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No. 2 OF 1988**

Fertility
and
Child
Mortality
Estimates
of
Kerala

...SION
OFFICE OF THE REGISTRAR GENERAL, INDIA
MINISTRY OF HOME AFFAIRS
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CENSUS   OF   INDIA   1981

Occasional Paper No. 2 of 1988
Fertility and Child Mortality Estimates
of Kerala

Demography Division
Office of the Registrar General, India

C O N T E N T S

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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 tabulated in a 20 per cent sample of enumeration blocks in 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 questions in respect of Kerala 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. Alongwith these district level estimates, the state level estimates of fertility and child mortality by religion, educational level and occupational level of main workers are also presented.

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 Phool Singh, Deputy Directors, Shri K. Narayanan Unni, Senior Research Officer, Shri S.S. Bawa, Shri Subhash Garg, Assistant Directors and Dr. L.R. Yadav, Research Officer.

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New Delhi   (V.S. VERMA)
4 February,1988   REGISTRAR GENERAL, INDIA

C H A P T E R - 1

Population and its characteristics

      Kerala is the most densely populated state
in the country. In the 1981 census 25.5 million
people were counted in the state which has an
area of 38,863 square kilometers giving a population
density of 655 persons per square kilometer. It
is the only state in India where females outnumber
males with a sex ratio of 1032 females per 1000
males. This sex ratio is highest in the country.
The state has relatively less percentage of
population living in urban areas. Only 18.74 per
cent of its population live in urban areas as
against 23.31 per cent at national level. It
has high literacy levels. In the decade 1971-81
the state has grown by only 19.24 per cent which
is the second lowest growth rate among all states.
The state is known to have comparatively low levels
of fertility and mortality.

      The present report analyses the data on
fertility and child mortality collected in the
1981 census. The inter district variations as
well as the differentials by religion, educational
level and worker category of the married women in
fertility and child mortality are studied in detail.
As a prelude to the study this chapter presents
a brief analysis of some of the variables which
have a bearing on the levels of fertility and
child mortality. It is supplemented by a short
analysis of the distributions of currently married
women by religion, educational level and worker

category. This will enable the reader to
appreciate the significance of the differentials
in fertility and child mortality by these
characteristics.

Statement 1.1 presents district wise data
on the size of population, density, sex ratio,
growth rate, literacy rates and proportion of
urban population, Scheduled Castes and Scheduled
Tribes. There are twelve districts in the state
with population size varying from 0.55 million in
Wayanad to 2.81 million in Quilon. In the districts
of Alleppey (1248) Trivandrum (1184) and Ernakulam
(1053) there are more than 1000 people living in
a square kilometer. The districts with low
population density are Idukki (192) and Wayanad
(260) both lying in the hilly areas. Only in the
hilly district of Idukki the population density is
below the national average of 216 persons per sq.km.

The state has more females than males. This
may be partly due to the out migration of males from
the state. It is also due to higher life expectancy
of females compared to males in the state. Only the
districts of Wayanad (949), Idukki (963) and
Ernakulam (998) have more males than females. The
districts of Quilon (1126) and Trichur (1100) have
the highest sex ratios in the state. In all districts
the sex ratio is above the national average of 933
females per 1000 males.

The population growth rate during the decade
1971-81 shows wide fluctuations from district to
district. The districts of Kottayam and Alleppey
had the lowest growth rates of 10.29 percent and
10.56 per cent respectively. The districts of Wayanad
(33.87 per cent) and Malappuram (29.43 per cent)
shows high growth rates of population.

STATEMENT - 1.1

Population and selected indicators - 1981

State/District	Total popu- lation (000's)	Density (per sq. km)	Sex Ratio (females per 1000 males)	Percentage decadal variation of popu- lation, 1971-81	Percentage of urban population	Percentage of literates Males	Percentage of literates Females	Percentage of SC	Percentage of ST
1	2	3	4	5	6	7	8	9	10
KERALA	25,454	655	1,032	+ 19.24	18.74	75.26	65.73	10.02	1.03
1. Cannanore	2,803	565	1,034	+ 25.39	23.39	72.20	59.48	5.13	1.42
2. Kozhikode	2,245	957	1,020	+ 23.25	27.18	76.56	63.82	7.20	0.17
3. Malappuram	2,403	677	1,052	+ 29.43	7.40	65.93	55.34	8.66	0.33
4. Palghat	2,044	456	1,056	+ 21.30	10.11	64.81	51.55	18.41	1.41
5. Trichur	2,440	805	1,100	+ 14.60	21.10	77.31	70.21	12.38	0.13
6. Ernakulam	2,535	1,053	998	+ 17.18	39.56	80.75	72.88	8.54	0.14
7. Idukki	972	192	963	+ 26.91	4.59	72.15	62.55	13.71	3.98
8. Kottayam	1,697	770	1,001	+ 10.29	9.37	83.96	79.35	7.03	0.90
9. Alleppey	2,350	1,248	1,050	+ 10.56	7.23	82.12	75.10	10.02	0.14
10. Quilon	2,814	609	1,126	+ 16.61	13.15	78.10	70.21	12.35	0.26
11. Trivandrum	2,596	1,184	1,030	+ 18.08	25.26	75.29	65.85	10.95	0.54
12. Wayanad	554	260	949	+ 33.87	-	64.81	51.51	3.81	17.25

With only 18.74 per cent of the population
living in urban areas, the state is much behind
the national average in level of urbanisation.
The settlement pattern and a well developed system
of land and river communication facilities may be
the prime reasons for low level of urbanisation.
This in turn would give the rural people
comparatively better access to urban facilities
leading to lesser rural-urban differentials in
fertility and child mortality. As may be seen
later the rural-urban fertility and mortality
differentials are narrow in the state. Ernakulam
is most urbanised district with 39.56 per cent
of its population living in urban areas followed
by Kozhikode (27.18 per cent) and Trivandrum
(25.26 per cent). These districts include the
three largest urban centres in the state, namely
urban agglomorations of Cochin, Calicut and
Trivandrum. Wayanad district does not have any
urban area. In the districts of Idukki (4.59
per cent), Alleppey (7.23 per cent), Malappuram
(7.40 per cent) and Kottayam (9.37 per cent),
the proportion of urban population to total
population is below ten percent.

The literacy is very high among both males
and females. Among males 75.26 per cent are
literate. The corresponding proportion among
females is 65.73 per cent. These are significantly
above the all India (excluding Assam) literacy
rates of 46.89 per cent for males and 24.82 per cent
for females. Palghat and Wayanad and with 64.81
per cent and Malappuram with 65.93

per cent literates, are the only districts with
male literacy rates below 70 per cent. These
districts also have the lowest female literacy
rates. The districts of Kottayam, Alleppey and
Ernakulam in the central part of the state have
highest literacy levels for both males and females.
The literacy rate for the persons aged 5 and
above in these districts are 89.65 per cent, 86.58
per cent and 84.72 per cent respectively.

In the state as a whole 10.02 per cent
of the population belong to Schducled Castes and
1.03 per cent to Scheduled Tribes. The proportion
of Scheduled Castes is lowest in Wayanad and
highest in Palghat, the respective percentages
being 3.81 and 18.41. The tribal population of
the state is concetrated in the districts of
Wayanad, Cannanore, Idukki and Palaghat. Wayanad
with 17.25 per cent of the population belonging
to Scheduled Tribes has the highest proportion of
tribal population followed by Idukki with 3.98
per cent.

Out of the 12.9 million females in the
state 6.1 million are in the age group 15-44 years
commonly termed as reproductive age group. Among
them 3.7 million accounting for 60.73 per cent are
married. This percentage of married females is
lowest among all major states in the country.
In the age groups 15-19 years and 20-24 years also
the propotion of married females is very low in the

state. These low proportions indicate higher
age at marriage of females compared to other
parts of the country. The mean age at marriage
of females in the state is higher than that of
the national average is also indicated by an
analysis of the data on age at marriage of
currently married females collected in the 1981
census. It is seen from the data that the mean
age at marriage of currently married females in
the state is 19.1 years, which is more than two
years above the national average. It may be
borne in mind that the mean age at marriage
does not represent the current levels of
age at marriage. This is because, the question
was canvassed for all currently married women
irrespective of the time at which they got
married. In all probability older age women
got married at relatively younger ages. The
higher female age at marriage has resulted in a
lower proportion of couples with wife in the
reproductive age group 15-44 years. The ratio
of couples per 1000 population (with wife in
the age group 15-44) has been estimated as 146
in the state againast the national average of
168. Statement 1.2 presents these nuptiality
indices at the district level.

STATEMENT - 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 popu-lation
	Total	Married	15-44	15-19	20-24	Total	Rural	Urban	
1	2	3	4	5	6	7	8	9	10
KERALA	6,101,6	3,705,3	60.73	14.13	57.86	19.1	19.0	19.5	146
1. Cannanore	649,3	411,0	63.29	21.18	66.18	18.2	18.1	18.6	147
2. Kozhikode	522,3	344,8	66.02	25.63	69.93	18.1	17.9	18.6	154
3. Malappuram	546,1	383,2	70.18	34.91	75.71	17.8	17.8	17.8	160
4. Palghat	479,0	310,2	64.77	21.94	67.03	18.3	18.2	18.8	152
5. Trichur	603,5	342,0	56.68	9.15	52.05	19.8	19.8	20.0	140
6. Ernakulam	612,7	345,3	56.36	5.50	46.93	20.0	19.9	20.2	136
7. Idukki	234,0	145,5	62.18	9.81	60.75	19.3	19.3	19.4	150
8. Kottayam	409,0	224,2	54.81	4.28	44.42	19.8	19.7	20.1	132
9. Alleppey	569,4	319,3	56.07	5.17	47.75	19.9	20.0	19.9	136
10. Quilon	686,6	403,5	58.76	7.30	54.20	19.6	19.6	19.8	143
11. Trivandrum	664,7	391,0	58.83	9.36	53.34	19.9	19.7	20.2	151
12. Wayanad	125,2	85,3	68.12	19.80	72.94	18.6	18.6	-	154

Note:- 1. In Columns (2) and (3) totals may not tally due to rounding
2. Cols.(7), (8) & (9) refers to mean age at marriage of
   currently married females.

In the age group 15-44 years the propotion
of married females varies from 54.81 per cent in
Kottayam district to 70.18 per cent in Malappuram
district. In all the districts the percentage is
much below the corresponding national average of
80.48 percent. In the three central districts of
Kottayam, Alleppey and Crnakulam, the proportions
of married females in the age group 15-19, 20-24
and 15-44 are very low while in the northern
districts of Cannanore and Kozhikode the proportions
are relatively higher. In the southern districts
of Quilon and Trivandrum, the proportions fall
in between. It may be recalled that a similar
pattern was observed in case of literacy also.

Regional variations similar to those in
proportion married are noticed in female age at
marriage also. The mean age at marriage is
highest in Ernakulam district being 20.0 years
for currently married females. It is only 17.8
years in Malappuram. The district of Malappuram
and rural areas of Kozhikode are the only regions
where the female mean age at marriage is below
18 years. The rural urban differentials in age
at marriage are not very high in the state. The
high age at marriage is reflected in the couple
population ratio defined as the number of currently
married females in the reproductive age group
15-44 years per 1000 population. Kottayam district
has the lowest couple population ratio of 132
couples per 1000 population followed by Alleppey

and Ernakulam districts with 136 couples per
1000 population. Malappuram with 160 couples
per 1000 population is at the other end. Even
this ratio is significantly below the national
average of 168 couples per 1000 population.

Statement 1.3   Distribution of currently
married women by Religion,
1981

Religion	Rural		Urban	
	Currently married women (00's)	Percent-age	Currently married women (00's)	Percent-age
All women	4,086,4	100.00	909,1	100.00
A. Religions				
Hindus	2,378,3	58.20	540,2	59.42
Muslims	868,2	21.24	197,4	21.71
Christians	838,8	20.53	170,2	18.72
Jains	3	0.01	9	0.10
Religion not stated	8	0.02	4	0.05
B. Scheduled Castes	4 4,86	10.98	58,4	6.43
C. Scheduled Tribes	510	1.25	1,0	0.11

Note: All women include women belonging to other
religions.
Totals may not tally due to rounding.

