GOVERNMENT OF KERALA

SAMPLE REGISTRATION

KERALA—RURAL

ANNUAL REPORT 1979

No. 17

DIRECTORATE OF ECONOMICS AND STATISTICS
TRIVANDRUM
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PREFACE

The Sample Registration Scheme is conducted in all the States in India under the direction of the Registrar General, Government of India, with the objective of getting reliable estimates of birth and death rates and the growth rate of population.

In Kerala, the survey in the Rural Sector is being conducted by the Directorate of Economics and Statistics, while in the Urban Sector it is carried out by the Census Department of the Government of India. This report presents the results of the Scheme for the year 1979. Besides, crude birth and death rates, a number of other results derived from Sample Registration data have been included in this report. Special findings on vital rates for different religious groups, comparison of the rates for Malabar and Travancore-Cochin regions of the State, are some of the unique features presented. Sri S. Sthanukrishna Iyer, formerly Deputy Director, Sri M. Mohamed Serverkhan, Regional Statistical Officer and Sri N. Umamaheswaran Asari, Research Assistant were engaged in the preparation of this report.

Trivandrum,
4-5-1982.

DR. R. S. KURUP,
Director.

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REPORT ON
SAMPLE REGISTRATION OF BIRTHS AND DEATHS
KERALA—RURAL. 1979

CHAPTER I

INTRODUCTION

1.1 Introduction

The results of the operation of the Sample Registration Scheme in the rural areas of the State during 1979 are presented in this report. This is the only source which can give a reliable picture of the birth and death situation of the State since there is omission in the registration of events according to statute.

Started as a pilot project in 1964–65 in 20 rural and 5 urban samples, the full-fledged scheme was introduced on 1–7–1965 in 150 samples in rural areas on a regular basis. The Directorate of Economics and Statistics was responsible for the work in rural areas, in the urban areas, the Director of Census Operations took up the work.

The survey during 1979 was continued in 150 rural samples as was done previously. The villages in the natural regions of Lowland, Midland, and Highland were further stratified into four types according to population: below 500, 500–999, 1000–1999; 2000 and above and the number of samples were allocated to different strata in proportion to the total population. Details of allocation of sample units among strata are given in Table I appended.

1.2 Staff

150 Enumerators were engaged in the regular field survey. 13 computors conducted the half yearly surveys. The additional District Statistical Officers did the reverification. The nucleus staff of Regional Statistical Officer, Reaserch Assistant and Compilers at the State Headquarters under the Deputy Director (Population) attended to the preparation of reports.

1.3 Procedure of field work

The Enumerators collected the details of births and deaths on a regular basis through the informents and house visits. The details were reported to the State and District headquarters. The computors conducted half-yearly surveys independent of the Enumerators, for updating the population and collecting details of births and deaths. The data collected by Enumerators and Supervisors were matched at the District Headquarters and reverification of unmatched and partially matched events were done by Additional District Statistical Officers.

1.4 Overlapping survey:

With every half-yearly survey the details of the preceding half-year were also collected to bring out events missed by both the Enumerator and Computor. By this procedure 175 births and 34 deaths have been detected.

1.5 Intensive enquiry:

An intensive enquiry was conducted in 15 centres by Senior Officers. 16 births and 6 deaths were detected.

CHAPTER II

ESTIMATED POPULATION IN RURAL AREAS OF KERALA

2.1 Population and its growth

The population of the rural areas in Kerala State estimated on the basis of the data collected through Sample Registration Scheme, increased from 20,037,864 on 1-1-1979 to 20,223, 820 on 1-1-1980 recording an increase of 0.928% as against a reduction of .039% during the previous year. The increase was noticed in all the three natural regions – lowland showing the increase of 0.988%, midland 0.008% and highland 0.014%. During the previous year, there was increase of population only in the midland regions while the other two regions recorded a decrease.

2.2 Percentage distribution of population by age and sex ratio of each group.

The percentage Distribution of population by age and sex-ratio for the years 1971, 1978 and 1979 is given below in Table 2.2.

TABLE 2.2

PERCENTAGE DISTRIBUTION OF POPULATION BY AGE AND SEX RATIO IN RURAL KERALA FOR 1971, 1978 AND 1979

Age-group	1971		1978		1979	
	Population %	Sex* ratio	Population %	Sex* ratio	Population %	Sex* ratio
(1)	(2)	(3)	(4)	(5)	(6)	(7)
0—4	13.5	980	11.6	969	12.1	970
5—9	13.6	974	12.0	978	11.7	966
10—14	13.5	983	12.5	973	12.4	978
(0—14)	(40.6)	(978)	(36.1)	(973)	(36.2)	(972)
15—19	10.9	1078	11.7	1013	11.5	1023
20—24	9.2	1046	10.2	1120	10.1	1154
25—29	6.4	1103	8.1	1063	8.2	1078
30—34	5.6	1080	6.1	1093	6.2	1099
35—39	6.0	1080	5.3	1110	5.2	1117
40—44	4.6	1005	4.9	1140	4.9	1152
45—49	4.5	941	4.5	1100	4.5	1127
50—54	3.2	969	3.9	948	3.9	976
55—59	2.7	982	2.9	993	3.0	975
60—64	2.3	1044	2.4	1029	2.4	1071
65—69	1.6	1086	1.7	1086	1.7	1040
70 and above	2.4	1116	2.2	1105	2.2	1130
All ages	100.0	1020	100.00	1032	100.00	1041

*Sex ratio. No. of females per 1000 males.

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CHAPTER III

MEASURES OF FERTILITY

3.1 Introduction

The most common measure of fertility is the crude birth rate. Other measures of fertility are the general fertility rate, age-specific fertility rate, and gross reproduction rate. These are estimated from the data and presented here.

3.2 Crude birth rate

Crude birth rate is defined as the number of live births per 1000 of mid-year population.

The crude birth-rate for Kerala for 1979 is estimated as 26.8 per 1000 of population as against 25.8 for the year 1978. The births to normal residents of the area and the normal resident population are considered here. The birth rate for rural kerala and for the natural regions for the years 1971-79 are given below, along with All India-Rural.

TABLE 3.2

CRUDE BIRTH RATE (1971–79) RURAL KERALA AND ALL INDIA RURAL

Year	Natural regions			Kerala Rural	All India Rural
	Lowland	Midland	Highland		
1971	31.4	32.0	32.4	31.9	38.9
1972	30.5	32.4	33.4	32.1	38.4
1973	27.8	30.0	33.0	29.9	35.9
1974	25.6	27.9	29.3	27.0	35.9
1975	25.9	27.9	32.8	28.2	36.7
1976	26.4	28.7	30.8	28.5	35.8
1977	24.8	26.2	28.7	26.2	34.2
1978	24.6	26.1	26.4	25.8	34.6
1979	23.6	27.8	27.4	26.8	34.3

3.3. Birth rates in Malabar and Travancore-Cochin areas of the State (Rural).

The birth rates in the two distinct regions of the State—one Malabar area comprising the northern portion of the State which were transferred to form the Kerla State and the other Travancore-Cochin area which is the erstwhile Travancore-Cochin State except the portion transferred to form Tamilnad

are presented here. Out of the total samples selected for the survey 72 samples fall in the Malabar area and 78 in Travancore-Cochin area. The birth rates in the above two regions are given below:-

TABLE 3. 3

BIRTH RATES IN MALABAR AND T. C. AREAS (RURAL)

Year	Malabar	Travancore-Cochin	Kerala
1975	31.57	25.23	28.17
1976	31.87	25.31	28.50
1977	28.92	23.64	26.22
1978	30.57	21.72	25.78
1979	31.80	22.18	26.84

It can be seen that the birth rate has always been higher in the Malabar area as compared to the Travancore-Cochin area. This is mainly due to the social conditions prevalent among Muslims who are concentrated in that region. The lower age of females at marriage and their attitude towards limiting the family size contribute to this condition. The Muslims in the rural Malabar area form 33.45% of the total rural population of that region as against 13 5% in Rural Travancore-Cochin region and 16.3 per cent in rural Kerala.

