

VITAL STATISTICS - A TREND ANALYSIS

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I. Introduction

Demographic data are required for planning programme implementation, monitoring and evaluation as well as for the research in various fields. Usually demographic data are drawn from various sources such as population census, civil registration system as well as sample survey. Census data are available only once in every 10 year. So it is unable to obtain the demographic estimates for the period between two census. So CRS has practically become important in this modern era where success of all socio economic programme is measured and monitored by getting indicators based on the data from registration records. This report has been prepared on the basis of data from civil registration records.

In India the registration of vital events and the administrative machinery for this purpose has been in existence for more than a century. It had been working under diversified Acts and executive instructions thus making it unsuitable for the independent India. The need for dependable demographic data was felt soon after independence heralding the era of Five Year planning. In the beginning the registration of births and deaths started on voluntary basis and there was no uniformity in statistical returns resulting in both under registration and incomplete coverage. In order to unify the civil registration activities, the Civil Registration System was introduced in India under the Registration of Births and Deaths Act (RBD Act), 1969.

Civil Registration System may be defined as a continuous recording of vital events such as births, deaths and marriages occurring in a population. The registration records are primarily useful for their value as their legal documents and secondarily as a source of vital statistics. The registration records generate current and continuous statistics, which can be available in lower administrative level.

Registration of Births and Deaths Act 1969

This Act replaced the then existed laws and unified the system of registration through out the country. Under the RBD Act the registration of births and deaths was made compulsory; it has become mandatory on the part of head of house hold or his representative to report and register domiciliary vital events, for medical officers in charge of medical institution in respect of births and deaths occurring in these institution. The Act also provided the statutory authority at Center, State, District and Peripheral level. It prescribed definitions, principles, personnel and penalties connected with enforcement of the Act. It enabled Central Government to insist uniformity in registration procedures and bring out comparability in vital statistics registered in different parts of the country.

National Level

At national level the Registrar General of India (RGI) administers CRS. He is empowered to issue general directions and take steps to co-ordinate and unify the activities of Chief Registrars of the States, who are the Chief Executive authority in the states for executing the provision of RBD Act 1969 and the rules and orders made there under. They were responsible for coordinating, unifying and supervising the work of CRS within their respective state.

State Level

Prior to the implementation of RBD Act 1969, the Director of Health services designated as the Registrar General of the State for the registration of births and deaths. In the Travancore Cochin portion of the state consisting of six districts viz, Trivandrum, Quilon, Kottayam, Alleppy, Ernakulam and Thrissur, the District Medical officers acted as the district registrars. In the Malabar area, consisting of three districts viz; Palakkad, Kozhikkode and Kannur, The District Collectors acted as the district registrars of births and deaths. The health assistants of the Department of Health Services in the Travancore Cochin region attended the registration work in the rural areas

whereas in Malabar region it was attended by the village staff of the Revenue Department. In the Municipal area the municipal/corporation staff did the work. At the lowest level the health assistants in T.C. areas and village officers in Malabar area who were designated as “Registrars” were responsible for the maintenance of birth and death registers. The details of the vital events were transferred to the birth and death cards prescribed by the Bureau of Economics and Statistics. The cards are forwarded periodically to the taluk registrars in rural areas and to the municipal/corporation commissioners in the municipal areas who in turn forwarded them to the Bureau of Economics and Statistics for compilation, consolidation and report writing.

The Registration of Births and Deaths Act 1969 (Central Act 18 of 1969) came into force in Kerala on 1st April 1970 by the Government of India Gazette notification dated 21st march 1970 along with many other states. The Kerala Registration of Births and Deaths Rules 1970 published in G.O.(P)No.7/70/LAD dated 29th June 1970 by S.R.O.No.262/70 Gazette dated 1st July 1970 have been approved by the Government of India under section 10(1) of the said Act.

Organizational Setup in Kerala State

- **Chief Registrar**

The Director of Panchayaths, Government of Kerala is the Chief Registrar of Births and Deaths.

- **Additional Chief Registrar**

The Additional Director of Economics and Statistics Department is the Additional Chief Registrar of Births and Deaths.