Statement 1.3 presents the distribution
of population by religion of the currently
married women. Of the 5.0 million married females
in the state 4.1 million are in rural areas and
0.9 million in urban areas. The distribtuion
by religion is similar in both rural and urban
areas. Hindus account for 58.20 per
cent and 59.42 per cent respectively
in rural and urban areas. The corresponding
figures for Muslims are 21.24 per cent in rural
areas and 21.71 per cent in urban areas.
Christians constitute respectively 20.53 per
cent and 18.72 of the married females in rural
and urban areas of the state. Other religions
do not account for any significant proportion.
About 10.98 per cent in rural areas and 6.43
per cent in urban areas of the currently married
females belong to Scheduled Castes. Those
belonging to Scheduled Tribes form 1.25 per cent
in rural areas and 0.11 per cent in urban areas.

Statement 1.4 Distribution of currently
married women by educational
level - 1981

Educational level	Rural		Urban	
	Currently married women (00's)	Percent-age	Currently married women (00's)	Percent-age
All Educational levels	4,086,4	100.00	909,1	100.00
Illiterate	1,268,4	31.04	182,0	20.02
Literate but below middle	1,806,2	44.20	371,6	40.88
Middle but below matric	649,0	15.88	181,9	20.01
Matric but below graduate	329,6	7.82	134,1	14.75
Graduate and above	43,2	1.06	39,5	4.34

Note: Totals may not tally due to rounding

The distribution of the married females
by educational levels has been presented in
statement 1.4. It is seen that in rural areas
1.3 million out of the 4.1 million married
females forming 31.04 per cent, are illiterate.
Those who are literate but educated below
middle school level account for 44.20 per cent
and those educated between middle school and
matric forms 15.88 per cent. Only 1.06 per
cent of the married females in the rural areas
are graduates. In urban areas illiterates form
only 20.02 per cent of the married females.
Another 40.88 per cent are literates, educated
below middle school level. The categories
"middle but below matric" and "Matric but below
graduate" respectively account for 20.01 per
cent and 14.75 per cent of the married females
in the urban areas. Another 4.34 per cent of
the married females in urban areas are graduates.

Statement 1.5   Distribution of currently
                married women by worker
                category - 1981

Worker category	Rural		Urban	
	Currently married women (00's)	Percent-age	Currently married women (00')	Percent-age
1	2	3	4	5
All women	4,086,4	100.00	909,1	100.00
a) Main workers	845,1	20.68	127,6	14.04
Cultivators	45,7	1.12		
Agricultural labourers	429,8	10.52		
Manual-workers	257,6	6.30	65,0	7.15
Non-manual workers	112,0	2.74	52,6	6.89
b) Marginal workers	278,0	6.80	28,5	3.13
Cultivators	52,4	1.28		
Agricultural labourers	122,7	3.00		
Manual workers	97,4	2.38	26,8	2.94
Non-manual workers	5,5	0.14	1,7	1.19
c) Non-workers	2,963,3	72.52	753,0	82.83

Note: 1. Non-manual workers include those in occupational
         divisions 0-1,2,3,4. In rural areas cultivators
         and agricultural labourers are excluded from
         manual workers while in urban areas they are
         also included in manual workers.

      2. Totals may not tally due to rounding.

Statement 1.5 presents the distribution
of the married females by worker category. It
is seen that non workers number 3.0 million in
rural areas and 0.8 million in urban areas
among the married females, constituting 72.52

rural areas and 82.83 per cent in urban areas.
Main workers and marginal workers respectively
form 20.68 per cent and 6.80 per cent in rural
areas. The fertility tables of the census have
attempted to provide some data separately for
manual and non-manual workers. All persons
working in ocupational divisions 0-1,2,3 and 4
the professional technical and related workers
administration, executive and managerial workers,
clerical and related workers, have been classified
as non-manual workers. Persons working in all
other occupations have been included under manual
workers. In rural areas however, in view of
their importance, data for cultivators and
agricultural labourers have been shown separately.
It is seen that a large proportion of the main
workers and marginal workers are agricultural
labourers followed by other manual workers. In
the rural areas non-manual main workers and
marginal workers respectively form only 2.74 per
cent and 0.14 per cent of the currently married
females. In urban areas 14.04 per cent of the

married females are main workers and 3.13 per
cent are marginal workers. Among both main
workers and marginal workers majority are
engaged in manual occupations. In urban areas
the non-manual main workers and marginal
workers form 6.89 per cent and 1.19 per cent
respectively of the married females.

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
qurviving were canvassed for all ever married women.
Number of children ever born and number of children
surviving have been tabulated by 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
preceding 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 differe according to the fertility
pattern. As an indicator of fertility pattern,
Brass suggested the ratio P1/P2 or P2/P3 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 a
mathematical function and had some limitations.
In view of this, the multipliers were later modified
by Trussel 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 question.

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, $q(3)$ and 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. The 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
census. These have been termed as YPC, i.e. years
prior to census. The YPC corresponding to $q(1)$,
$q(2)$, $q(3)$ and $q(5)$ are 0.78 years, 1.83 years
3.5 years and 5.7 years respectively.

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 many cases, 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. Obviously mortality
from age 1 to age 5 will increase progressively.
However, in our estimates, sometimes q(1) is
estimated to be higher than q(2) which is not
possible. Such estimates arise because of the
inaccuracies in reporting of age, number of
children born and surviving, small number of events
reported and other factors. 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.

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) and 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_0^o the value of q(1)
was interpolated. This interpolated value of
q(1) has been taken as the graduated value of q(1).

In some cases, the estimates are so inconsistent
with each other that it has not been possible to
graduate them. Graduation in such cases would
have been purely arbitrary and subjective. In
such cases, the estimates have been presented
without graduation.

The estimates presented in Table 2.1 are un-
graduated estimates. The graduated figures, wherever
graduation was considered necessary, are also
shown in brackets. The discussions in the following
paras are based on the graduated values.

Estimates of child mortality for the state as a whole

The graduated value of q(1) which corresponds
broadly to the infant mortality works out to be
52 for Kerala, q(2) denoting the number of deaths
by age 2 per 1000 live births is 55, q(3) denoting
the number of deaths by age 3 is 63, while q(5)
denoting the number of deaths by age 5 is 80 only.
There is not a very large difference between
the child mortality in the rural and the urban
areas. For rural areas q(1), q(2), q(3) and q(5)
are 53,56,66 and 83 while in urban areas the
corresponding estimates are 46, 47, 54 and 71.
Female child mortality is found to be consistently
lower than the male child mortality upto age 5.
This is in sharp contrast to the pattern available
for most of the other states particularly in
North India. The q(1), q(2), q(3) and q(5) estimates

for females are 48, 50, 59 and 76 as compared to
55, 59, 67 and 85 respectively for males.

As per Sample Registration System the infant
mortality rate for the year 1980 is 40 for Kerala
State, 41 in the rural areas and 34 in the urban
areas. Compared to the SRS our estimates are
higher.

Districtwise estimates

There is a very wide variation in the
estimates of child mortality between the various
districts of the state. The following statement
classifies the districts by level of infant
mortality q(1).

Statement 2.1 : Districts classified by level
                of infant mortality

Level of IMR	Districts
Less than 40	Ernakulam, Kottayam, Alleppey
40-45	Trichur, Trivandrum, Cannanore, Quilon
46 to 55	Malappuram, Kozhikode
56 and above	Idukki, Palghat, Wayanad

Infant mortality is quite low in the
districts of Ernakulam, Kottayam and Alleppey. As
compared to these districts the infant mortality
is quite high in Wayanad, Palghat and Idukki
districts, though by All India standards the infant
mortality rate even in these three districts is
extremely low.

q(2) is always considered to be better estimate for measurement of child mortality than q(1),because of sampling fluctuations and age errors in data. Accordingly, a comparison of q(2) estimates of various disrticts has also been attempted. Statement below classifies the various districts by level of q(2).

Statement 2.2: Districts classified by level of q(2)

Level of q(2)	Districts
Less than 40	Kottayam,
40-45	Ernakulam, Alleppey, Trichur, Trivandrum
46-55	Quilon, Cannanore, Kozhikode
56 and above	Malappuram, Palghat, Idukki, Wayanad

The level of q(2) in Kottayam,Ernakulam, Alleppey, Trichur and Trivandrum districts is half or less than half than that of Wayanad. The average level of q(2) estimate for the state as a whole is 55. 8 districts are below this average, while 4 are above this average.

Rural-Urban differentials of child mortality

As already mentioned, the differentials in child mortality rates between the rural and urban areas of the state are not very high. For the state as whole q(1) is 53 for rural areas and 46 for urban areas, q(2) is 56 in rural areas and 47 in urban

areas, q(3) is 66 in rural areas and 54 in urban
areas while q(5) is 83 in rural areas and 71 in the
urban areas. The rural-urban differentials are
wider in the districts of Cannanore, Palghat,
Ernakulam, Idukki, Kottayam and Alleppey. Wayanad
district which does not have any urban areas at
all has the highest child mortality. Both as per
q(1) as well as q(2) and also by other parameters,
Wayanad has the highest child mortality in the
state.

Male-Female differentials of child mortality

For the state as a whole the infant mortality
rate is 55 for males and 48 for females. q(2) for
males is 59 and while for females it is 50.
Excepting Alleppey district, female child mortality
as given by q(2) is less than the male child
mortality in all other districts. In Alleppey
district, the female child mortality q(2) is
estimated at 41 for males and 42 for females but
the q(3) and q(5) estimates for females are less
than those for males. The marginally higher
estimates for females may be due to chance
fluctuations. The differential between the two
is wider in the districts of Cannanore, Kozhikode,
Malappuram, Palghat, Ernakulam, Idukki and Wayanad.
The female child mortality being less than the
male child mortality is in sharp contrast to the
position in other states of India particularly
in the North where the female child mortality is

generally found to be higher than the male child
mortality due to neglect of female children.
The fact that the female child mortality in Kerala
is substantially lower than the male child
mortality corresponds to the biological fact and
testifies that female children are not neglected
in Kerala.

To sum-up, the above estimates lead to general
conclusions as under:-

1. Child mortality in Kerala state is extremely
    low as compared to other states of India.

2. The female child mortality in all the districts
    is lower than the male child mortality.

3. It is observed that coastal districts
    particularly in the Southern Kerala such as
    Trivandurm, Quilon, Alleppey, Kottayam,
    Ernakulam & Trichur have got lesser child
    mortality than other districts.

4. Even though the child mortality is very low
    in the state, there is still very wide
    differential in the rural and urban child
    mortality; the mortality being much lower
    in the urban areas than in the rural areas.

*Child mortality estimates by religion and
educational level*

        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 the other religions viz. Sikhs,
Buddhists and Jains. The Jains, the Sikhs and
the Buddhists number 3605, 1295 and 223 respectively
in the state in 1981. Child mortality is observed

to be the lowest for Christians and the highest
for Muslims. Among the Christians q(2) is 44
while for Hindus it is 54 and for Muslims it is
58. q(5) is 59 for Christians, 80 for Hindus and 95
for Muslims. In the rural areas the q(2) value
is 45 among Christians while it is of the order
of 57 and 59 among the Hindus and the Muslims. One
very striking observation is that there is hardly
any difference between the rural and urban child
mortality in case of both Christians and Muslims
but the child mortality in the urban areas for
the Hindus is significantly lower than that in the
rural areas. For example, q(2) is 45 in the rural
areas and 42 in the urban areas for Christians, 59
and 57 respectively for Muslims, while for Hindus
it is 57 in the rural areas and 40 in the urban
areas. Among all the three religions, the female
child mortality is observed to be lower than the
male child mortality.

Table 2.3 shows the child mortality estimates
by educational level 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 advances, child
mortality rates decline very sharply. For
example, the number of deaths per 1000 live births
by age 2, q(2), is 24 only to matriculate but
below graduate mothers, while it is 37 for middle
but below matric mothers, 55 for literate but below
middle mothers and as high as 86 for the children

of illiterate mothers. Of 1000 live births to
matriculate but below graduate mothers, 33 had
died by age 5 as against 53 in case of middle
but below matric mothers, 78 for literate but below
middle mothers and 118 for illiterate mothers.
These figures very vividly bring out the fact that
educational level of the mother has a very strong
and positive impact on the mortality of their
offspring. Another interesting observation is
that as the educational level of the mother advances
the differential between male and female child
mortality narrows down numerically. This statement
holds good for rural and urban areas.