3.4 Birth rate by religious groups

The birth rates for the major religious groups in the State for the year 1979 are given in the table 3. 4 below.

TABLE 3. 4

BIRTH RATES AMONG HINDUS, MUSLIMS AND CHRISTIANS IN DIFFERENT REGIONS IN RURAL AREAS, 1979

Region	Religions		
	Hindus	Muslims	Christians
Lowland	22.53	27.43	20.92
Midland	24.46	38.02	22.23
Highland	28.10	30.62	18.26
State	24.61	34.94	21.54

The birth rate at the State level and all the three natural regions is the highest for Muslims followed by Hindus. The birth rate is lowest among Christians in all the three natural regions.

3 5 Distribution of samples by birth rate

The Distribution of samples by birth rate is given in table 3.5

TABLE 3. 5

DISTRIBUTION OF SAMPLES UNDER DIFFERENT RATES OF BIRTH

Region	Birth Rates																			
	Less than Less than 16		16–19.9		20–23.9		24–27.9		28–31.9		32–35.9		36–39.9		40–43.9		44&above		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1979 Rural Malabar	2	2.8	6	8.3	6	8.3	9	12 5	16	22.2	11	15.3	13	18.1	5	6.9	4	5.6	72	100.00
1979 Travancore-Cochin (Rural)	8	10.2	24	30.8	25	32.1	7	9.00	7	9.00	5	6.4	..	..	2	2.5	..	..	78	100.00
1979 Rural Kerala	10	6.7	30	20.0	31	20.7	16	10.6	23	15.3	16	10.6	13	8.7	7	4.7	4	2.7	150	100.00
1978 Rural Kerala	14	9.3	22	14.7	32	21.3	33	22.0	21	14.0	9	6.0	9	6.0	6	4.0	4	2.7	150	100.00
1977 Rural Kerala	8	5.4	24	16.0	29	19.3	30	20.0	27	18.0	18	12.0	5	3.3	7	4.7	2	1.3	150	100.00
1976 Rural Kerala	6	4.00	10	6.7	30	20.0	29	19.3	30	20.0	16	10.7	13	8.7	11	7.3	5	3.3	150	100.00

It is seen that 23 samples forming 31.9% in Malabar area and 64 samples forming 82.1% in Travancore-Cochin area were having birth rate less than 28.00 per 1000 population during 1979. For the whole of rural Kerala, 87 samples (58.0%) in 1979, 101 samples (67.3%) in 1978 were having birth rate less than 28. There was no area in Travancore-Cochin portion with birth rate greater than 44 but in Malabar area 5.6% of samples were having such high birth rates during 1979.

3.6 Age specific fertility rate

Age specific fertility rate is the number of live births in one year to 1000 women of specific age group. The age specific fertility rate for 1979 and previous years are given in table 3.6.

TABLE 3.6

AGE SPECIFIC FERTILITY RATE IN KERALA RURAL 1971–79

Age group	1971	1972	1973	1974	1975	1976	1977	1978	1979
15—19	49.1	50.6	48.8	44.5	41.6	42.7	44.2	43.6	48.5
20—24	213.9	212.6	206.5	179.3	188.5	193.4	186.2	183.2	184.8
25—29	226.6	238.5	221.8	190.2	194.8	202.3	171.0	169.1	181.4
30—34	175.8	174.9	153.6	134.3	134.0	137.1	113.1	112.7	121.5
35—39	118.4	119.3	99.9	86.3	94.1	80.7	75.9	71.4	65.1
40—44	43.6	45.7	38.6	25.7	29.8	25.3	24.3	22.0	19.4
45—49	7.0	6.3	6.0	6.9	5.4	6.1	5.6	3.7	5.5

The age specific fertility rates are greater in 1979 than those in the last year, in the first four age groups and last group while the rates are less in the other two groups. During 1978, all the age groups showed rates, less than those of the previous year. The same behaviour as is seen during1979 was exhibited during 1976 also. The rates of 1979, except in the age group 15–19 are however less than the fertility rates in the corresponding age groups during 1976. The fertility rate in the age group 15–19 alone showed a higher rate than that in 1976.

3.7 General fertility rate (GFR)

General fertility rate is the number of live births in an year to 1000 women in the reproductive age group 15–49. The general fertility rate for Kerala Rural for the years 1971 to 1979 is given below:

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979
G.F.R.	126.7	127.9	118.4	104.0	108.0	109.0	99.4	97.7	101.3

The General Fertility Rate, which was declining during 1977 and 1978 has increased during 1979. The G.F.R. for lowland, midland and highland are 88.6, 104.8 and 106.1 respectively in 1979.

3.8 Total fertility rate (TFR)

Total fertility rate is the average number of children that would be born to a woman during her life time if she was to pass through her child

bearing years conforming to the age specific fertility rates of the year. The total fertility rates for Kerala Rural for 1979 and preceding years are given below:

Years	1971	1972	1973	1974	1975	1976	1977	1978	1979
TFR	4.1	4.2	3.9	3.3	3.4	3.4	3.1	3.0	3.1

The total fertility rate shows a little increase for 1979 but reaches the condition of 1978 which is lower than the previous years. The TFR for the natural regions of lowland, midland and highland for 1979 are 2.7, 3.2 and 3.3 respectively.

3.9 Gross reproduction rate (GRR)

Gross reproduction rate is the average number of female children that would be born to a woman during her life time if she was to pass through the child bearing years conforming to the age specific fertility rates of the year.

The gross reproduction rates for Kerala for the year 1979 and previous years are given below:

Year	1972	1973	1974	1975	1976	1977	1978	1979
GRR	2.1	1.9	1.6	1.7	1.7	1.5	1.5	1.5

The gross reproduction rate is remaining the same since 1977.

3.10 Net reproduction rates (NRR)

Net reproduction rate gives the average number of female children that would be born to a woman during her life time comforming to the age specific fertility rates and mortality condition of the year. The NRR for 1979 is 1.37 as against 1.33 for 1978.

3.11 Order of birth

The observed number of births by age of mother and order of birth of child during 1979 are given in table 3.11.

