115	29.42	3.6	5.0	114	153
12. Thanjavur	23.46	2.9	4.0	89	122	30.32	3.7	5.2	115	158
13. Pudukkottai	27.87	3.6	4.9	109	149	33.25	4.3	5.8	130	178
14. Ramanathapuram	27.11	3.5	4.8	104	146	35.20	4.5	6.2	135	190
15. Tirunelveli	27.38	3.6	5.1	105	154	36.02	4.7	6.7	138	203
16. Kanniyakumari	25.57	3.3	5.4	98	163	33.81	4.4	7.1	130	215

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