Child mortality by occupational levels of the worker

These estimates have been worked out for
main workers only. In the rural areas, the workers
had been classified into four categories viz.,
cultivators, agricultural labourers, manual workers
and non-manual workrers. In the urban areas the
classification is only two-fold, namely, manual
and non-manual. Non-manual workers cover workers
engaged in professional, technical and related work
(Administrative, executive and managerial work,
clerical and related work and sales work i.e.
occupational divisions 0,1,2,3 and 4). Service
workers, farmers, cultivators and agricultural
labourers, fisherman, hunters, loggers and related
workers, production and related workers, transport
equipment operators and labourers i.e., workers in

divisions 5,6,7,8 and 9 are classified as manual
workers in urban areas. It may be worth remembering
that in census, occupational classification is
collected only for workers other than cultivators
and agricultural labourers. Child mortality
estimates for various types of workers are presented
in Table 2.4

In the rural areas q(1) is the highest for
agricultural labourers (84) followed by manual
workers (other than culctivators & agricultural
labourers) (72), cultivators (64) and non-manual
workers (36). This order remains the same for all
the four indicators of child mortality of q(1),
q(2), q(3) and q(5). Both male as well as female
child mortality rates follow the same pattern.
Thus, even in the rural areas the child mortality
among non-manual workers is very low as compared
to that prevailing among agricultural labourers and
manual workers (other than cultivators & agricultural
labourers). For example, while the number of
deaths per 1000 live births by age 5 was 117 in
case of children of agricultural labourers, it was
109 in case of manual workers, 86 in case of
cultivators and 43 only in case of non-manual
workers. That is, child mortality amongst children
of agricultural labourers is about 2 1/2 times
more than that amongst children of non-manual
workers.

In the urban areas, the mortality amongst
children of manual workers is much higher than
that amongst children of non-manual workers. In
urban areas manual workers include cultivators
and agricultural labourers. q(1) in the urban
areas is 65 for manual workers and 27 for non-
manual workers ; q(2) is 78 for manual workers
and 33 for non-manual workers, q(3) is 80 for
manual workers and 34 for non-manual workers,
while q(5) is 96 for manual workers and 38 for
non-manual workers. Another appreciable feature
is that in the urban areas child mortality between
age 1 and age 5 had increased more repidly in
case of non-manual workers (from 65 to 96 only)
than in case of non-manual workers (from 27 to
38 only). Even among manual workers and
agricultural labourers, the female child mortality
is lower than the male child mortality in both
urban as well as rural areas.

C H A P T E R - III

Estimates of 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 and urban areas by age group but without cross
classification by religion and educational level.

The data presented in the census permits
presentations 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 levels at the district
level from the census data. The fertility indicators
presented herein and their definitions are as
follows:-

Age specific fertility rate (ASFR)	:	The average number of children born alive during the last year per woman of a particular age group.
Age specific marital fertility rate (ASMFR)	:	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
(GFR)   born alive during the
                          last year per 1000 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   : The number of children born
fertility rate   alive during the last year
(GMFR)   per 1000 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
(TFR)   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: Total number of children
rate   that would have born alive
(TMFR)   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 the age apecific
                         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 birth 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, sensititve 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, ASMFR, GMFR and GFR the
mid-year population should usually be used as the
denominator.

However, in the absence of any data on
deaths during the 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 under estimate 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, inaccuracies 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. In latter portion of this chapter
an attempt has been made to estimate the probable
level of fertility by using P/F ratio technique.
The method has been explained elsewhere. The estimation
makes use of the data on children ever born and
that of births during last year by age of women
and works out a correction factor for the latter.
The applicability of the method to the Kerala
data has been examined later.

Table 3.1 presents the ASFR, ASMFR etc. as
estimated from census data by religion for all
areas and for rural and urban areas separately.
It is noticed that in the state TFR is low being
2.4, 2.5 and 2.1 for total, rural and urban areas
respectively. Similarly total marital fertility
rate for state as whole and for its rural and
urban areas is 4.0, 4.1 and 3.8. ASFR's as
well as ASMFR's are higher in rural areas in
each age group compared to urban areas. This
pattern is also seen in case of major three
religions i.e. Hindus, Muslims and Christians
of the state. Fertility is highest among Muslims
followed by Hindus and Christians. In case of
marital fertility the TMFR is again maximum
for Muslims followed by Christians and Hindus.

In table 3.2 same fertility indices (as
in table 3.1) have been presented by educational
level of mothers. Educational level appears to
have direct impact on fertility reduction.
Both in rural and urban areas fertility declines
with the increase in woman's educational level.
The women who are economically active (see table
3.3), have lower fertility compared to others.
Similarly among working women, those, who perform
non manual jobs have lower fertility than other
working women. As far as rural-urban differentials
are concerned the women residing in rural areas,
irrespect of their educational level or economic
activity, have higher fertility compared to their
counter-parts residing in urban areas.

Age specific fertility and marital fertility
rates separately for rural-urban areas have been
presented district-wise in table 3.4. As stated
earlier fertility is low in all the districts
of the state. The age specific fertility rate in
the age group 45-49 is generally less than ten per
thousand except in Malappuram. In age group 15-19
also the ASFR is highest in this district. Except
the districts of Cannanore, Kozhikode, Malappuram,
Palghat and Wayanad where ASFR for age group 15-19
is around 40 per thousand in remaining districts
the value of ASFR for age group 15-19 is generally
less than 20 per thousand. From table 3.5 also,
it may be noticed that total fertility rate is
distinctly high in these five districts namely
Cannanore, Kozhikode, Malappuram, Palghat and

Wayanad. The value of TFR is highest in
Malappuram and lowest in Trivandrum both in
rural and urban areas.

Table 3.6 shows the values of GMFR and
TMFR based on 1971 and 1981 censuses according
to religion. In 1971 census, the data on births
during last one year was tabulated by age
group 13-17, 18-22, 23-27......43-47. The
GMFR, TMFR in respect of 1971 census, therefore,
relate to the age group 13-47 while those of
1981 relate to age group 15-49. However, these
may not make much difference to the broad
comparisons made. In comparison to 1971 fertility
has declined in 1981 in Kerala. This decline
is noticed in case of women of all the religions
irrespective of their rural-urban residence.

Average number of children ever born (CEB)
per woman in the age group 45-49 is 5.00, 5.07
and 4.69 in state and its rural-urban areas
respectively (table 3.7). Number of CEB per
woman is highest for Muslim women followed by
Christians and Hindus. Similar to total fertility
rate, the average number of CEB per woman also
decreases with the increase in woman's educational
level both in rural and urban areas. Working
women have fewer children than others. Among
working women, Women engaged in non-manual jobs have
fewer children ever born. The average number of
CEB varies from 5.97 in Wayanad district to 4.66
in Alleppey district. In rural areas it varies
from 5.97 in Wayanad district to 4.67 in Alleppey
district while in urban areas it ranges in from
5.24 in Malappuram to 4.30 in Trivandrum.

Sex ratios of CEB and children surviving
(CS) by mother's age and residence have been
presented in table 3.9. Sex ratios of CEB and
CS in the state as a whole vary around 950 the
usually expected level of sex ratios of CEB and
CS. While the sex ratio of CEB is 945, that of
CS is 957 indicating that more females children
survive. This indicate that in the state the
female children in general enjoy good health
status. In the state as a whole and its rural and
urban parts the sex ratios of CEB and CS increase
with mother's age upto the age of 39 and then
decline. The sex ratios in rural areas are higher
than in urban areas for all the age groups except
age group 40-44. In the latter age groups
sex ratios are higher in urban areas compared to
rural areas. Generally the sex ratio of CS is
higher compared to the sex ratio of CEB, both in
rural and urban areas which indicates higher male
mortality in the state relative to female.
Higher male mortality is the general pattern
observed in most of the developed countries.

Table 3.10 presents the sex ratios of
CEB and CS by various classifications of women
separately in rural and urban areas. The sex ratio
is lowest among Muslims and highest among Christians.
The differences are not very significant.The sex
ratio is above the state average for literate
women while for illiterate women it is below-average.
Economically active women have reported higher
sex ratio of CEB compared to non-working women.
Surprisingly women who are engaged in non-manual

jobs have lower sex ratio in comparison to
other working women. Sex ratio of CEB is high
in rural areas compared to urban Sex ratio of
CS also follows the same pattern. In almost
of all type of classifications, sex ratio of
CS is higher than the sex ratio of CEB.

On the basis of table 3.11 in which sex
ratios of CEB and CS have been presented the
maximum and minimum values of sex ratios are
as under. The table also shows the district
in which the maximum or minimum value occurs.

T/R/U	Sex ratio of			
	CEB		CS	
	Minimum	Maximum	Minimum	Maximum
Total	Malappuram	Idukki	Malappuram	Idukki and Trivandrum
	(936)	(952)	(938)	(967)
Rural	Malappuram	Idukki	Malappuram	Idukki
	(935)	(953)	(936)	(968)
Urban	Palghat	Malappuram	Kozhikode	Trivandrum
	(927)	(933)	(938)	(968)

As far as rural-urban differentials are
concerned, in Malappuram, Kottayam and Trivandrum
the sex ratios are higher in urban areas than in
rural areas. In the remaining districts the reverse
pattern is noticed. Higher sex ratio of CS
compared to the sex ratio of CEB noticed in all
the districts again confirms that in all the
parts of the state female mortality is lower than
male mortality.

The percentages of ever married women (EMW)
having three or more children (Table 3.12) are
51.16, 49.72 and 57.47 respectively in total, rural
and urban areas of the state. As expected the
percentage increases with age. Except in the age
groups 15-19 and 20-24 the percentage of EMW
having three or more children is higher in rural areas
compared to urban areas. Similar pattern can also
be observed in case of currently married women
(CMW) having three or more CEB. Same statistics
for selected age groups of women according to
different classifications have been presented in
table 3.13. Religion wise,   percentage of women
in the age group 40-44, having three or more children
is highest among Christians. When only currently
married women are considered the percentage is highest
among Muslims. Among literates women the percentage
having three or more children decreases with
increase in educational level both in rural and
urban areas. In age groups beyond 25-29 the relevant
percentages for EMW and CMW in rural and urban areas
are lower for illiterate women compared to those who

are literate but below matric. The probable
reason may be the comparatively higher response
bias in case of illiterate women. The proportion
of women with three or more children is lower
among working women compared to all women. The
proportion is still lower in case of non-manual
workers.

Table 3.14 presents the same statistics
as in table 3.13 but at district level, separately
for rural and urban areas. The percentages is
lower in rural areas of Alleppey and urban areas
of Trivandrum compared to rural or urban areas of
other districts. In Malappuram district (both
in urban and rural areas) the overall percentage
of CM and EM women having three or more children
seems to be highest. In all the districts the
percentage is higher in rural areas than in urban
areas.

From the data on children ever born
collected in census, the proportion of women who are
childless can also be calculated. Since most of
the women complete their reproduction by the age
of fifty, the percentage of females over the age
fifty who are childless, gives an indication of
the proportion of females who are sterile.

From table 3.15 it may be noted that percentages
of childless ever married women of age 50+ are
3.19, 3.00 and 4.01 in total, rural and urban areas
of Kerala. The percentage is highest among Hindus
in total, rural and urban areas and is lowest among

Christians in total and rural areas. With the
increase in level of education of women, percentage
childless also increases. The percentage of
childless women of age 50+ among illiterates is
however higher compared to those who are literate
but below matric. One probable reason for this
may be response bias. Childlessness is higher
among working women. Among working women, those
who are engaged in non-manual jobs have higher
proportion of childless women.

The percentage of childless women of age
50+ is lowest in Idukki district. (Table 3.16).
It is highest in rural areas of Kozhikode district
and urban areas of Cannanore district. In all the
districts the percentage is high in rural areas
compared to urban areas.

Table 3.17 presents the distribution of CMW
by duration of marriage and religion. The percentage
of CMW of marriage duration less than 5 years, less
than 10 years and less than 15 years is highest
among Muslims and lowest among Christians. While
among Muslims about 53.17 percent of all currently
married women are of marriage duration less than
15 years, in case of Christians, the corresponding
percentage is only 45.12. For Hindus the percentage
is 48.38.

Estimation of fertility using P/F ratio 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 is to make an assumption
that very few births have occurred to widowed and
divorced females during the last one year, the
births during last one year could be converted
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 and 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 group 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
births. In other words, there would be half a year

displacement in age specific fertility rates.
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 $(\bar{m})$. Apart from their use
in the Brass method, these two parameters have
their own independent use as parameters describing
the pattern of fertility curve.