TABLE 3.11

AGE OF MOTHER AND ORDER OF BIRTH OF CHILD 1979

Age of mother	Order of birth (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)+	Total
15—19	572	102	6	..	..	..	..	..	..	..	680
20—24	1136	876	388	32	12	5	2	..	..	..	2451
25—29	306	524	562	342	101	30	9	..	1	..	1875
30—34	55	151	197	180	183	109	53	27	9	3	967
35—39	9	18	38	57	73	86	71	49	18	17	436
40—44	1	..	8	7	19	29	21	24	10	11	130
45—49	1	..	..	2	2	4	4	10	1	8	32
Total	2080	1671	1199	620	390	263	160	110	39	39	6571

3.12. Medical attendance at birth

The percentage of births under different types of Medical attendance is given in table 3.12.

TABLE 3.12

MEDICAL ATTENDANCE AT BIRTH (PERCENTAGE)

Year	Institutional	Trained professional	Untrained professional	Non Professional	Not stated
(1)	(2)	(3)	(4)	(5)	(6)
1972	25.1	19.3	38.9	16.5	0.2
1973	26.0	20.4	36.2	17.4	0.0
1974	28.1	20.8	37.5	13.2	0.4
1975	28.8	21.8	34.8	14.3	0.3
1976	32.1	19.8	32.6	14.8	0.7
1977	35.6	17.6	31.8	13.9	1.1
1978	40.8	16.4	40.6	2.2	..
1979	45.4	27.5	25.9	1.2	..

The continuous increase, in the percentage of institutional cases and cases attended to by trained professionals, is a clear indication of the appreciation of the public about the services and facilities available for maternal and child health and their utilisation. Very few people were satisfied with the untrained professionals. In the case of the natural regions, the facilities are more enjoyed by the lowland and midland people rather than highland residents. This condition is mainly due to the paucity of facilities in highland regions.

3.13 Still birth rates (S.B.R.)

The still-birth rates for the year 1979 and previons years are given below:

Year	1972	1973	1974	1975	1976	1977	1978	1979
S.B.R.	27.35	25.00	16.28	19.44	26.18	19.30	23.68	20.50

The still-birth rate shows a decrease during the year 1979 compared to that in 1978. The rate for lawland, midland and highland are 26.43, 18.92, and 19.65 respectively.

3.14 Sex ratio at birth

The sex-ratio at birth (number of males per 100 females) for the year 1979 and previous years are given below.

Year		*Sex ratio at birth*
1971	..	107.9
1972	..	105.7
1973	..	110.2
1974	..	103.2
1975	..	108.0
1976	..	100.6
1977	..	103.6
1978	..	104.9
1979	..	104.4

The sex ratio at birth reveals the fact that more male children are born than female children. This phenomenon is exhibited in all the years.

3.15 Child-woman ratio

Child-woman ratio is defined as the number of children in the age groups 0-4 years per 1000 women in the reproduction age group 15-49. The child woman ratio for rural Kerala is estimated as 451 for 1979.

The child woman ratio for 1971 onwards is given below:

Year	1971	1972	1973	1974	1975	1976	1977	1978	1979
C.W.R.	519	520	511	479	463	470	459	441	451

3.16 Number of marriages and age at marriage

The rate of marriages and remarriages per thousand population (for male and females separately) which took place for each age group of sample population, is given in table 3.16.

The highest rate of first marriage per 1000 female population is 61.64 and is in the age group 20-24 and in the case of males, highest rate of first marriage is 64.21 and this occurs in the age group 25.29.

In the case of remarriage the highest percentage of marriage occurs in the age group 25-29 among females and males.

The median age at marriage (first) for males during the year is 26.2 and for females 21.0. Out of the total marriages, done during the year, 6.42 percentage marriages were remarriages for males, and 4.44% were remarriages for females.

TABLE 3.16

MARRIAGE RATE PER 1000 POPULATION OF EACH SEX UNDER DIFFERENT AGE GROUP FOR THE YEAR 1979 (FIGURES IN BRACKETS REPRESENTS PERCENTAGE OF MARRIAGES UNDER EACH GROUP)

Age group	First marriage		Remarriage		All marriages	
	Male	Female	Male	Female	Male	Female
(1)	(2)	(3)	(4)	(5)	(6)	(7)
15–19	1.52	46.72	0.29	0.70	1.81	54.42
	(1.69)	(36.80)	(4.71)	(11.91)	(1.89)	(35.70)
20–24	34.00	61.64	0.61	1.36	34.67	63.00
	(31.40)	(45.00)	(8.24)	(21.43)	(29.91)	(43.94)
25–29	64.21	27.73	3.02	2.42	67.23	30.15
	(49.80)	(15.88)	(34.12)	(29.76)	(48.79)	(16.50)
30–34	23.96	4.18	1.80	2.41	25.76	6.59
	(13.97)	(1.83)	(15.28)	(22.62)	(14.05)	(2.75)
35–39	5.64	00.90	2.49	0.90	8.13	1.80
	(2.74)	(0.33)	(17.65)	(7.14)	(3.70)	(0.64)
40–44	0.54	0.31	0.90	0.62	1.44	0.93
	(0.24)	(0.11)	(5.88)	(4.76)	(0.60)	(0.32)
45–49	0.38	0.17	2.30	0.34	2.68	0.51
	(0.16)	(0.05)	(14.12)	(2.38)	(1.06)	(0.15)
All	21.03	27.92	1.44	1.30	21.47	29.22
	(100.00)	(100.00)	(100.00)	(100.00)	(100,00)	(100.00)

CHAPTER IV

MEASURES OF MORTALITY

4.1 Crude death rate

The crude death rate for Kerala Rural for 1979 is estimated as 7.19 as against 7.23 during the previous year. As in the case of birth, deaths which occured to usual residents alone is taken into consideration for calculating the death rate. The death of visitors that occured in the area has not been taken into consideration. The death rate for Kerala rural for 1971 onwards are given below in table 4.1.

TABLE 4.1

CRUDE DEATH RATES IN KERALA RURAL AND ALL INDIA RURAL–1971–1979

Year	Natural region in Kerala			Kerala Rural	All India Rural
	Lowland	Midland	Highland		
(1)	(2)	(3)	(4)	(5)	(6)
1971	8.5	9.2	10.4	9.2	16.4
1972	8.2	9.5	11.0	9.4	18.9
1973	8.8	8.5	9.3	8.7	17.0
1974	8.1	7.7	9.6	8.0	15.9
1975	8.5	8.4	9.1	8.5	17.3
1976	8.6	7.7	10.4	8.3	16.3
1977	7.4	7.3	8.4	7.3	16.0
1978	7.2	7.0	8.2	7.2	15.3
1979	6.0	7.2	8.9	7.2	13.9

The general tendency of the death rate is seen to be decreasing in the three natural regions of lowland, midland and highland and in Kerala Rural area as a whole, eventhough there are certain upward jerk at certain intermediate years. However the rates are less than the all India rates in all the three regions. Highland recorded the highest rate and lowland lowest but in the last few years midland had death rates lower than lowland.

4.2 Death rate in Malabar and Travancore-Cochin region

The death rates in Malabar and Travancore-Cochin regions are given below in table 4.2

TABLE 4.2

DEATH RATES IN RURAL AREAS OF MALABAR AND TRAVANCORE-COCHIN AREA.

Year	Malabar	Travancore-Cochin	Kerala State
(1)	(2)	(3)	(4)
1975	9.18	7.83	8.5
1976	8.91	7.71	8.3
1977	8.39	6.64	7.3
1978	8.37	6.22	7.2
1979	8.63	5.84	7.2

The death rates in Malabar area are seen to be higher than the rates in Travancore-Cochin area.