- **Deputy Chief Registrar**

A Deputy Chief Registrar assists the Chief Registrar in the day-to-day affairs relating to the registration of Births and Deaths at the State level.

Another Deputy Chief Registrar assists the Additional Chief Registrar who is the Deputy Director of Economics and Statistics Department.

- **District Registrars**

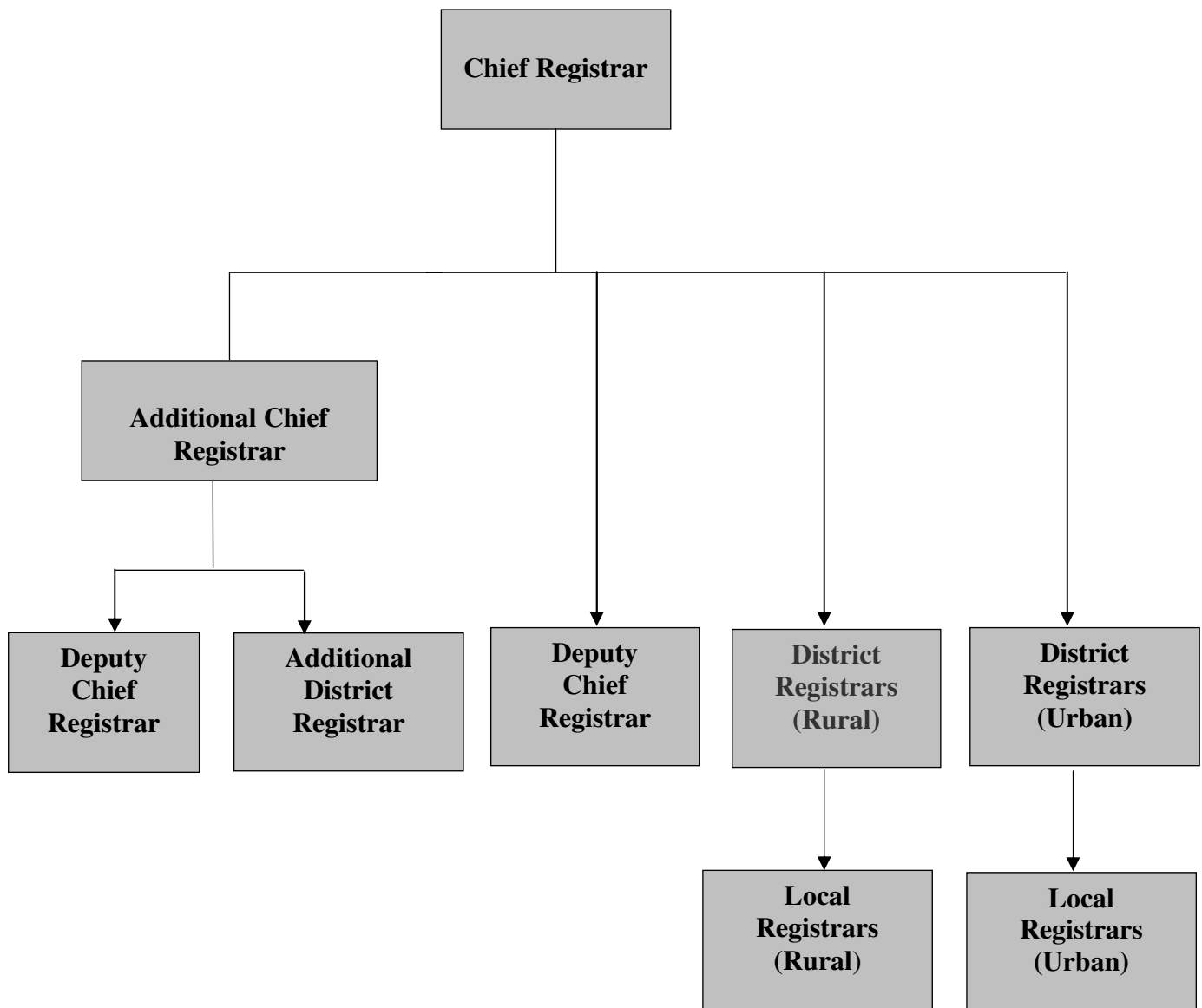
The Deputy Directors of Panchayaths of the 14 districts in the State are functioning as the District Registrars. The Secretaries of Corporations and Municipalities and the Executive Officer of Kannur Cantonment area are exercising the powers of District Registrars.