The mean age of fertility schedule $(\bar{m})$,
distinguishes populations that have their children
relatively early in their reproductive period and
those   have them relatively later in life.
These differences may be due to age at marriage
or contraception or both. Adoption of contraception
in older ages, reduces the values of $(\bar{m})$. The
ratio (f_1/f_2), indicates the steepness of the
fertility curve at initial ages. If fertility rate
is low in the age group 15-19, say due to postponement
of marriage, the ratio (f_1/f_2) may be very small.
Otherwise it may be higher.

The mean age of fertility scheule $(\bar{m})$, is
27.6 in Kerala and 27.7 and 27.0 in rural urban
areas respectively (see table 3.18). The value of
$\bar{m}$ is lower for Hindus than Muslims, Christians and
others. In case of literate women the value of $\bar{m}$
increases with the educational level of women. The
value of $\bar{m}$ for illiterate women is however higher
then that of women with educational level "Literate

but below middle". This is due to the fact that
fertility of illiterate women is relatively
higher even in older age groups like 40-44 and
45-49. Women engaged in manual jobs have high $\bar{m}$
compared to others. The value of $\bar{m}$ is higher
in rural areas than urban areas, again due to the
fact that fertility is relatively higher in older
age groups in rural areas.

The value of f_1/f_2 i.e. the ratio of age
specific fertility rate for the age group 15-19
to the age specific fertility rate of age group 20-24
is 0.171, 0.171, 0.173 respectively, for total,
rural and urban areas of- the state. The ratio
is low because of very low fertility rate in the
age group 15-19. The value of f_1/f_2 is highest
in case of Muslims followed by Hindus and Christians.
This is also true about rural and urban areas.
The value of f_1/f_2 decreases with the increase in
educational attainment of the women in total,
rural and urban areas of the state. This also
may be related to the fact that in the age group
15-19, ASFR decrease with increasing educational
level. The value of f_1/f_2 for working women is
higher compared to others. This is attributable
to the lower fertility of working women in the
age group 20-24 compared to non working women.
Similarly the women engaged in non-manual jobs have
higher value of f_1/f_2 compared to their other
working counterparts.

P/F ratios according to age and religion
of women have been presented in table 3.20 for
total, rural and urban areas separately.
Generally P/F ratios are more than unity. The
P/F ratio for the age group 20-24 is lower than
that of 15-19. In subsequent age groups, the
ratio increases. This indicates definite fall
in fertility particularly in older age groups.
Generally P2/F2 or P3/F3 i.e. ratio for age groups
20-24 or 25-29 is taken as an adjustment factor.

In this case the ratio P2/F2, which gives
the minimum correction, has been used to adjust the
fertility indicators. Use of such correction
factor when there is evidence of fertility decline
may result in over estimation of fertility rates.
The use of P2/F2 minimises the extent of such
over correction as fertility may not decline
sharply in age group 20-24. For example the
crude birth rate for Kerala, adjusted by using
P2/F2 as a correction factor would be 28.64. As
against this, the crude birth rate based on Sample
Registration System for the year 1980 is 26.80.
An intensive enquiry in a selected sub sample of
SRS units indicated that during 1st July 1980 to
30th June, 1981, crude birth rate was under estimated
in Kerala by about 2%. The true value based on SRS
may be around 27.33. The extent of over estimation
of crude birth rate due to using the P2/F2 rate
may be approximately put at 4.8% i.e. $[(28.64 - 27.33) \div 27.33]$
However extent of over estimation may not be same
for all sub groups or for all districts.

The adjustment factor $P2/F2$, is lowest
for Hindus followed by Christians and Muslims.
The P/F ratios in rural areas are lower than
those of urban areas. The P/F ratios for literate
women and working women follow the same pattern
of increased trend after the age group 20-24
(Table 3.21) as in case of religion.

In case of illiterate women the ratio is
more or less the same in the age groups 15-19 and
20-24. P/F ratio in age group 20-24 for women
who are at least graduate and for those working
women who are doing non-manual jobs is less than
unity. In the better case, the ratio is closer
to unity when state as a whole is considered so
that adjusted and unadjusted rates do not differ.
In case of women who are graduate and above the
results obtained by applying P_2/F_2 may not be
reliable. Similarly the adjustment factor P_2/F_2
for women who are matric and above but not
graduates, living in urban areas, also appears
unreliable. As rural-urban differentials are
concerned for all categories of women the adjustment
factor P_2/F_2 is high in urban areas compared to
rural areas.

P/F ratio for district as a whole and for
its rural part behave in same fashion in almost
all the districts (see Table 3.22). Except
Malappuram in which P/F ratio in total and rural
areas fluctuates in other districts P/F ratio
increases steadily after age group 20-24. In
urban areas also the ratio increases after age

group 20-24 in all districts except Malappuram.
In Malappuram district the P/F ratios for the
age groups 15-19 to 30-34 are almost constant.
Following statement shows the maximum and minimum
values of P2/F2 (adjustment factor) for total,
rural and urban areas.

Maximum and Minimum values of P_2/F_2

T/R/U	Maximum	Minimum
T	1.4734 (Quilon)	1.2909 (Trichur)
R	1.4754 (Quilon)	1.2913 (Trichur)
U	1.7527 (Idukki)	1.2775 (Kottayam)

Values of age specific fertility and
marital fertility rates along with GFR, GMFR, TFR
and TMFR adjusted by P/F ratio method have been
presented in table 3.23. The adjusted values of
total fertility rate are 3.3, 3.4 and 2.9
respectively for total, rural and urban areas of
the state. Even after adjustment the pattern
remains the same as in the case of unadjusted
fertility indices. From table 3.24 it may be
noticed that trend of the fertility indices
relating to women of different religious groups
and of educational level remains unchanged after
adjusting these by P/F ratio method. In case
of women who are economically active, there is no
change due to adjustment in case of non-manual

workers. However, when all workers are considered together adjustment leads to higher fertility rates.

Table 3.25 presents the unadjusted and adjusted fertility rates by district. Before adjustment in six districts the birth rate was lower than state birth rate. After adjustment all these six districts have lower adjusted birth rate than state adjusted birth rate. The districts having maximum and minimum birth rate prior to adjustment retain their original position even after adjustment. The adjusted TFR varies from 2.7 in the districts of Kottayam, Alleppey, Trichur and Ernakulam to 5.0 in Malappuram.

TABLES

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Table 2.1

Child mortality estimates by district

State/District	T R U	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
KERALA	T	54 (52)	61 (55)	48	55	59	50	63	67.	59	80	85	76
	R	56 (53)	64 (57)	47 (50)	56	62	50	66	69	62	83	88	78
	U	49 (46)	45 (47)	53 (44)	47	48	46	54	58	50	71	71	70
Cannanore	T	45	53	36	52	58	46	65	69	61	85	90	79
	R	4S	57	39	55	63	47	68	72	64	89	96	82
	U	34	39	27	41	42	40	53	57	49	70	71	70
Kozhikode	T	54	54	53 (48)	54	59	49	63	68	59	80	85	76
	R	55 (49)	59 (53)	51 (42)	52	58	45	60	65	55	75	81	69
	U	50 (59)	42 (59)	58	62	62	61	73	76	69	94	93	95
Malappuram	T	49	57	41	67	72	61	83	85	80	105	108	102
	R	49	57	41	66	72	60	82	84	79	104	108	101
	U	51	54	47	75	70	81	92	100	84	113	113	113
Palghat	T	64	77	50	73	79	66	94	98	89	113	119	108
	R	67	80	52	74	81	67	95	98	92	116	122	111
	U	39	43	36	58	59	56	79	89	68	84	91	76

Table 2.1

Child mortality estimates by district

State/District	T R U	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
Trichur	T	52 (44)	60 (47)	44 (41)	45	49	41	51	56	46	70	74	65
	R	51 (45)	62 (49)	41 (38)	46	52	41	53	58	48 (45)	72	77	66
	U	55 (39)	54 (36)	57 (41)	40	39	41	43 (50)	47	38 (51)	61	61	61
Ernakulam	T	40 (33)	19	62 (35)	42	47	36	48	50	46	62	65	59
	R	27	18	38 (28)	41	50	31	51	53	49	65	71	58
	U	52 (40)	19	82 (41)	43	43	43	43 (50)	44	42 (50)	58	57	59
Idukki	T	103 (62)	115 (70)	91 (58)	76	84	68	80	91	68 (74)	86	90 (98)	82
	R	105 (63)	117 (71)	93 (57)	77	85	68	82	94	69	88	93 (100)	83
	U*	-	-	-	53	51	54	26	23	28	45	37	53
Kottayam	T	59 (36)	64 (39)	52 (31)	37	41	33	42	46	38	55	59	52
	R	58 (37)	56 (39)	60 (31)	38	41	34	43	46	38	55	59	51
	U*	64	122	-	29	35	24	41	44	38	56	56	56

*Graduation not possible in urban (Person-Male- Female)

Table 2.1

Child mortality estimates by district

State/District	T R U	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
Alleppey	T	38	46 (38)	29	42	41	42	51	51	50	68	71	66
	R	29	40 (38)	16	41	40	41	50	50	50	68	71	65
	U	68 (45)	66 (42)	70 (45)	46	45	48	55	57	52	68	69	67
Quilon	T	46 (45)	58 (48)	32	46	48	43	54	58	49	71	75	67
	R	45	56 (48)	31	46	49	44	54	59	49	70	75	66
	U	52 (40)	67 (40)	33	41	45	37	51	53	50	75	75	75
Trivandrum	T	52 (44)	45	59 (42)	45	47	42	53	56	49	68	71	65
	R	49 (46)	46 (48)	53 (45)	47	49	45	56	58	54	72	76	69
	U	60 (36)	44 (39)	74 (29)	36	40	31	41	47	35	55	58	52
Wayanad	T	108 (73)	134 (79)	81 (68)	89	99	79	93	102	85	109	113	104
	R	108 (73)	134 (79)	81 (68)	89	99	79	93	102	85	109	113	104
	U	-	-	-	-	-	-	-	-	-	-	-	-

Note: Figures within brackets are graduated estimates.

Table 2.2

Child mortality estimates by religion

Religion	T R U	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
Hindu	T	61 (48)	71 (55)	50 (44)	54	60	48	63	67	58	30	85	75
	R	63 (50)	74 (58)	52 (50)	57	63	51	66	70	62	84	90	78
	U	43 (36)	52 (42)	44 (33)	40	43	36	46	52	39	63	64	63
Muslim	T	49	53	44	58	62	55	74	77	71	95	96	93
	R	49	57	41	59	63	54	75	78	71	95	98	92
	U	46	37	57	57	55	60	74	76	73	93	91	94
Christian	T	61 (41)	56 (45)	65 (38)	44	50	39	47	50 (56)	44	59	64	55
	R	51 (41)	39 (46)	64 (38)	45	51	38	48	52 (57)	45	60	64	55
	U	95 (40)	123 (44)	69 (37)	42	44	40	41 (49)	41 (54)	41	61	54	54

Table 2.3

Child mortality estimates by educational level of mother

Educational level		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	78	91	62	86	92	80	101	105	97	118	123	113
	R	80	94	64	87	94	80	100	104	96	118	124	112
	U	62	73	50	79	79	80	106	109	109 (106)	121	120	123
Literate but below middle	T	52	56	49	55	60	51	63	68	58	78	82	75
	R	52	58	45 (49)	56	61	51	64	69	60	79	83	75
	U	55 (48)	45 (50)	65 (47)	51	53	49	58	64	52	75	74	75
Middle but below matric	T	45 (36)	49 (39)	41 (37)	37	42	32 (37)	42	44	39	53	58	47
	R	47 (36)	53 (40)	41 (33)	38	44	31 (38)	43	46	40	53	58	47
	U	38 (34)	35	42 (33)	35	36	34	37	39	35	52	56	47
Matric but below graduate	T	14 (22)	23	6 (22)	24	24	24	28	30	25	33	35	30
	R	13 (22)	19 (23)	8 (22)	24	24	23	29	31	27 (25)	35	38	31
	U	17 (22)	32 (22)	26	24	23	19 (29)	23 (27)	27	30	29	28	30
Graduate and above*													

*Estimates could not be made as the values of P_1/P_2 & P_2/P_3 are very low and are outside the Limits given in Brass technique