4.3 Death rates for religious groups

The death rates according to religious groups are given in table 4.3.

TABLE 4.3

DEATH RATES IN DIFFERENT RELIGIONS 1979

Region	Religion		
	Hindu	Mohammedan (Muslim)	Christian
(1)	(2)	(3)	(4)
Lowland	6.21	5.10	6.83
Midland	7.81	7.32	5.11
Highland	9.76	6.97	6.51
State	7.76	6.80	5.58

The death rate is found to be highest among Hindus and lowest among Christians except in the low land where Muslims recorded the lowest death rate.

4.4 Distribution of sample by death rate

The distribution of samples by death rate is given in table 4.4

TABLE 4.4

DISTRIBUTION OF NUMBER OF SAMPLES UNDER DIFFERENT RATES OF DEATH 1979.

Region		Less than 2	2–2.9	3–4.9	5–6.9	7–8.9	9–10.9	11–12.9	13–14.9	15–16.9	17 and above	All
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Malabar area 1979	No	..	2	9	16	18	10	10	2	3	2	72
	%	..	2.8	12.5	22.2	25.0	13.9	13.9	2.8	4.1	2.8	100.00
T. C. area 1979	No	2	5	22	28	12	7	1	..	1	..	78
	%	2.5	6.4	28.2	35.9	15.4	9.00	1.3	..	1.3	..	100.00
Kerala 1979	No	2	7	31	44	30	17	11	2	4	2	150
	%	1.3	4.7	20.7	29.4	20.00	11.3	7.3	1.3	2.7	1.3	100.00
Kerala 1978	No	..	10	25	43	35	23	4	8	1	1	150
	%	..	6.7	16.7	28.7	23.3	15.3	2.6	5.3	0.7	0.7	100.00
Kerala 1977	No	..	9	27	36	35	18	15	5	5	..	150
	%	..	6.00	18.0	24.0	23.4	12.0	10.00	3.3	3.3	..	100.00
Kerala 1976	No	..	8	16	27	38	28	22	6	3	2	150
	%	..	5.3	10.7	18.0	25.3	18.7	14.7	4.0	2.0	1.3	100.00

Out of 72 samples of Malabar area 27 samples (37.5%) were having death rate less than 7 per 1000 population during the year whereas in Travancore-Cochin area there were 55 samples with less than death rate 7 and this forms 73 per cent of the sample of the area.

Taking the complete rural area in Kerala State, 84 sample out of 150 forming 56.1 per cent were having the above death rate in 1979 as against 52% in 1978.

4.5 Age specific death rate

Age specific death rate is the number of deaths in a specified age group in one year among 1000 persons of that age group. The age specific death rates for males and females and for the three natural regions of the State are given in table appended (Table XI)

The age specific death rate was highest in the age group 70 and above, followed by (0–1) age group and (65–69) age group. During the previous year also the same condition was seen. The lowest death rate is in the age group 15–19, where as during last year, lowest death rate was seen in 10–14 age group. Among male and female population also, the rates are in the descending order in the age groups 70 and above, 0–1 and 65–69. Death rate in the age group 15–19 among males and females also was lowest.

Among the natural regions of lowland, midland and highland also the same position is exhibited. But lowest death rate occured in different age group. In lowland lowest rate was in the age group 20–24, in midland 15–19 and in highland 10–14.

4.6. Infant mortality rate

Infant mortality rate is the number of deaths of infants below 1 year of age out of 1000 live births in an year. The infant mortality rate for the years 1972–79 for three natural regions are given in table 4.6.

TABLE 4.6

INFANT MORTALITY RATE IN NATURAL REGIONS

Regions	1972	1973	1974	1975	1976	1977	1978	1979
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lowland	55.3	46.6	30.7	45.8	57.3	44.9	32.2	29.8
Midland	61.2	46.8	55.4	58.1	50.8	46.6	41.1	46.1
Highland	101.7	78.1	95.2	63.5	77.4	71.4	78.3	84.4
State	66.0	51.7	55.9	57.3	56.3	50.7	44.8	48.5

Infant mortality rate is highest in highland and lowest in lowland as in the previous years. Eventhough the rates in 1979 are less than those during 1972 in lowland, midland and highland, there is increase in the rate in midland and highland from the previous year. In the case of highland the rate during the year is greater than the rate in the previous years except 1972 & 1974.

4.7. Neo-natal death rate

The infant mortality has been distributed according to the period within which the infants died before completing one year of age such as less than 7 days, 7–27 days and 28 days and above. The following table gives the rates in each period.

TABLE

INFANT DEATH RATE DISTRIBUTED OVER DIFFERENT PERIODS WITHIN WHICH THE INFANT DIED

Region	Less than 7 days	7–27 days	Below 28 days	28 days & above	Total (Below one year)
(1)	(2)	(3)	(4)	(5)	(6)
Lowland	12.19	1.40	13.59	16.23	29.82
Midland	18.41	10.87	29.28	16.84	46.12
Highland	39.42	14.08	53.50	30.87	84.37
State	20.27	9.48	29.75	18.78	48.53

(Neonatal death rate :— Number of deaths below 28 days of age per 1000 of live births)

4.8 Medical attendance at death

The percentage of deaths under different type of attendance at the time of death for 1972 to 1979 are given below.

TABLE 4.8

MEDICAL ATTENDANCE AT DEATH (PERCENTAGE)

Year	Institutional	Recognised practitioner	Unrecognised practitioner	None
(1)	(2)	(3)	(4)	(5)
1972	19	34	17	30
1973	17	33	22	28
1974	18	36	19	27
1975	20	36	16	28
1976	24	31	19	26
1977	22	33	19	26
1978	22	34	24	20
1979	30	34	11	25

It is seen that the percentage of deaths attended to by institution has increased and the percentage of deaths attended to by unrecognised practitioners has decreased which implies that more people are utilising the institutional facilities.

4.8 Expectation of life

Life tables have been constructed using the average of age specific death rates for 1977, 1978 and 1979 and are presented in tables XIX, XX and XXI. The expectation of life at birth during 1977-79 is 65.35 years. Regarding male population expectation of life is 63-82 years and female 66.91 years. The expectation of life for 1976-78 (given in the earlier report) for the population as a whole, for male and females are 64.89, 63-63 and 66.19 years respectively.

APPENDIX

TABLES PRESENTED

TABLE I

NUMBER OF UNITS AND 1961 POPULATION IN THE UNIVERSE & IN THE SAMPLES.