- **Additional District Registrars**

The Deputy Directors of the 14 District Statistical offices are functioning as the Additional District Registrars of Births and Deaths of respective revenue districts.

- **Registrars**

The Secretaries of Grama Panchayaths, Health Officers of Corporations, Health Inspectors of Municipalities and Executive Officer of Kannur Cantonment area are functioning as the Registrars of births and deaths.



Each local registrar maintains an office for the purposes of registering vital events. He has to register all information on births and deaths, which take place in his jurisdiction. This information is provided in standard format for live births, deaths and stillbirths. The prescribed form for birth registration contains information on date of occurrence/registration, usual residence of mother, place of birth, sex and weight of the child, order of birth, type of medical attention at birth, type of delivery and characteristics of the parents including their name, age, religion, educational status, occupation etc. In the case of death,

information includes name, sex, age, marital status, religion, occupation, usual residence of the deceased, place of occurrence, date of occurrence/registration, cause of death, whether medically certified or not and kind of medical attention received at the time of death and characteristics of the mother, pregnancy period etc. in the case of still births.

Under the RBD Act 1969, it is required that, each vital event should be reported within 21 days from the date of occurrence of the event. This Act also provides registration of events beyond 21 days on payment of some penalty and in the case of large delays after taking permission of the District Magistrates.

Registration Units in Kerala as on 01-01-2010

<u>Rural</u>	
Grama Panchayaths	999
<u>Urban</u>	
Corporations	5
Municipalities	53
Kannur Cantonment	1
Total	1058

The statistical part of the vital events registered in the above units, are forwarded to the district offices of Economics and Statistics Department on monthly basis. Annual data is forwarded to the Directorate from each District for the preparation of the Annual Statistical report.

2. Analysis

This report highlights the important features of live births and deaths by analyzing few demographic and socio economic characteristics in the registration records. Detailed tables available for the period from 1958 to 2008 are included in this report. Kerala was divided in the present administrative set up of 14 districts in the year 1985. So the district wise analysis is done from that year onwards. Wherever possible separate analysis of data relating to the period before (1958 –1969) and after (1970 onwards) the implementation of RBD Act is given. The data and the vital rates are arrived on the basis of place of occurrence of events. The criteria for including an event are based on the year of registration.

2.1 LIVE BIRTHS

Live births and birth rates

This report provides data on live births registered in Kerala and their characteristics from 1958 to 2008. Number of live births registered and CBR are presented in Table 1.

Crude Birth Rate (CBR)

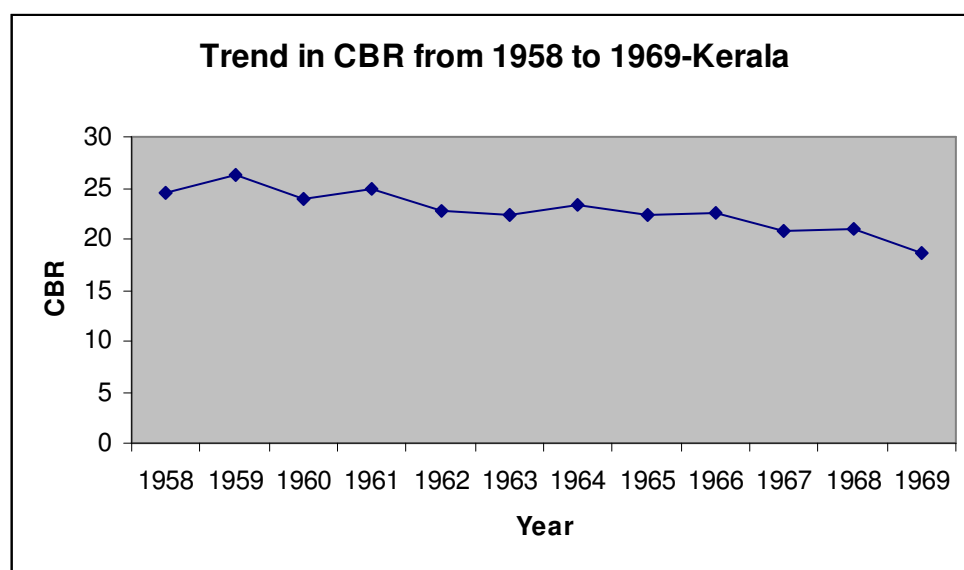
Fertility measures the rate at which a population adds to itself by births and is normally assessed by relating the number of births to the size of some section of population. The commonly used fertility measures are Crude birth rate, age-specific fertility rate total fertility rate, gross reproduction rate etc;. Out of the above fertility measures, CBR of the state from the year 1958 onward is included in this report.