Table 2.4

Child mortality estimates by occupation of main workers

Occupation		q(1)			q(2)			q(3)			q(5)		
	T R U	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
Main workers	T	90	103	74	82	89	74	85	89	80	97	103	91
		(67)	(71)	(63)									
	R	91	104	76	84	91	76	88	93	83	102	109	95
		(69)	(74)	(65)									
	U	67	93	28	50	52	48	57	59	55	64	63	65
		(46)	(46)										
Cultivators	R	64	66	59	74	80	67	69	68	70	86	83	88
								(80)	(82)				
Agricultural labourers	R	84	90	75	88	97	77	97	104	90	117	126	108
Manual workers	R	84	84	50	42	43	42	35	34	36	43	47	40
		(36)	(37)	(31)			(35)	(43)	(45)				
	U	27	24	31	25	21	29	34	31	36	38	41	36
				(28)	(33)	(33)			(37)	(32)			
Non-manual workers	R	98	121	76	84	88	79	92	95	87	109	117	102
		(72)	(75)	(68)									
	U	72	96	36	56	60	53	80	87	73	96	96	95
		(65)	(68)		(78)	(82)							
Non-workers	T	48	53	43	49	53	44	56	60	53	72	76	69
		(47)	(49)										
	R	48	55	40	49	54	44	57	61	54	73	77	69
			(50)										
	U	48	44	53	47	47	46	52	56	49	69	70	68
		(45)	(45)	(43)									

Table 3.1

Fertility indices by residence and religion

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

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.026	0.026	0.023	0.182	0.180	0.193
20 - 24	0.150	0.154	0.132	0.259	0.261	0.253
25 - 29	0.153	0.156	0.139	0.182	0.185	0.173
30 - 34	0.086	0.090	0.071	0.098	0.102	0.082
35 - 39	0.050	0.053	0.034	0.057	0.061	0.039
40 - 44	0.018	0.019	0.011	0.022	0.024	0.013
45 - 49	0.005	0.006	0.003	0.007	0.008	0.004
GFR/GMFR	79	81	68	127	129	115
TFR/TMFR	2.4	2.5	2.1	4.0	4.1	3.8

HINDUS

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.020	0.021	0.014	0.192	0.192	0.193
20 - 24	0.144	0.149	0.122	0.261	0.262	0.254
25 - 29	0.141	0.144	0.128	0.173	0.175	0.166
30 - 34	0.072	0.076	0.059	0.084	0.087	0.070
35 - 39	0.039	0.042	0.027	0.045	0.049	0.031
40 - 44	0.014	0.015	0.008	0.017	0.019	0.010
45 - 49	0.004	0.004	0.002	0.005	0.006	0.003
GFR/GMFR	71	74	60	117	120	104
TFR/TMFR	2.2	2.3	1.8	3.9	3.9	3.6

Table 3.1

Fertility indices by residence and religion

Age Group	A S F R			A S M F. R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7

MUSLIMS

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.062	0.062	0.062	0.174	0.170	0.196
20 - 24	0.205	0.205	0.201	0.252	0.253	0.251
25 - 29	0.181	0.185	0.163	0.199	0.204	0.179
30 - 34	0.135	0.142	0.105	0.150	0.159	0.116
35 - 39	0.092	0.100	0.059	0.105	0.113	0.069
40 - 44	0.035	0.038	0.022	0.044	0.048	0.028
45 - 49	0.011	0.012	0.004	0.015	0.017	0.006
GFR/GMFR	115	118	103	159	162	146
TFR/TMFR	3.6	3.7	3.1	4.7	4.8	4.2

CHRISTIANS

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.006	0.007	0.006	0.178	0.179	0.173
20 - 24	0.117	0.122	0.097	0.266	0.268	0.251
25 - 29	0.159	0.162	0.148	0.193	0.193	0.189
30 - 34	0.080	0.082	0.075	0.089	0.090	0.086
35 - 39	0.038	0.040	0.030	0.043	0.045	0.035
40 - 44	0.014	0.014	0.010	0.016	0.017	0.012
45 - 49	0.005	0.005	0.003	0.006	0.006	0.005
GFR/GMFR	66	68	59	116	118	108
TFR/TMFR	2.1	2.2	1.8	4.0	4.0	3.7

Table 3.2

Fertility indices by residence and educational level

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 EDUCATIONAL LEVEL

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.026	0.026	0.023	0.182	0.180	0.193
20 - 24	0.150	0.154	0.132	0.259	0.261	0.253
25 - 29	0.153	0.156	0.139	0.182	0.185	0.173
30 - 34	0.086	0.090	0.071	0.098	0.102	0.082
35 - 39	0.050	0.053	0.034	0.057	0.061	0.039
40 - 44	0.018	0.019	0.011	0.022	0.024	0.013
45 - 49	0.005	0.006	0.003	0.007	0.008	0.004
GFR/GMFR	79	81	68	127	129	115
TFR/TMFR	2.4	2.5	2.1	4.0	4.1	3.8

ILLITERATE

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.048	0.048	0.047	0.191	0.190	0.198
20 - 24	0.170	0.171	0.158	0.241	0.242	0.231
25 - 29	0.153	0.156	0.134	0.184	0.187	0.164
30 - 34	0.107	0.110	0.085	0.128	0.131	0.104
35 - 39	0.067	0.070	0.048	0.080	0.083	0.060
40 - 44	0.025	0.026	0.017	0.032	0.033	0.024
45 - 49	0.007	0.008	0.004	0.010	0.011	0.006
GFR/GMFR	77	79	60	105	107	85
TFR/TMFR	2.9	2.9	2.5	4.3	4.4	3.9

Table 3.2

Fertility indices by residence and educational level

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

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.043	0.043	0.043	0.192	0.190	0.206
20 - 24	0.182	0.184	0.176	0.271	0.270	0.272
25 - 29	0.154	0.156	0.141	0.178	0.180	0.169
30 - 34	0.082	0.085	0.067	0.093	0.096	0.077
35 - 39	0.046	0.049	0.033	0.052	0.055	0.039
40 - 44	0.015	0.016	0.009	0.018	0.019	0.011
45 - 49	0.004	0.004	0.002	0.005	0.005	0.003
GFR/GMFR	87	89	76	123	126	109
TFR/TMFR	2.6	2.7	2.4	4.0	4.1	3.9

MIDDLE BUT BELOW MATRIC

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.018	0.017	0.019	0.170	0.165	0.192
20 - 24	0.154	0.158	0.138	0.266	0.268	0.257
25 - 29	0.154	0.159	0.140	0.181	0.184	0.172
30 - 34	0.066	0.069	0.056	0.073	0.076	0.064
35 - 39	0.027	0.029	0.021	0.030	0.032	0.024
40 - 44	0.010	0.010	0.008	0.011	0.012	0.009
45 - 49	0.003	0.004	0.002	0.004	0.004	0.002
GFR/GMFR	79	81	71	159	163	145
TFR/TMFR	2.2	2.2	1.9	3.7	3.7	3.6

Table 3.2

Fertility indices by residence and educational level

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

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.007	0.007	0.006	0.139	0.138	0.143
20 - 24	0.085	0.085	0.085	0.233	0.234	0.230
25 - 29	0.146	0.151	0.134	0.190	0.194	0.178
30 - 34	0.082	0.087	0.070	0.092	0.097	0.080
35 - 39	0.032	0.035	0.025	0.035	0.039	0.028
40 - 44	0.007	0.008	0.005	0.009	0.010	0.006
45 - 49	0.003	0.002	0.005	0.004	0.003	0.007
GFR/GMFR	59	61	55	133	141	115
TFR/TMFR	1.8	1.9	1.7	3.5	3.6	3.4

GRADUATE AND ABOVE

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.003	0.005	-	0.089	0.139	-
20 - 24	0.047	0.047	0.046	0.194	0.210	0.173
25 - 29	0.147	0.148	0.144	0.206	0.212	0.198
30 - 34	0.113	0.119	0.107	0.127	0.136	0.117
35 - 39	0.037	0.038	0.036	0.041	0.041	0.040
40 - 44	0.007	0.007	0.008	0.009	0.008	0.009
45 - 49	0.001	0.003	-	0.001	0.003	-
GFR/GMFR	83	87	79	136	149	121
TFR/TMFR	1.8	1.8	1.7	3.3	3.7	2.7

Table 3.3

Fertility indices by residence and economic activity

Age Group	A S F R			A S M F R		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7

MAIN WORKER

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.020	0.022	0.007	0.164	0.165	0.142
20 - 24	0.102	0.108	0.054	0.219	0.222	0.185
25 - 29	0.118	0.120	0.107	0.160	0.159	0.165
30 - 34	0.075	0.077	0.066	0.093	0.095	0.085
35 - 39	0.039	0.042	0.026	0.049	0.052	0.033
40 - 49	0.010	0.011	0.004	0.014	0.015	0.006
GFR/GMFR	60	62	43	96	100	74
TFR/TMFR	1.9	2.0	1.3	3.6	3.6	3.1

NON-MANUAL

Age Group	Total	Rural	Urban	Total	Rural	Urban
15 - 19	0.015	0.019	–	0.117	0.143	–
20 - 24	0.063	0.071	0.048	0.195	0.211	0.160
25 - 29	0.135	0.136	0.133	0.196	0.198	0.193
30 - 34	0.099	0.106	0.085	0.115	0.125	0.098
35 - 39	0.033	0.036	0.029	0.039	0.042	0.034
40 - 49	0.005	0.006	0.003	0.006	0.008	0.004
GFR/GMFR	67	71	59	92	98	80
TFR/TMFR	1.8	1.9	1.5	3.4	3.7	2.5

Table 3.3

Fertility indices by residence and economic activity

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	–	–	0.007	–	–	0.153
20 - 24	–	–	0.056	–	–	0.196
25 - 29	–	–	0.080	–	–	0.132
30 - 34	–	–	0.043	–	–	0.064
35 - 39	–	–	0.023	–	–	0.033
40 - 49	–	–	0.005	–	–	0.009
GFR/GMFR	–	–	32	–	–	68
TFR/TMFR	–	–	1.1	–	–	3.0

CULTIVATOR (RURAL)

15 - 19	–	0.045	–	–	0.194	–
20 - 24	–	0.132	–	–	0.218	–
25 - 29	–	0.135	–	–	0.160	–
30 - 34	–	0.071	–	–	0.086	–
35 - 39	–	0.030	–	–	0.039	–
40 - 49	–	0.010	–	–	0.015	–
GFR/GMFR	–	56	–	–	81	–
TFR/TMFR	0	2.2	–	–	3.6	–

Table 3.3

Fertility indices by residence and economic activity

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 LABOURERS (RURAL)						
15 - 19	-	0.027	-	-	0.159	-
20 - 24	-	0.114	-	-	0.212	-
25 - 29	-	0.116	-	-	0.149	-
30 - 34	-	0.078	-	-	0.097	-
35 - 39	-	0.050	-	-	0.062	-
40 - 49	-	0.013	-	-	0.018	-
GFR/GMFR	-	65	-	-	101	-
TFR/TMFR	-	2.1	-	-	3.6	-
MANUAL OTHER THAN C& AL (RURAL)						
15 - 19	-	0.016	-	-	0.175	-
20 - 24	-	0.106	-	-	0.239	-
25 - 29	-	0.116	-	-	0.156	-
30 - 34	-	0.056	-	-	0.070	-
35 - 39	-	0.033	-	-	0.042	-
40 - 49	-	0.009	-	-	0.012	-
GFR/GMFR	-	56	-	-	102	-
TFR/TMFR	-	1.7	-	-	3.5	-