Stratum	Universe: No. of units (1961 census)			Sample				
	Segments (N)	Census Villages	Population 1961	No. of units selected (n)	Population 1961	Percentage of units selected (n/N)	Percentage of sample population	Raising factor for stratum estimates N/n
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 A	85	85	27545	1	494	1.18	1.79	85.00000
B	164	164	126496	1	632	0.61	0.50	164.00000
C	349	349	512766	5	7659	1.43	1.49	69.80000
D	1718	609	2731775	29	43473	1.69	1.59	59.24138
Lowland	2316	1207	3398582	36	52258	1.55	1.54	..
II A	498	498	151292	1	341	0.20	0.23	498.00000
B	791	791	596342	6	5241	0.76	0.88	131.83333
C	1178	1178	1722319	18	27057	1.53	1.57	65.44444
D	4066	1566	6213177	66	101026	1.62	1.63	61.60606
Midland	6533	4033	8683130	91	133665	1.39	1.54	..
III A	77	77	20310	..	..	..	..	..
B	69	69	51719	1	976	1.45	1.89	69.00000
C	145	145	215801	3	4950	2.07	2.29	48.33333
D	1161	356	1897998	19	30145	1.64	1.59	61.10526
Highland	1452	647	2185828	23	36071	1.58	1.65	..
State	10301	5887	14267540	150	221994	1.46	1.56	..

TABLE II

OBSERVED POPULATION IN THE SAMPLES & ESTIMATED POPULATION FOR STRATA

Region/ Stratum		Observed population in samples in each stratum (Retained area)			Estimated population for each stratum		
		1-1-1979	1-7-1979	1-1-1980	1-1-1979	1-7-1979	1-1-1980
(1)		(2)	(3)	(4)	(5)	(6)	(7)
I	A	650	657	661	55250	55845	56185
	B	1086	1113	1131	178104	182532	185484
	C	7927	7930	8011	699156	699420	706564
	D	47935	47849	48321	3557848	3551465	3586498
Lowland		57598	57549	58124	4490358	4489262	4534731
II	A	397	405	394	197706	201690	196212
	B	6581	6608	6624	867595	871155	873264
	C	30828	30817	31139	2432666	2431798	2457208
	D	112868	113075	113768	9173837	9190661	9246988
Midland		150674	150905	151925	12671804	12695304	12773672
III	B	1192	1207	1214	82248	83283	83766
	C	5147	5023	5104	248772	242778	246693
	D	29758	29850	30229	2544682	2552549	2584958
Highland		36097	36080	36547	2875702	2878610	2915417
State		244369	244534	246596	20037864	20063176	20223820

TABLE III

OBSERVED POPULATION IN RETAINED PORTION AND WHOLE SAMPLE POPULATION BY SEX FOR 1979 AND 1961

Stratum		Population observed in retained portion (1-7-1979)			Population in whole sample as on					
					1-7-1979			1961		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I	A	320	337	657	320	337	657	218	276	494
	B	555	558	1113	555	558	1113	315	317	632
	C	3873	4057	7930	4894	5126	10020	3714	3945	7659
	D	23276	24573	47849	29162	30787	59949	21203	22270	43473
Lowland		28024	29525	57549	34931	36808	71739	25450	26808	52258
II	A	195	210	405	195	210	405	157	184	341
	B	3195	3413	6608	3195	3413	6608	2538	2703	5241
	C	14947	15870	30817	18023	19136	37159	13148	13909	27057
	D	55557	57518	113075	73299	75886	149185	49662	51364	101026
Midland		73894	77011	150905	94712	100447	193357	65505	68160	133665
III	B	566	641	1207	566	641	1207	456	520	976
	C	2498	2525	5023	2498	2525	5023	2575	2375	4950
	D	14843	15007	29850	20771	21001	41772	15255	14890	30145
Highland		17907	18173	36080	23835	24167	48002	18286	17785	36071
State:		119825	124709	244534	153478	161422	313098	109241	112753	221994

SAMPLE REGISTRATION (RURAL SAMPLES) KERALA—1979

TABLE IV

MID YEAR POPULATION (OBSERVED IN RETAINED PORTION AND ESTIMATED POPULATION) ACCORDING TO AGE AND SEX

Age	Observed population			Estimated population		
	Male	Female	Total	Male	Female	Total
0—1	3196	3165	6361	261173	258085	519258
1—4	11817	11457	23274	966652	933901	1900553
5—9	14641	14076	28717	1194710	1154529	2349239
10—14	15304	14968	30272	1256092	1228565	2484657
15—19	13853	14234	28087	1140946	1167991	2308937
20—24	11420	13190	24610	936868	1081378	2018246
25—29	9609	10349	19958	787803	849011	1636814
30—34	7221	7898	15119	591937	650840	1242777
35—39	6030	6699	12729	494595	552580	1047175
40—44	5578	6454	12032	460441	530238	990679
45—49	5215	5886	11101	428678	482964	911642
50—54	4872	4753	9625	398303	388602	786905
55—59	3674	3580	7254	301733	294233	595966
60—64	2879	3066	5945	236726	253450	490176
65—69	2000	2104	4104	165687	172282	337969
70+	2516	2830	5346	207557	234626	442183
Total	119825	124709	244534	9829901	10233275	20063176

TABLE V

LIVE BIRTHS OBSERVED IN RETAINED PORTION AND ESTIMATED FOR STRATUM 1979

Stratum/Natural Division/State		Observed in retained portion			Estimated births		
		Male	Female	Total	Male	Female	Total
(1)		(2)	(3)	(4)	(5)	(6)	(7)
I	A	9	11	20	765	935	1700
	B	15	11	26	2460	1804	4264
	C	71	88	159	6262	7762	14024
	D	596	561	1157	44237	41639	85876
Lowland		691	671	1362	53724	52140	105864
II	A	5	3	8	2490	1494	3984
	B	74	85	159	9756	11206	20962
	C	355	357	712	28013	28171	56184
	D	1722	1632	3354	139963	132648	272611
Midland		2156	2077	4233	180222	173519	353741
III	B	16	14	30	1104	966	2070
	C	59	49	108	2852	2368	5220
	D	435	403	838	37198	34462	71660
Highland		510	466	976	41154	37796	78950
State		3357	3214	6571	275100	263455	538555

TABLE VI

AGE SPECIFIC FERTILITY RATE, G.F.R.,T.F.R. & G.R.R. 1979

Region	No. of women estimated (Age group of women)							
	15—19	20—24	25—29	30—34	35—39	40—44	45—49	All
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lowland	259162	251061	194848	141190	118219	122096	108051	1194627
Midland	748575	678533	538014	416979	357646	331138	305250	3376135
Highland	160254	151784	116149	92671	76715	77004	69663	744240
State	1167991	1081378	849011	650840	552580	530238	482964	5315002
	No. of Births (Estimated)							
Lowland	7941	43234	32682	14085	5533	2018	371	105864
Midland	40914	126720	99610	52725	24988	7115	1669	353741
Highland	7827	29923	21727	12268	5430	1176	599	78950
State (All births)	56682	199877	154019	79078	35951	10309	2639	538555
State (Female births)	29388	98601	75767	35989	17083	5375	1252	263455

TABLE VI—(Contd.)