CBR is the simplest of all the measures of fertility and relate the number of live births to the total population. This provides an index of the relative speed at which additions are being made through childbirth. It is defined as a ratio of the total number of births during a given year and a given geographical area to

the average (or mid-year) population ever lived in that year and geographical area. CBR should not be used to compare the levels of fertility for any two populations because they may differ widely in their age-sex, composition.

Focusing on the period prior to the implementation of the RBD Act it can be seen that Crude Birth Rate of the state had declined from 24.58 in 1958 to 18.64 in 1969. It can be observed that during the above period, birth rate shows a fluctuating trend. This may be due to the variation in the level of registration of events. The trend is shown in the chart given below

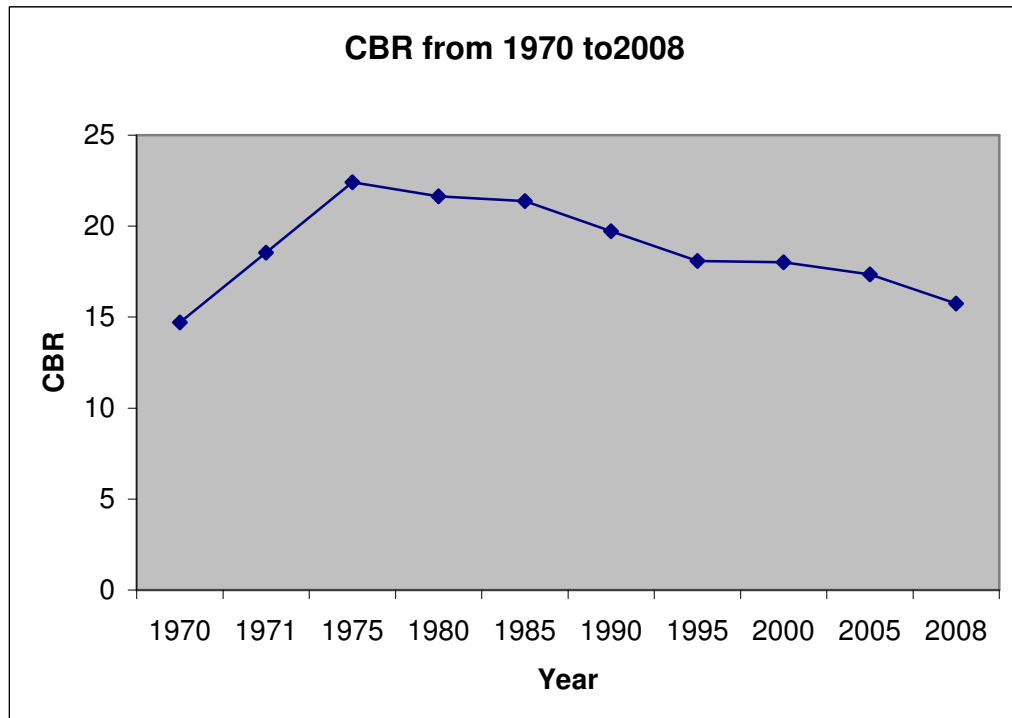
Chart 2.1.1



As mentioned in the introduction, before 1970 the responsibility for registering the vital events was entrusted with Health and Revenue departments. The RBD Act 1969 came in to force in Kerala on 1st April 1970. Under the provisions of this act the registration of Births and Deaths made compulsory and mandatory. As a result the organizational set up for executing the process of registration underwent a significant change at state/district level. On analyzing the registration data for the year 1970 it has been observed that there is a significant decline in the birth rate as compared with the previous and succeeding years. This might be due to the teething troubles that have occurred in the implementation of the above said Act. The chart given below depicts the