Table 3.4

ASFR's and ASMFR's by district

State/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
KERALA	ASFR	T	0.026	0.150	0.153	0.086	0.050	0.018	0.005
		R	0.026	0.154	0.156	0.090	0.053	0.019	0.006
		U	0.023	0.132	0.139	0.071	0.034	0.011	0.003
	ASMFR	T	0.182	0.259	0.182	0.098	0.057	0.022	0.007
		R	0.180	0.261	0.185	0.102	0.061	0.024	0.008
		U	0.193	0.253	0.173	0.082	0.039	0.013	0.004
1. Cannanore	ASFR	T	0.041	0.179	0.173	0.119	0.071	0.028	0.007
		R	0.042	0.186	0.180	0.126	0.077	0.031	0.008
		U	0.037	0.155	0.150	0.098	0.051	0.018	0.004
	ASMFR	T	0.191	0.270	0.209	0.140	0.085	0.036	0.010
		R	0.189	0.274	0.214	0.147	0.092	0.040	0.011
		U	0.203	0.257	0.193	0.119	0.062	0.024	0.006
2. Kozhikode	ASFR	T	0.047	0.188	0.150	0.076	0.049	0.014	0.005
		R	0.048	0.198	0.149	0.081	0.054	0.016	0.006
		U	0.045	0.162	0.150	0.064	0.035	0.010	0.003
	ASMFR	T	0.185	0.268	0.178	0.089	0.058	0.018	0.007
		R	0.178	0.268	0.173	0.094	0.063	0.020	0.007
		U	0.210	0.270	0.190	0.078	0.042	0.013	0.004
3. Malappuram	ASFR	T	0.057	0.189	0.189	0.145	0.109	0.042	0.013
		R	0.058	0.189	0.191	0.147	0.111	0.043	0.013
		U	0.052	0.193	0.168	0.120	0.082	0.026	0.006
	ASMFR	T	0.164	0.250	0.218	0.168	0.126	0.053	0.017
		R	0.164	0.249	0.220	0.170	0.129	0.054	0.018
		U	0.154	0.257	0.198	0.140	0.196	0.035	0.008
4. Palghat	ASFR	T	0.037	0.169	0.170	0.114	0.073	0.027	0.007
		R	0.039	0.172	0.171	0.118	0.075	0.028	0.008
		U	0.025	0.143	0.155	0.081	0.050	0.014	0.002
	ASMFR	T	0.171	0.252	0.199	0.131	0.085	0.034	0.010
		R	0.171	0.252	0.201	0.136	0.088	0.036	0.011
		U	0.164	0.253	0.185	0.093	0.058	0.017	0.003
5. Trichur	ASFR	T	0.016	0.134	0.148	0.071	0.038	0.014	0.003
		R	0.017	0.136	0.150	0.074	0.041	0.015	0.004
		U	0.013	0.127	0.142	0.062	0.028	0.010	0.002
	ASMFR	T	0.178	0.257	0.182	0.083	0.044	0.018	0.004
		R	0.178	0.257	0.183	0.086	0.047	0.019	0.005
		U	0.178	0.257	0.180	0.073	0.034	0.012	0.003

Table 3.4

ASFR's and ASMFR's by district

State/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
6. Ernakulam	ASFR	T	0.011	0.120	0.146	0.065	0.030	0.009	0.004
		R	0.010	0.126	0.150	0.067	0.035	0.012	0.005
		U	0.013	0.111	0.139	0.064	0.023	0.005	0.003
	ASMFR	T	0.204	0.256	0.176	0.073	0.034	0.011	0.006
		R	0.200	0.264	0.179	0.074	0.039	0.014	0.006
		U	0.209	0.243	0.172	0.071	0.026	0.007	0.004
7. Idukki	ASFR	T	0.018	0.152	0.147	0.078	0.047	0.020	0.006
		R	0.019	0.153	0.148	0.078	0.047	0.020	0.006
		U	0.006	0.124	0.128	0.079	0.046	0.031	-
	ASMFR	T	0.188	0.250	0.167	0.085	0.051	0.023	0.007
		R	0.192	0.251	0.168	0.085	0.051	0.022	0.007
		U	0.077	0.239	0.155	0.088	0.054	0.037	-
8. Kottayam	ASFR	T	0.008	0.118	0.147	0.073	0.031	0.010	0.005
		R	0.008	0.119	0.148	0.075	0.031	0.011	0.005
		U	0.009	0.113	0.139	0.063	0.029	0.005	-
	ASMFR	T	0.191	0.267	0.180	0.082	0.035	0.012	0.006
		R	0.191	0.267	0.181	0.084	0.035	0.013	0.007
		U	0.190	0.264	0.171	0.073	0.034	0.006	-
9. Alleppey	ASFR	T	0.011	0.129	0.149	0.076	0.032	0.009	0.003
		R	0.011	0.129	0.153	0.076	0.033	0.009	0.003
		U	0.014	0.126	0.132	0.074	0.032	0.010	0.001
	ASMFR	T	0.216	0.270	0.182	0.085	0.037	0.011	0.004
		R	0.215	0.270	0.185	0.085	0.037	0.011	0.004
		U	0.221	0.270	0.169	0.086	0.037	0.012	0.001
10. Quilon	ASFR	T	0.014	0.142	0.141	0.067	0.033	0.013	0.002
		R	0.013	0.142	0.141	0.066	0.032	0.011	0.002
		U	0.017	0.139	0.140	0.067	0.034	0.022	0.003
	ASMFR	T	0.187	0.261	0.165	0.074	0.037	0.015	0.003
		R	0.184	0.262	0.165	0.074	0.037	0.013	0.003
		U	0.204	0.257	0.168	0.074	0.038	0.025	0.004
11. Trivandrum	ASFR	T	0.018	0.137	0.123	0.056	0.013	0.008	0.004
		R	0.019	0.146	0.127	0.056	0.010	0.010	0.005
		U	0.016	0.110	0.112	0.055	0.022	0.004	0.002
	ASMFR	T	0.192	0.257	0.151	0.064	0.015	0.010	0.006
		R	0.197	0.266	0.154	0.064	0.012	0.012	0.007
		U	0.179	0.226	0.141	0.062	0.024	0.005	0.003
12. Wayanad	ASFR	T	0.037	0.204	0.169	0.109	0.074	0.030	0.013
		R	0.037	0.204	0.169	0.109	0.074	0.030	0.013
		U	-	-	-	-	-	-	-
	ASMFR	T	0.185	0.280	0.188	0.121	0.084	0.036	0.016
		R	0.185	0.280	0.188	0.121	0.084	0.036	0.016
		U	-	-	-	-	-	-	-

Table 3.5

GFR, GMFR, TFR, and TMFR by district

State/District	T R U	GFR	GMFR	TFR	TMFR
1	2	3	4	5	6
KERALA	T	79	127	2.4	4.0
	R	81	129	2.5	4.1
	U	68	115	2.1	3.8
1. Cannanore	T	98	153	3.1	4.7
	R	103	158	3.2	4.8
	U	82	136	2.6	4.3
2. Kozhikode	T	89	133	2.6	4.0
	R	92	134	2.8	4.0
	U	80	130	2.3	4.0
3. Malappuram	T	116	165	3.7	5.0
	R	117	166	3.8	5.0
	U	105	152	3.2	4.4
4. Palghat	T	92	141	3.0	4.4
	R	95	143	3.1	4.5
	U	73	120	2.4	3.9
5. Trichur	T	67	115	2.1	3.8
	R	69	116	2.2	3.9
	U	62	109	1.9	3.7
6. Ernuakulam	T	63	108	1.9	3.8
	R	65	111	2.0	3.9
	U	60	103	1.8	3.7
7. Idukki	T	79	123	2.3	3.9
	R	79	124	2.4	3.9
	U	66	111	2.1	3.3
8. Kottayam	T	63	110	2.0	3.9
	R	64	111	2.0	3.9
	U	59	105	1.8	3.7
9. Alleppey	T	66	113	2.0	4.0
	R	66	113	2.1	4.0
	U	64	114	1.9	4.0
10. Quilon	T	68	112	2.1	3.7
	R	67	111	2.0	3.7
	U	71	116	2.1	3.8
11. Trivandrum	T	63	105	1.8	3.5
	R	66	110	1.9	3.6
	U	56	93	1.6	3.2
12. Wayanad	T	106	154	3.2	4.5
	R	106	154	3.2	4.5
	U	—	—	—	—

Table 3.6

GMFR and TMFR by religion - 1971 & 1981

Religion	Rural Urban	GMFR		TMFR	
		1971	1981	1971	1981
1	2	3	4	5	6
All religion	Rural	200	129	6.1	4.1
	Urban	192	115	6.0	3.9
Hindus	Rural	191	120	5.9	3.9
	Urban	179	104	5.7	3.6
Muslims	Rural	221	162	6.4	4.8
	Urban	221	146	6.4	4.2
Christian	Rural	205	118	6.7	4.0
	Urban	194	108	6.4	3.7

Table 3.7

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

Classification	Total	Rural	Urban
1	2	3	4
All women	5.00	5.07	4.69
A. Religion			
Hindus	4.72	4.79	4.41
Muslims	5.86	5.90	5.73
Christians	5.11	5.22	4.61
B. Educational level			
Illiterate	5.13	5.16	4.98
Literate but below middle	5.16	5.21	4.96
Middle but below matric	4.44	4.52	4.25
Matric but below graduate	3.21	3.26	3.12
Graduate and above	2.43	2.64	2.27
C. Economic Activities*			
Main-workers	4.23	4.37	3.48
Non-manual workers	2.99	3.08	2.81
Manual workers	-	-	3.93
Cultivators	-	4.69	-
Agricultural Labourers	-	4.55	-
Manual workers other than C & AL	-	4.56	-

*Relates 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

State/District	Total	Rural	Urban
1	2	3	4
KERALA	5.00	5.07	4.69
1. Cannanore	5.20	5.39	4.63
2. Kozhikode	5.05	5.13	4.83
3. Malappuram	5.55	5.57	5.24
4. Palghat	4.88	4.90	4.69
5. Trichur	4.81	4.83	4.72
6. Ernakulam	4.94	5.10	4.70
7. Idukki	5.73	5.77	4.94
8. Kottayam	4.85	4.90	4.41
9. Alleppey	4.66	4.67	4.57
10. Quilon	5.00	4.98	5.17
11. Trivandrum	4.67	4.79	4.30
12. Wayanad	5.97	5.97	-

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	945	947	939	957	958	950
Less than 15	688	671	750	651	718	333
15 - 19	936	936	933	946	951	926
20 - 24	948	952	928	957	962	930
25 - 29	956	958	946	963	965	953
30 - 34	961	962	958	969	972	959
35 - 39	955	955	955	963	963	963
40 - 44	947	945	956	956	954	962
45 - 49	940	941	934	948	950	937
50 and above	937	939	927	953	955	946
15 - 49	951	951	948	959	960	953

Table 3.10

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

Classification	Children ever born			Children surviving		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
All women	945	947	939	957	958	950
A. Religion						
Hindus	947	950	936	962	965	952
Muslims	936	935	938	935	939	916
Christians	950	950	950	961	961	961
B. Educational level						
Illiterate	941	942	933	953	954	947
Literate but below middle	947	949	937	958	961	947
Middle but below matric	957	956	958	965	965	965
Matric but below graduate	948	952	939	955	959	946
Graduate and above	979	956	1004	984	962	1007
C. Economic activity*						
Main workers	973	972	979	989	988	995
Non-Manual worker	959	962	955	972	1071	961

*Relates to currently married women.