	Age specific fertility rate							G.F.R.	T.F.R.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Lowland	30.6	172.2	167.7	99.8	46.8	16.5	3.4	88.6	2.7
Midland	54.7	186.8	185.1	126.4	69.9	21.5	5.5	104.8	3.2
Highland	48.8	197.1	187.1	132.4	70.8	15.3	8.6	106.1	3.3
State (all births)	48.5	184.8	181.4	121.5	65.1	19.4	5.5	101.3	3.1
State (Female births)	25.2	91.2	89.2	55.3	30.9	10.1	2.6	G.R.R.	1.5

TABLE VII

LIVE BIRTHS OBSERVED IN SAMPLES, CLASSIFIED BY MONTH OF OCCURRENCE—1979

Stratum/Natural division/State		No. of live births reported from samples												
		Total	January	February	March	April	May	June	July	August	September	October	November	December
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
I	A	20	..	1	3	1	2	3	2	2	1	4	..	1
	B	26	1	1	2	3	3	1	3	1	1	4	3	3
	C	159	7	13	13	19	17	15	17	5	10	14	15	14
	D	1157	92	78	90	113	89	118	118	94	75	78	97	115
	Low land	1362	100	93	108	136	111	137	140	102	87	100	115	133
II	A	8	2	..	1	1	..	..	1	1	..	..	1	1
	B	159	10	12	22	17	17	15	14	8	9	14	12	9
	C	712	47	49	55	75	65	69	70	65	61	47	48	61
	D	3354	301	277	304	295	300	287	300	245	228	290	259	268
	Mid land	4233	360	338	382	388	382	371	385	319	298	351	320	339
III	A	..	..	..	..	..	..	..	..	..	..	..	..	..
	B	30	3	..	2	7	5	4	2	..	2	4	..	1
	C	108	7	6	6	7	13	17	11	11	4	9	5	12
	D	838	71	62	65	94	68	72	69	67	69	75	60	66
	High land	976	81	68	73	108	86	93	82	78	75	88	65	79
	State	6571	541	499	563	632	579	601	607	499	460	539	500	551

TABLE VIII

LIVE BIRTHS BY TYPE OF ATTENTION AT DELIVERY—1979

Stratum		Type of attention					
		Institutional	Trained professional	Untrained professional	Non-professional	Not stated	Total
(1)		(2)	(3)	(4)	(5)	(6)	(7)
I	A	16	2	1	..	1	20
	B	22	2	2	..	..	26
	C	110	30	19	–	..	159
	D	652	335	167	3	..	1157
	Low land	800	369	189	3	1	1362
II	A	6	2	..	..	..	8
	B	100	19	40	..	–	159
	C	345	134	217	16	..	712
	D	1375	976	993	10	..	3354
	Mid land	1826	1131	1250	26	..	4233
III	B	9	14	7	..	–	30
	C	65	40	3	–	..	108
	D	283	254	254	47	–	838
	High land	357	308	264	47	..	976
	State	2983	1808	1703	76	1	6571

TABLE IX

OBSERVED DEATHS, DEATHS IN SAMPLE AREA & ESTIMATED DEATHS BY SEX—1979

Stratum	Observed deaths			Deaths in sample area			Estimated deaths		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I A	2	2	4	2	2	4	170	170	340
B	5	2	7	5	2	7	820	328	1148
C	30	25	55	38	32	70	2643	2205	4848
D	149	128	277	149	160	309	11057	9499	20556
Lowland	186	157	343	194	196	390	14690	12202	26892
II A	3	–	3	3	..	3	1494	..	1494
B	18	15	33	18	15	33	2374	1978	4352
C	118	108	226	142	130	272	9312	8524	17836
D	449	391	840	36494	31780	68274	36495	31781	68276
Midland	588	514	1102	36657	31925	68582	49675	42283	91958
III B	4	10	14	4	10	14	276	690	966
C	13	15	28	13	15	28	629	724	1353
D	158	113	271	221	158	379	13514	9665	23179
Highland	175	138	313	238	183	421	14419	11079	25498
State	949	809	1758	37089	32304	69393	78784	65564	144348

TABLE X

Number of deaths by age and sex 1979

Region	Sex	All ages	Age in years: Below 1	1–4	5–9	10–14	15–19	20–24	25–29
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Lowland	All	343	40	26	6	3	8	1	4
Midland	All	1102	196	91	34	26	10	27	18
Highland	All	313	82	28	8	3	6	8	6
	Male	949	184	70	28	16	9	14	13
	Female	809	134	75	20	16	15	22	15
	State	1758	318	145	48	32	24	36	28

Reigon	Sex	All ages	Age in years: Below 30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70+
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
Lowland	All	8	10	8	15	16	25	23	31	119	
Midland	All	19	19	28	34	63	57	78	102	300	
ighland	All	7	7	8	9	11	21	19	21	69	
	Male	20	28	30	41	63	70	68	80	215	
	Female	14	8	14	17	27	33	52	74	273	
	State	34	36	44	58	90	103	120	154	488	

TABLE

AGE SPECIFIC DEATH RATE

Stratum	Sex	All ages	Age 0–1	1–4	5–9	10–14	15–19	20–24	25–29
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Lowland	All	5.99	27.91	5.04	0.89	0.43	1.21	0.19	0.79
Midland	All	7.24	49.22	6.25	1.89	1.36	0.55	1.77	1.68
Highland	All	8.86	89.26	7.61	1.97	0.72	1.57	2.16	2.07
State	All	7.19	50.33	6.20	1.68	1.06	0.83	1.46	1.38
	Male	8.01	57.91	5.93	1.95	1.07	0.65	1.28	1.31
	Female	6.41	42.66	6.48	1.41	1.05	1.01	1.62	1.44

XI

(BASED ON ESTIMATED VALUES) 1979

group								
30–34	35–39	40-44	45–49	50–54	55–59	60–64	65–69	70+
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
2.29	3.52	3.18	5.51	6.92	13.60	15.50	30.98	85.96
1.75	2.25	3.62	4.77	11.53	12.68	20.36	39.15	89.98
3.27	4.00	4.31	5.25	7.27	20.98	23.61	38.43	113.35
2.30	2.77	3.62	5.00	9.79	14.07	19.64	37.10	91.64
2.84	4.57	5.41	7.49	13.93	19.08	23.14	39.73	88.02
1.81	1.15	2.07	2.80	5.55	8.93	16.37	34.57	94.84

TABLE XI

DEATHS OBSERVED IN (RETAINED PORTION) SAMPLES, CLASSIFIED BY MONTH OF OCCURRANCE 1979

Stratum		Total deaths	Months											
			January	February	March	April	May	June	July	August	September	October	November	December
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
I	A	4	..	..	1	..	..	..	..	..	..	1	2	..
	B	7	..	3	..	..	1	..	1	..	..	..	2	..
	C	55	7	5	4	4	3	2	8	6	7	3	4	2
	D	277	31	20	26	22	21	16	30	26	23	23	18	21
Lowland		343	38	28	31	26	25	18	39	32	30	27	26	23
II	A	3	..	1	..	..	..	..	..	1	1	..	..	..
	B	33	..	2	3	4	2	3	7	4	3	2	3	..
	C	226	20	16	18	20	15	16	16	24	21	22	17	21
	D	840	54	64	60	67	82	84	95	85	70	69	54	56
Midland		1102	74	83	81	91	99	103	118	114	95	93	74	77
III	B	14	3	2	1	1	..	..	..	1	..	2	1	3
	C	28	1	4	1	6	3	1	1	2	2	4	1	2
	D	271	24	22	23	16	17	31	36	13	28	19	23	19
Highland		313	28	28	25	23	20	32	37	16	30	25	25	24
State		1758	140	139	137	140	144	153	194	162	155	145	125	124