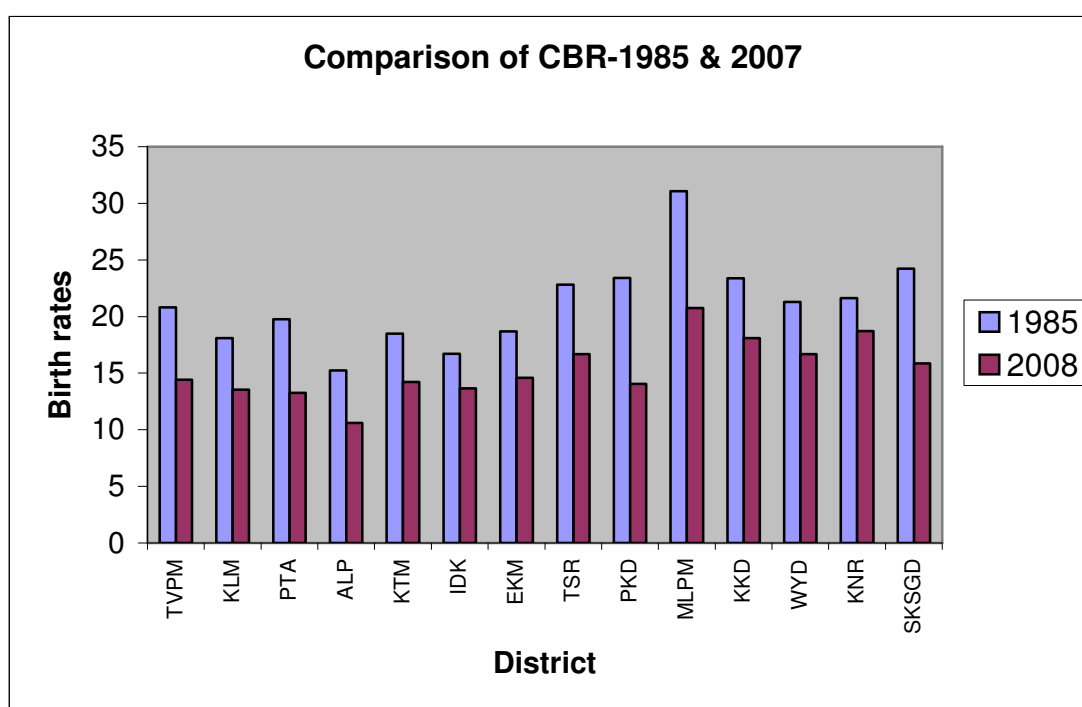
variation of CBR in Kerala from 1970 to 2008. The chart 2.1.2 reveals that after 1975 the CBR shows a decreasing trend.

Chart 2.1.2



District wise birth rates of Kerala from 1970 onwards are furnished in table 2 of Appendix. As far as the district wise birth rate is considered, the highest and lowest birth rates are reported from Malappuram and Alappuzha respectively since 1985. Birth rate of all districts has declined in 2008 when compared with 1985. This is evident from the chart given below.

Chart 2.1.3



Sex Ratio at Birth

The Sex ratio at birth or the proportion of male to female births occurring in a population determines the relative number of males and females entering in a population. It is a biological entity, and varies only in a narrow range from one population to another population. Universally, it is observed that sex ratio at birth is about 104 to 106 male births to 100 female births. Due to higher proportion of male births, juvenile sex ratios (JSRs) are always favorable to males. The following table gives sex ratio of Kerala for the period from 1970-2008