Table 3.11

Sex ratio of children ever born and children surviving by district

State/District	Children ever born			Children surviving		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
KERALA	945	947	939	957	958	950
1. Cannanore	944	947	934	954	956	945
2. Kozhikode	939	941	931	948	952	938
3. Malapuram	936	935	953	938	936	956
4. Palghat	950	952	927	963	965	945
5. Trichur	945	945	944	961	962	958
6. Ernakulam	946	951	937	954	960	945
7. Idukki	952	952	943	967	968	939
8. Kottayam	950	950	953	963	963	965
9. Alleppey	944	946	934	957	958	948
10. Quilon	947	948	939	961	963	951
11. Trivandrum	951	951	953	967	967	968
12. Wayanad	948	948	-	964	964	-

Table 3.12

Percentage of ever married/currently married women with three or more children in different age groups

Age group	Ever married women			Currently married women		
	Total	Rural	Urban	Total	Rural	Urban
1	2	3	4	5	6	7
All ages	51.16	49.72	57.47	58.58	59.26	55.52
Less than 15	–	–	–	–	–	–
15 - 19	0.60	0.56	0.83	0.59	0.56	0.80
20 - 24	10.69	10.43	11.94	10.95	10.70	12.15
25 - 29	39.44	40.11	36.49	40.67	41.50	37.13
30 - 34	62.28	63.50	57.30	64.86	66.36	58.85
35 - 39	80.47	77.17	71.90	79.61	80.85	74.18
40 - 44	80.40	81.39	76.24	84.88	86.07	79.86
45 - 49	82.64	83.46	79.02	88.77	89.91	83.60
50 and above	79.12	80.01	75.29	87.23	88.08	83.05

Table 3.13

Percentage of ever married/currently married women with three or more children in selected age groups by different classifications 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
All women	R	40.11	63.50	77.17	81.39	41.50	66.36	80.85	86.07
	U	36.49	57.30	71.90	76.24	37.13	58.85	74.18	79.86
A. Religion									
Hindus	R	36.07	59.55	74.18	79.26	37.34	62.43	78.14	84.39
	U	30.21	52.22	68.00	74.17	30.70	53.71	70.27	77.72
Muslims	R	57.57	75.63	83.35	83.71	60.69	80.50	87.89	89.48
	U	59.55	75.63	82.70	79.64	61.79	77.51	86.78	85.67
Christians	R	33.48	63.45	79.72	85.71	33.90	64.51	81.51	87.88
	U	61.02	82.33	90.52	91.40	29.51	55.17	73.19	81.58
B. Educational level									
Illiterate	R	48.93	67.36	77.72	79.97	52.29	72.59	83.11	86.56
	U	53.49	68.33	77.20	77.20	56.40	73.10	82.52	84.39
Literate but below middle	R	46.83	68.77	80.28	84.32	48.77	72.15	83.78	88.30
	U	49.36	69.51	79.01	81.42	50.91	72.39	81.88	85.62
Middle but below matric	R	34.73	62.60	76.24	82.37	35.30	64.17	54.48	84.59
	U	34.72	60.06	72.36	78.30	35.04	61.08	73.88	79.72
Matric but below graduate	R	18.00	42.69	59.98	69.37	18.09	43.07	60.97	70.53
	U	16.80	36.94	53.05	61.79	16.88	37.14	53.41	62.22
Graduate and above	R	3.67	20.08	38.91	54.53	3.69	20.25	38.74	55.92
	U	3.18	17.05	34.80	43.36	3.19	17.13	35.15	43.40

Table 3.13

Percentage of ever married/currently married women with three or
more children in selected age groups by different classifications 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

C. Economic activity

		25-29	30-34	35-39	40-44	25-29	30-34	35-39	40-44
Main workers	R	35.65	54.93	71.03	76.21	37.16	58.86	76.15	82.66
	U	20.98	37.28	57.31	65.10	21.09	38.29	58.70	68.42
Non-Manual	R	10.92	30.98	52.55	65.19	10.91	40.00	53.02	66.45
workers	U	7.94	24.51	45.05	56.20	7.63	24.24	44.84	56.42
Manual workers	U	34.84	53.21	68.38	67.86	37.01	59.46	74.20	80.84
Cultivators	R	49.05	68.29	77.15	81.04	51.48	73.10	81.40	88.13
Agricultural labourers	R	38.68	66.60	73.38	77.53	42.29	66.00	79.78	85.18
Manual workers other than C & AL	R	39.48	59.59	74.16	77.77	42.54	64.92	80.75	85.78

Table 3.14

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

State/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
KERALA	R	40.11	63.50	77.17	81.39	41.50	66.36	80.85	86.07
	U	36.49	57.30	71.90	76.24	37.13	58.85	74.18	79.86
1. Cannanore	R	49.57	70.15	80.27	83.03	52.08	74.74	85.58	89.89
	U	47.48	68.20	76.28	77.70	48.42	70.25	79.66	82.79
2. Kozhikode	R	46.53	66.91	78.88	81.77	48.35	70.93	83.78	87.28
	U	47.06	63.27	75.71	77.91	48.28	65.68	79.06	82.07
3. Malappuram	R	52.42	71.09	81.26	81.66	55.62	75.77	86.43	88.09
	U	51.75	70.30	77.69	73.71	61.85	74.50	82.23	80.10
4. Palghat	R	46.72	65.50	76.27	78.26	48.79	68.94	80.76	83.99
	U	41.07	60.37	73.86	76.18	42.14	71.04	75.60	79.00
5. Trichur	R	35.12	60.88	76.20	80.34	35.99	63.48	79.23	84.31
	U	34.33	61.63	72.79	77.50	34.79	59.74	75.13	80.97
6. Ernakulam	R	33.38	60.38	76.37	82.31	34.00	60.94	78.97	85.93
	U	30.12	52.08	69.64	77.48	30.50	53.13	71.24	80.29
7. Idukki	R	40.76	67.84	82.39	86.90	41.56	69.36	83.70	88.61
	U	38.33	59.62	75.71	84.62	38.87	62.28	78.67	86.01
8. Kottayam	R	30.78	59.08	75.50	82.29	31.38	60.59	77.68	85.62
	U	29.41	53.59	69.83	75.29	29.93	55.03	71.35	78.48
9. Alleppey	R	30.65	56.68	73.78	79.60	31.38	58.65	76.81	83.67
	U	30.66	54.69	71.10	76.05	31.14	56.48	73.19	79.84
10. Quilon	R	35.56	61.46	76.23	82.26	36.67	63.74	79.54	86.23
	U	38.74	62.15	74.93	80.89	39.45	63.81	77.25	83.84
11. Trivandrum	R	33.91	58.20	72.15	78.65	35.05	43.21	76.02	83.58
	U	27.69	45.51	64.34	68.71	28.03	46.46	65.75	72.03
12. Wayanad	R	48.04	71.53	82.90	87.68	49.75	73.89	85.16	90.36
	U	-	-	-	-	-	-	-	-

Table 3.15

Proportion of childless ever married women aged 50 and above by different classifications of women

Classification	Total	Rural	Urban
1	2	3	4
All women	3.19	3.00	4.01
A. Religion			
Hindus	3.48	3.29	4.31
Muslims	3.35	3.17	4.11
Christians	2.18	2.03	2.92
Sikhs	-	-	-
Jains	-	-	-
Buddhists	-	-	-
B. Educational level			
Illiterate	3.43	3.27	4.28
Literate but below middle	2.68	2.48	3.47
Middle but below matric	3.23	2.84	3.95
Matric but below graduate	4.96	4.71	5.26
Graduate and above	7.90	6.17	9.02
C. Economic Activity			
Main workers	3.95	3.60	6.09
Non-manual workers	4.44	3.86	5.42
Manual workers	-	-	6.29
Cultivators	-	3.17	-
Agricultural Labourers	-	3.32	-
Manual workers other than C & AL	-	4.26	-

Table 3.16

Proportion of childless ever married women aged 50 and above by district

State/Districts	Total	Rural	Urban
1	2	3	4
KERALA	3.19	3.00	4.01
1. Cannanore	·3.87	3.55	4.78
2. Kozhikode	4.21	4.07	4.60
3. Malappuram	3.19	3.10	4.30
4. Palghat	4.07	3.95	5.16
5. Trichur	3.62	3.51	4.06
6. Ernakulam	2.69	2.27	3.36
7. Idukki	1.59	1.56	2.06
8. Kottayam	2.74	2.64	3.72
9. Alleppey	3.17	3.00	4.21
10. Quilon	2.12	2.01	2.91
11. Trivandrum	3.06	2.82	3.82
12. Wayanad	1.75	1.75	

Table 3.17

Distribution of currently married women by duration of
marrige and religion

Duration	T R U	All religions	Hindus	Muslims	Christians	Sikhs	Jains	Buddhists
1	2	3	4	5	6	7	8	9
All durations*	T	100.00	100.00	100.00	100.00	-	-	-
	R	100.00	100.00	100.00	100.00	-	-	-
	U	100.00	100.00	100.00	100.00	-	-	-
0 - 4	T	18.39	18.10	20.81	16.70	-	-	-
	R	18.29	17.99	20.93	16.40	-	-	-
	U	18.87	18.58	20.26	18.13	-	-	-
5 - 9	T	16.27	16.22	17.49	15.15	-	-	-
	R	16.15	16.16	17.27	14.94	-	-	-
	U	16.84	16.45	18.43	16.21	-	-	-
10 - 14	T	14.14	14.06	15.17	13.27	-	-	-
	R	14.01	13.97	15.05	13.04	-	-	-
	U	14.71	14.45	15.70	14.40	-	-	-
15 - 19	T	11.49	11.47	12.13	10.86	-	-	-
	R	11.48	11.51	12.13	10.75	-	-	-
	U	11.50	11.28	12.15	11.42	-	-	-
20 - 24	T	10.73	10.91	10.82	10.13	-	-	-
	R	10.75	10.95	10.86	10.10	-	-	-
	U	10.64	10.74	10.65	10.31	-	-	-
25 - 29	T	8.10	8.29	7.30	8.38	-	-	-
	R	8.15	8.33	7.34	8.47	-	-	-
	U	7.90	8.15	7.12	7.96	-	-	-
30 - 34	T	7.16	7.31	5.83	8.11	-	-	-
	R	7.21	7.33	5.83	8.27	-	-	-
	U	6.93	7.22	5.83	7.27	-	-	-
35 and above	T	11.26	11.20	7.67	15.25	-	-	-
	R	11.58	11.37	7.91	16.01	-	-	-
	U	9.83	10.45	6.64	11.51	-	-	-

*'All durations' include 'duration not stated' also.

Table 3.18

Mean age of fertility schedule ($\bar{m}$) and ratio of fertility
rates for age groups 15-19 and 20-24 (f_1/f_2) by
different classifications of women

Classification	$f_1^{\bar{m}}/f_2$	Total	Rural	Urban
1	2	3	4	5
All Women	$\bar{m}$	27.6	27.7	27.0
	f_1/f_2	0.171	0.171	0.173
A. Religion				
Hindus	$\bar{m}$	27.3	27.3	26.9
	f_1/f_2	0.136	0.139	0.117
Muslims	$\bar{m}$	28.0	28.2	26.8
	f_1/f_2	0.304	0.303	0.307
Christians	$\bar{m}$	28.0	28.1	28.0
	f_1/f_2	0.054	0.054	0.058
B. Educational level				
Illiterate	$\bar{m}$	27.7	27.8	27.0
	f_1/f_2	0.284	0.282	0.299
Literate but below middle	$\bar{m}$	26.7	26.8	26.0
	f_1/f_2	0.238	0.237	0.245
Middle but below matric	$\bar{m}$	26.7	26.8	26.4
	f_1/f_2	0.114	0.110	0.135
Matric but below graduate	$\bar{m}$	28.1	28.2	27.9
	f_1/f_2	0.078	0.079	0.075
Graduate and above	$\bar{m}$	29.2	29.3	29.3
	f_1/f_2	0.059	0.099	–

Table 3.18

Mean age of fertility schedule ($\bar{m}$) and ratio of fertility
rates for age groups 15–19 and 20-24 (f_1/f_2) by
different classifications of women

Classification	$f_1^{\bar{m}}/f_2$	Total	Rural	Urban
1	2	3	4	5

C. Economic Activity

Main workers	$\bar{m}$	27.6	27.5	28.2
	f_1/f_2	0.199	0.201	0.133
Non-manual workers	$\bar{m}$	28.2	28.2	28.8
	f_1/f_2	0.233	0.273	–
Manual workers	$\bar{m}$	–	–	27.8
	f_1/f_2	–	–	0.133
Cultivators	$\bar{m}$	–	26.3	–
	f_1/f_2	–	0.340	–
Agricultural labourers	$\bar{m}$	–	27.6	–
	f_1/f_2	–	0.239	–
Manual workers other than C & AL	$\bar{m}$	–	27.1	–
	f_1/f_2	–	0.149	–

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Table 3.19

Mean age of fertility schedule ($\overline{m}$) and ratio of fertility
rates for age groups 15-19 and 20-24 (f_1/f_2) by district

State/Districts	$f_1^{\overline{m}}/f_2$	Total	Rural	Urban
1	2	3	4	5
KERALA	$\overline{m}$	27.6	27.7	27.0
	f_1/f_2	0.171	0.171	0.173
1. Cannanore	$\overline{m}$	27.9	28.0	27.4
	f_1/f_2	0.227	0.225	0.236
2. Kozhikode	$\overline{m}$	26.6	26.7	26.2
	f_1/f_2	0.253	0.245	0.278
3. Malappuram	$\overline{m}$	28.6	28.7	27.7
	$f_1 f_2$	0.302	0.305	0.270
4. Palghat	$\overline{m}$	27.8	27.8	27.8
	f_1/f_2	0.221	0.226	0.174
5. Trichur	$\overline{m}$	27.4	27.5	27.0
	f_1/f_2	0.122	0.126	0.103
6. Ernakulam	$\overline{m}/f_2$	27.4	27.6	27.0
	f_1	0.094	0.078	0.121
7. Idukki	$\overline{m}$	27.7	27.7	28.6
	f_1/f_2	0.121	0.124	0.046
8. Kottayam	$\overline{m}$	28.2	27.7	28.1
	f_1/f_2	0.069	0.068	0.084
9. Alleppey	$\overline{m}$	27.3	27.4	27.2
	f_1/f_2	0.086	0.082	0.107
10. Quilon	$\overline{m}$	28.2	27.7	27.7
	f_1/f_2	0.096	0.092	0.124
11. Trivandrum	$\overline{m}$	26.3	26.2	26.6
	f_1/f_2	0.131	0.127	0.147
12. Wayanad	$\overline{m}$	27.7	27.7	–
	f_1/f_2	0.180	0.180	–