TABLE XIII

Deaths classified by type of medical attention–1979

Stratum		Type of medical attention				
		Total deaths	Institutional	Recognised practitioner	Unrecognised Practitioner	Not stated
(1)		(2)	(3)	(4)	(5)	(6)
I	A	4	1	..	..	3
	B	7	3	1	..	3
	C	55	25	17	..	13
	D	277	75	142	20	40
Lowland		343	104	160	20	59
II	A	3	2	..	..	1
	B	33	17	7	3	6
	C	226	79	67	47	33
	D	840	230	293	89	228
Midland		1102	328	367	139	268
III	B	14	..	10	..	4
	C	28	15	5	..	8
	D	271	74	54	43	100
Highland		313	89	69	43	112
State		1758	521	596	202	439

TABLE XIV

ESTIMATED INFANT DEATHS BY SEX & INFANT DEATH RATE FOR STRATUM—1979

Stratum		No. of Infant deaths observed in retained portion			Whole sample area			Estimated for stratum			Estimated live births	Infant deaths rate
		M	F	T	M	F	T	M	F	T		
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I	A	..	..	..	..	..	..	..	..	..	1700	..
	B	..	1	1	..	1	1	..	164	164	4264	38.46
	C	4	3	7	5	4	9	353	265	618	14024	44.07
	D	18	14	32	23	18	41	1336	1039	2375	85876	27.66
Lowland		22	18	40	28	23	51	1689	1468	3157	105864	29.82
II	A	..	..	..	..	..	..	..	..	..	3984	..
	B	5	4	9	5	4	9	659	527	1186	20962	56.58
	C	18	11	29	22	13	35	1420	868	2288	56184	40.72
	D	90	68	158	119	90	209	7315	5527	12842	272611	47.11
Midland		113	83	196	146	107	253	9394	6922	16316	353741	46.12
III	B	..	1	1	..	1	1	..	69	69	2070	33.33
	C	4	5	9	4	5	9	193	242	435	5220	83.33
	D	45	27	72	63	38	101	3848	2309	6157	71660	85.92
Highland		49	33	82	67	44	111	4041	2620	6661	78950	84.37
State		184	134	318	241	174	415	15124	11010	26134	538555	48.53

TABLE XV

POPULATION & VITAL EVENTS OBSERVED IN RETAINED PORTION AND CALCULATED FOR SAMPLE AREA—1979

Stratum		Observed in retained portion					Calculated for whole sample area				
		Population as on 1-7-1979	Births	Deaths	Still births	Infant deaths	Population as on 1-7-1979	Births	Deaths	Still births	Infant deaths
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I	A	657	20	4	..	..	657	20	4	..	..
	B	1113	26	7	..	1	1113	26	7	..	1
	C	7930	159	55	9	7	10020	201	70	11	9
	D	47849	1157	277	27	32	59949	1450	347	34	40
Lowland		57549	1362	343	36	40	71739	1697	428	45	50
II	A	405	8	3	..	..	405	8	3	..	..
	B	6608	159	33	1	9	6608	159	33	1	9
	C	30817	712	226	9	29	37158	859	273	11	35
	D	113075	3354	840	72	158	149184	4425	1108	95	208
Midland		150905	4233	1102	82	196	193355	5451	1417	107	252
III	B	1207	30	14	..	1	1207	30	14	..	1
	C	5023	108	28	2	9	5023	108	28	2	9
	D	29850	838	271	17	72	41772	1173	379	24	101
Highland		36080	976	313	19	82	48002	1311	421	26	111
State		244534	6571	1758	137	318	313096	8459	2266	178	413

TABLE XVI

ESTIMATED POPULATION, BIRTHS, DEATHS & VITAL RATES 1979

Stratum	Estimated population, births and deaths					Vital rates			
	Population 1-7-1979	Births 1979	Deaths 1979	Still births 1979	Infant deaths 1979	Birth rate	Death rate	Still birth rate	Infant death rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I A	55845	1700	340	..	..	30.44	6.09	...	..
B	182532	4264	1148	..	164	23.36	6.29	..	38.46
C	699420	14024	4848	794	618	20.05	6.94	56.62	44.07
D	3551465	85876	20556	2004	2375	24.18	5.79	23.34	27.66
Lowland	4489262	105864	26892	2798	3157	23.58	5.99	26.43	29.82
II A	201690	3984	1494	..	..	19.75	7.41	..	..
B	871155	20962	4352	132	1186	24.06	4.99	6.30	56.58
C	2431798	56184	17836	710	2288	23.10	7.33	12.64	40.72
D	9190661	272611	68276	5852	12842	29.66	7.43	21 47	47.11
Midland	12695304	353741	91958	6694	16316	27.86	7.24	18.92	46.12
III B	83283	2070	966	..	69	24.86	11.60	..	33.33
C	242778	5220	1353	97	435	21.50	5.57	18.58	83.33
D	2552549	71660	23179	1454	6157	28.07	9.08	20.29	85.92
Highland	2878610	78950	25498	1551	6661	27.43	8.86	19.65	84.37
State	20063176	538555	144348	11043	26134	26.84	7.19	20.50	48.53

TABLE XVII

Birth and Death recorded by Enumerators and Supervisors detected through overlapping survey 1979

Birth 1979

Stratum	Total netted by Enumerator & Supervisor	Common to Enumerator and Supervisor	Enumerator No	Enumerator %	Supervisor No	Supervisor %	Others	Overlapping survey	Intensive survey	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lowland	1344	1098	1172	87.2	1270	94.5	..	11	7	1362
Midland	4105	3152	3432	83.6	3825	93.2	4	115	9	4233
Highland	924	731	800	86.6	885	92.5	3	49	..	976
State	6373	4981	5404	84.8	5950	93.4	7	175	16	6571

TABLE XVII (*Contd.*)

Death 1979

Stratum	Total netted by Enumerator and Supervisor	Common to Enumerator & Supervisor	Enumerator No	Enumerator %	Supervisor No	Supervisor %	Others	Overlapping survey	Intensive survey	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Lowland	335	289	306	91.3	318	94.9	..	5	3	343
Midland	1078	850	965	89.5	963	89.3	1	20	3	1102
Highland	302	219	261	86.4	260	86.1	2	9	..	313
State	1715	1358	1532	89.3	1541	89.9	3	34	6	1758

TABLE XVIII

EXTRA EVENTS DETECTED THROUGH OVERLAPPING AND INTENSIVE SURVEY, CLASSIFIED ACCORDING TO PLACE AND KIND

Stratum	Total	Birth				Death				Total
		Place		Kind		Place		Kind		
		In	Out	Live birth	Still birth	In	Out	Infant death	Other death	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I A	..	..	..	..	..	..	..	..	..	..
B	..	..	..	..	..	..	..	..	..	..
C	..	..			..	..	..	..	..	..
D	19	5	13	18	1	5	1	..	1	1
Lowland	19	5	13	18	1	5	2	..	7	7
II A	..	..			..	..	3	..	8	8
B	6	..	6	6	..	..	..	..	..	..
C	8	7	1	8	..	..	..	..	..	..
D	107	88	16	104	3	19	..	..	..	..
Midland	121	95	23	118	3	19	4	9	14	23
III B	..	..	..	..	..	..	4	9	14	23
C	1	..	1	1	..	1	..	..	..	..
D	55	53	1	54	1	8	..	..	1	1
Highland	56	53	2	55	1	9	..	..	8	8
State	196	153	38	191	5	33	7	9	9	9
									31	40

TABLE XIX

ABRIDGED LIFE TABLE BASED ON MEAN AGE SPECIFIC DEATH RATE FOR 1977, 1978 & 1979
ALL (MALES & FEMALES)

Age x to x+n	Age specific death rate 1977	1978	1979	Central age specific death rate m_x	Probability of a person aged x dying before age x + n q_x	No. of deaths d_x	No. surviving to age x out of 100,000 born alive l_x	Years of life lived between x and x+n L_x	Years of life lived at x and above x T_x	Expectation of life in years e_x	Beginning age x
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
< 1	51.47	48.02	50.33	0.04994	0.04853	4853	100000	95544	6535193	65.35	0
1–4	7.35	6.68	6.20	0.00674	0.02651	2521	95147	375546	6439649	67.68	1
5–9	2.16	1.54	1.68	0.00179	0.00891	825	92626	461068	6064103	65.47	5
10–14	0.92	0.81	1.06	0.00093	0.00464	426	91801	457940	5603035	61.03	10
15–19	0.97	0.85	0.83	0.00088	0.00439	401	91375	455873	5145095	56.31	15
20–24	1.92	1.61	1.46	0.00166	0.00827	752	90974	452990	4689222	51.54	20
25–29	1.59	1.86	1.38	0.00161	0.00802	724	90222	449300	4236232	46.95	25
30–34	1.68	2.17	2.30	0.00205	0.01020	913	89498	445208	3786932	42.31	30
35–39	2.38	2.85	2.77	0.00267	0.01326	1175	88585	439988	3341724	37.72	35
40–44	3.96	4.48	3.62	0.00402	0.01990	1739	87410	432703	2901736	33.20	40
45–49	5.30	6.64	5.00	0.00565	0.02786	2387	85671	422383	2469033	28.82	45
50–54	7.32	6.80	9.79	0.00797	0.03907	3254	83284	408285	2046645	24.57	50
55–59	15.22	14.87	14.07	0.01472	0.07099	5681	80030	385948	1638360	20.47	55
60–64	28.02	25.35	19.64	0.02434	0.11472	8529	74349	350423	1252412	16.85	60
65–69	34.44	38.23	37.10	0.03659	0.16762	11033	65820	301518	901989	13.70	65
70&above	91.31	90.78	91.64	0.09124	1.00000	54787	54787	600471	600471	10.96	70

TABLE XX

ABRIDGED LIFE TABLE BASED ON MEAN AGE SPECIFIC DEATH RATE FOR 1977, 1978 AND 1979 (MALES)

Age x to x + n	Age specific death rate 1977	1978	1979	Central age specific death rate m n x	Probability of a person aged x dying before age x + n q x	No. of deaths d x	No. surviving to age x out of 100,000 born alive l x	Years of life lived between x & x + n L x	Years of life lived at x and above x T x	Expectation of life in years e x	Beginning age x
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
∠1	56.25	52.39	57.91	0.05552	0.05496	5496	100,000	94,982	6,382,001	63.82	0
1–4	6.88	5.67	5.93	0.00616	0.02434	2300	94,504	373,416	6,287,019	66.53	1
5–9	1.83	1.02	1.95	0.00160	0.00797	735	92,204	459,183	5,913,603	64.14	5
10–14	0.94	0.45	1.07	0.00082	0.00409	374	91,469	456,410	5,454,420	59.63	10
15–19	0.82	1.03	0.65	0.00083	0.00414	377	91,095	454,533	4,998,010	54.87	15
20–24	2.01	1.48	1.28	0.00159	0.00792	718	90,718	451,795	4,543,477	50.08	20
25–29	1.25	1.95	1.31	0.00150	0.00747	672	90,000	448,320	4,091,682	45.46	25
30–34	1.89	2.22	2.84	0.00232	0.01153	1030	89,328	444,065	3,643,362	40.79	30
35–39	2.66	3.77	[illegible].57	0.00367	0.01818	1605	88,298	437,478	3,199,297	36.23	35
40–44	4.58	4.79	5.41	0.00493	0.02435	2111	86,693	428,188	2,761,819	31.86	40
45–49	7.09	7.75	7.49	0.00744	0.03652	3089	84,582	415,188	2,333,631	27.59	45
50–54	8.87	6.87	13.93	0.00989	0.04826	3933	81,493	397,633	1,918,443	23.54	50
55–59	18.21	16.17	19.08	0.01782	0.08530	6616	77,560	371,260	1,520,810	19.61	55
60–64	28.72	32.37	23.14	0.02808	0.13119	9307	70,944	331,453	1,149,550	16.20	60
65–69	45.97	44.88	39.73	0.04353	0.19629	12099	61,637	277,938	818,097	13.27	65
70 & above	91.80	95.32	88 02	0.09171	1.00000	49,538	49,538	540,159	540,159	10.90	70

TABLE XXI

ABRIDGED LIFE TABLE BASED ON MEAN AGE SPECIFIC DEATH RATE FOR 1977, 1978 & 1979 (FEMALES)

Age x to x + n	Age specific death rate 1977	1978	1979	Central Age specific death rate m n x	Probability of a person aged x dying before age x + n q x	No. of deaths d x	No. surviving to age x out of 100,000 born alive l x	Years of life lived between x & x + n L x	Years of life lived at x and over x T x	Expectation of life in years e x	Beginning age x
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
∠1	46.70	43.54	42.66	0.04430	0.04181	4181	100000	96131	6691009	66.91	0
1–4	7.85	7.72	6.48	0.00735	0.02897	2776	95819	377724	6594878	68.83	1
5–9	2.49	2.06	1.41	0.00199	0.00990	921	93043	462913	6217154	66.82	5
10–14	0.91	1.18	1.05	0.00105	0.00524	483	92122	459402	5754241	62.46	10
15–19	1.12	0.68	1.01	0.00094	0.00469	430	91639	457120	5294839	57.78	15
20–24	1.84	1.73	1.62	0.00173	0.00861	785	91209	454083	4837719	53.04	20
25–29	1.92	1.77	1.44	0.00171	0.00851	770	90424	450195	4383636	48.48	25
30–34	1.48	2.12	1.81	0.00180	0.00896	803	89654	446263	3933441	43.87	30
35–39	2.13	2.03	1.15	0.00177	0.00881	783	88851	442298	3487178	39.25	35
40–44	3.41	4.21	2.07	0.00323	0.01602	1411	88068	436813	3044880	34.57	40
45–49	3.64	5.63	2.80	0.00402	0.01990	1724	86657	428975	2608067	30.10	45
50–54	5.69	6.72	5.55	0.00599	0.02951	2506	84933	418400	2179092	25.66	50
55–59	12.20	13.56	8.93	0.01156	0.05618	4631	82427	400558	1760692	21.36	55
60–64	27.35	18.52	16.37	0.02075	0.09863	7673	77796	369798	1360134	17.48	60
65–69	23.61	32.11	34.57	0.03010	0.13997	9815	70123	326078	990336	14.12	65
70 & above	90.87	36.66	94.84	0.09079	100000	60308	60308	664258	664258	11.01	70

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