Table 3.20

P/F ratio for various age groups by religion

Religion	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
All Religion	T	1.5523	1.3662	1.4618	1.5265	1.7433	1.8856	2.0557
	R	1.5308	1.3597	1.4594	1.5126	1.7145	1.8515	2.0128
	U	1.6608	1.3988	1.4776	1.5987	1.8798	2.0595	2.2750
Hindu	T	1.4950	1.3513	1.4387	1.5239	1.7727	1.9706	2.1772
	R	1.4698	1.3524	1.4394	1.5109	1.7436	1.9329	2.2134
	U	1.6529	1.3486	1.4458	1.5972	1.9112	2.1663	2.4499
Muslim	T	1.3618	1.4248	1.4580	1.4654	1.5673	1.5821	1.6290
	R	1.3510	1.4024	1.4408	1.4350	1.5264	1.5441	1.5842
	U	1.4062	1.5194	1.5336	1.6027	1.7661	1.7728	1.8592
Christian	T	1.7238	1.3972	1.5691	1.6454	1.8996	2.1496	2.4375
	R	1.6328	1.4015	1.5688	1.6457	1.8902	2.1294	2.4192
	U	2.2061	1.3472	1.5749	1.6570	1.9421	2.2570	2.5092

Table 3.21

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

Religion	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
All educational level	T	1.5523	1.3662	1.4618	1.5265	1.7433	1.8856	2.0557
	R	1.5308	1.3597	1.4594	1.5126	1.7145	1.8515	2.0128
	U	1.6608	1.3988	1.4776	1.5987	1.8798	2.0595	2.2750
Illiterate	T	1.4541	1.4578	1.4991	1.4976	1.6367	1.6893	1.7790
	R	1.4241	1.4345	1.4790	1.4755	1.6084	1.6650	1.7526
	U	1.6840	1.6532	1.6726	1.6851	1.8781	1.9042	2.0149
Literate but below middle	T	1.4124	1.3235	1.3932	1.4594	1.6376	1.7906	1.9614
	R	1.3895	1.3102	1.3879	1.4417	1.6140	1.7669	1.9355
	U	1.5370	1.3956	1.4227	1.5547	1.7661	1.9272	2.1100
Middle but below matric	T	1.5747	1.3365	1.3839	1.4814	1.6667	1.8782	2.0570
	R	1.5653	1.3356	1.3755	1.4635	1.6406	1.8485	2.0261
	U	1.5876	1.3442	1.4250	1.5627	1.7779	2.0199	2.2228
Matric but below graduate	T	1.5145	1.0497	1.4129	1.4839	1.5262	1.6337	1.7717
	R	1.4788	1.1636	1.4127	1.4960	1.5079	1.6034	1.7388
	U	1.6331	1.6871	1.4142	1.4634	1.5897	1.7311	1.8820
Graduate and above	T	1.8690	0.8080	1.1355	1.2306	1.2720	1.3215	1.3691
	R	1.7245	0.6882	1.0795	1.1834	1.2548	1.3527	1.4418
Economic Activity								
Main workers*	T	1.6009	1.5129	1.7143	1.7614	2.0398	2.3426	–
	R	1.5830	1.5032	1.7260	1.7702	2.0344	2.3259	–
	U	2.1509	1.7548	1.7685	1.8869	2.2283	2.6486	–
Non-manual workers	T	2.3545	0.9856	1.1185	1.3076	1.4490	1.7119	–
	R	2.0819	0.9199	1.0680	1.2576	1.4013	1.6549	
Manual workers	U	2.1021	1.9455	2.4850	2.6659	3.2174	3.6833	–
Cultivators	R	1.2935	1.2991	1.7518	1.7445	1.9378	2.2303	–
Agricultural labourers	R	1.4727	1.5248	1.8180	1.8680	2.0577	2.3084	–
Manual workers other than C & AL	R	1.7376	1.5452	1.9029	1.9967	2.3755	2.7363	–

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

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Table 3.22

P/F ratio for various age groups by district

Religion	TRU	Age Groups						
		15-19	20-24	25-29	30-34	35-39	40-44	45-49
KERALA	T	1.5523	1.3662	1.4618	1.5265	1.7433	1.8856	2.0557
	R	1.5308	1.3597	1.4594	1.5126	1.7145	1.8515	2.0128
	U	1.6608	1.3988	1.4776	1.5987	1.8798	2.0595	2.2750
1. Cannanore	T	1.4201	1.3561	1.3612	1.3865	1.5137	1.5972	1.6889
	R	1.4102	1.3334	1.3487	1.3633	1.4823	1.5806	1.6618
	U	1.4534	1.4421	1.4079	1.4851	1.6366	1.6803	1.8029
2. Kozhikode	T	1.3885	1.3255	1.3229	1.3844	1.6180	1.7471	1.9094
	R	1.3693	1.3266	1.3101	1.3638	1.5665	1.6950	1.8573
	U	1.4356	1.3228	1.3621	1.4458	1.7690	1.9067	2.0627
3. Malappuram	T	1.3512	1.3458	1.3735	1.3547	1.4690	1.4472	1.4940
	R	1.3222	1.3369	1.3723	1.3465	1.4589	1.4424	1.4851
	U	1.7489	1.4559	1.3886	1.4634	1.6075	1.5076	1.6196
4. Palghat	T	1.5365	1.3988	1.4328	1.4193	1.5455	1.5611	1.6320
	R	1.5054	1.3908	1.4236	1.4063	1.5219	1.5411	1.6003
	U	1.9316	1.4842	1.5175	1.5531	1.7948	1.7850	1.9930
5. Trichur	T	1.5097	1.2909	1.4618	1.5662	1.8540	2.0424	2.2626
	R	1.4688	1.2913	1.4624	1.5632	1.8451	2.0194	2.2157
	U	1.6962	1.2923	1.4621	1.5792	1.8853	2.1363	2.4583
6. Ernakulam	T	1.5985	1.4252	1.5759	1.6656	1.9811	2.2483	2.5617
	R	1.5111	1.4393	1.5979	1.6598	1.9513	2.1817	2.5231
	U	1.6612	1.4025	1.5460	1.6790	2.0249	2.3573	2.6167
7. Idukki	T	1.5270	1.4495	1.5930	1.6796	1.9676	2.1884	2.4484
	R	1.5093	1.4408	1.5878	1.6763	1.9657	2.1872	2.4509
	U	2.4476	1.7527	1.7420	1.8115	2.0408	2.2389	2.3920
8. Kottayam	T	1.4105	1.3385	1.5603	1.6484	1.9044	2.1731	2.4701
	R	1.3886	1.3449	1.5598	1.6494	1.9050	2.1796	2.4693
	U	1.5731	1.2775	1.5649	1.6438	1.8946	2.1081	2.4663
9. Alleppey	T	1.4899	1.3287	1.4676	1.5628	1.8142	2.0264	2.2762
	R	1.4432	1.3310	1.4701	1.5495	1.7977	2.0092	2.2622
	U	1.6516	1.3159	1.4539	1.6329	1.9010	2.1171	2.3473
10. Quilon	T	1.6550	1.4734	1.5809	1.6957	1.9687	2.2456	2.4415
	R	1.6592	1.4754	1.5871	1.6836	1.9558	2.2369	2.4394
	U	1.6040	1.4637	1.5419	1.7672	2.0514	2.2966	2.4584
11. Trivandrum	T	1.6026	1.3938	1.4935	1.6486	2.0001	2.3113	2.5995
	R	1.5549	1.3672	1.4734	1.6359	1.9799	2.3083	2.5748
	U	1.7629	1.4971	1.5795	1.7113	2.0697	2.3354	2.6773
12. Wayanad	T	1.5827	1.3711	1.3981	1.4440	1.6114	1.7677	1.8773
	R	1.5827	1.3711	1.3981	1.4440	1.6114	1.7677	1.8773
	U	-	-	-	-	-	-	-

Table 3.23

Fertility indices adjusted by P/F ratio technique

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	0.032	0.035	0.032	0.249	0.245	0.270
20 - 24	0.204	0.209	0.185	0.354	0.355	0.354
25 - 29	0.209	0.212	0.194	0.249	0.252	0.242
30 - 34	0.117	0.122	0.099	0.134	0.139	0.115
35 - 39	0.068	0.072	0.048	0.078	0.083	0.055
40 - 44	0.024	0.026	0.015	0.030	0.033	0.018
45 - 49	0.007	0.008	0.004	0.009	0.011	0.005
GFR/GMFR	108	110	95	174	179	161
TFR/TMFR	3.3	3.4	2.9	5.5	5.6	5.3

Table 3.24

Unadjusted and adjusted fertility rates by
different classification of women

Classification	Unadjusted				Adjusted			
	TFR	GFR	TMFR	GMFR	TFR	GFR	TMFR	GMFR
1	2	3	4	5	6	7	8	9
All women	2.4	79	4.0	127	3.3	108	5.5	174
A. Religions								
Hindus	2.2	71	3.9	117	3.0	96	5.3	158
Muslims	3.6	115	4.7	159	5.1	164	6.7	227
Christians	2.1	66	4.0	116	2.9	92	5.6	162
B. Educational level								
Illiterate	2.9	77	4.3	105	4.2	112	6.3	153
Literate but below middle	2.6	87	4.0	123	3.6	115	5.3	163
Middle but below matric	2.2	79	3.7	159	2.9	106	4.9	213
Matric but below graduate	1.8	59	3.5	133	1.9	62	3.7	139
*Graduate and above	1.8	83	3.3	136	1.5	67	2.7	110
C. Economic activity								
Main workers	1.8	60	3.5	96	2.7	91	5.3	145
Non-Manual workers	1.8	67	3.3	92	1.8	66	3.3	91

* The adjusted rates presented in cols.6 to 9 may
not be reliable. See text.

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
KERALA	20.97	2.4	4.0	79	127	28.65	3.3	5.5	108	174
1. Cannanore	25.34	3.1	4.7	98	153	34.36	4.2	6.4	133	207
2. Kozhikode	22.93	2.6	4.0	89	133	30.39	3.4	5.3	118	176
3. Malappuram	29.22	3.7	5.0	116	165	39.32	5.0	6.7	156	222
4. Palghat	24.10	3.0	4.4	92	141	33.71	4.2	6.2	129	197
5. Trichur	18.46	2.1	3.8	67	115	23.83	2.7	4.9	86	148
6. Ernakulam	16.93	1.9	3.8	63	108	24.13	2.7	5.4	90	154
7. Idukki	21.00	2.3	3.9	79	123	30.44	3.3	5.7	115	178
8. Kottayam	16.88	2.0	3.9	63	110	22.59	2.7	5.2	84	147
9. Allappey	17.91	2.0	4.0	66	113	23.80	2.7	5.3	88	150
10. Quilon	18.38	2.1	3.7	68	112	27.08	3.1	5.5	100	165
11. Trivandrum	17.95	1.8	3.5	63	105	25.02	2.5	4.9	88	146
12. Wayanad	26.51	3.2	4.5	106	154	36.35	4.4	6.2	145	211

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Shri K.P. Gupta
Shri J.B. Sharma

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Smt. Madhulika Das
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Shri Ram Dhani
Shri Bansi Lal
Smt. Dipali Bose
Miss Ashoka Chatterjee
Smt. Pushap Lata
Smt. Manju Bose
Smt. Kuljeet Kaur
Smt. Madhu Sahani
Smt. Nirmal Trikha
Smt. Nirmal Bhalla

Assistant Compilers

Smt. Sudesh Aggarwal
Miss Hardeep Kaur
Shri Rajender Prasad

Typists

Smt. Shashi Kalra
Smt. Sarla Rani

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