Table 2.1.1

Sex ratio at birth, Kerala-1970-2008

Year	Sex ratio at birth
1970	107
1976	106
1980	105
1985	105
1990	110

1995	106
2000	100
2005	105
2008	105

Type of medical attention received at the time of delivery

Table 2.1.2 presents the distribution of live births by type of medical attention received at the time of delivery from 1976 to 2008. It may be observed from the statement that major portion of live births have occurred in institutions. It is worthwhile to mention that a significant proportion, of live births were attendant by trained health professionals or occurred at health care institutions. Another observation that can be made from the statement is that cases attended by traditional birth attendants/ relatives and others has declined over the years from 1976 to 2008. However the practice of using the service of traditional birth attendants/ relatives and others is still in existence. In spite of having enough modern medical facilities across the state, a small portion of live births (2.17%) is attended by the traditional birth attendant/relatives in the year 2008. Number of live births registered by type of medical attention at birth for the period from 1975 to 2008 is furnished in table 5 of Appendix.

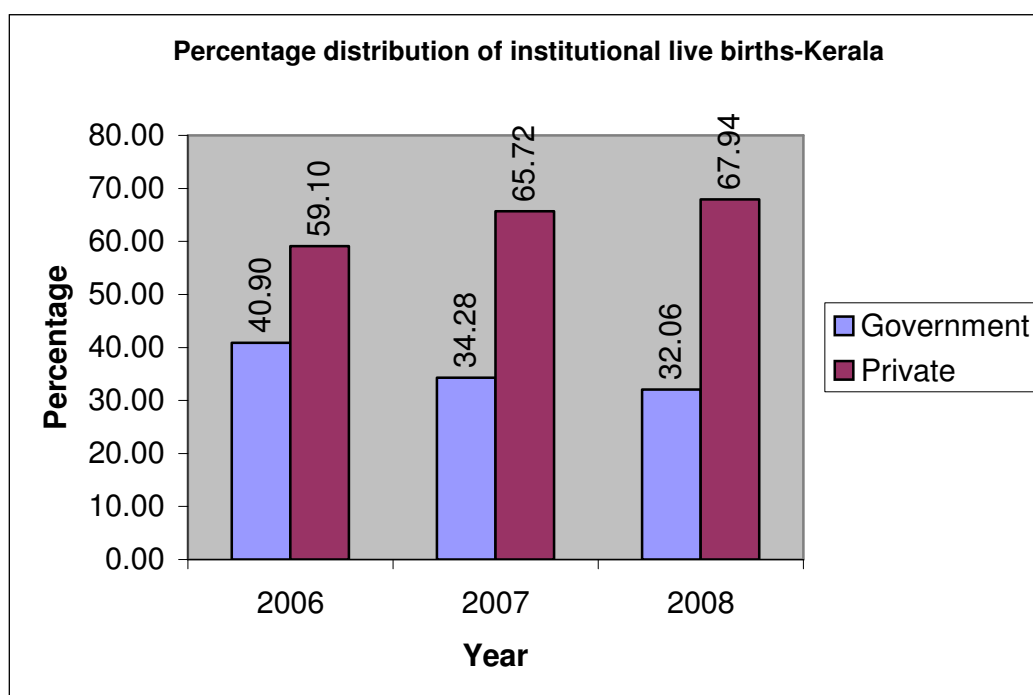
Table 2.1.2
Percentage distribution of live birth by medical attention at birth-
Kerala-1976-2008

Year	Type of attention at delivery				Total
	Institutions	Doctors, Nurses and Midwives	Traditional birth attendants	Relatives and others	
1976	49.80	9.04	17.54	23.62	100.00
1980	71.50	4.85	15.55	8.10	100.00
1985	78.85	2.67	5.74	12.75	100.00
1990	93.59	0.64	3.92	1.85	100.00
1995	95.23	0.97	3.76	0.04	100.00
2000	95.29	2.30	1.61	0.80	100.00
2005	78.33	17.77	1.61	2.29	100.00
2008	95.33	2.39	1.53	0.74	100.00

Distribution of institutional live births

Percentage distribution of institutional live births registered in Kerala during the past three years are presented in the chart 2.1.4. From the chart it is observed that the number live births occurred in private institutions are higher than that in Government institutions. Another observation that can be made from the chart is that percentage of live births occurred in private institutions shows an increasing trend whereas in the case of Government institutions it shows a decreasing trend under the reference period. This may be due to effective as well as personnel care offered by the private institutions.

Chart 2.1.4



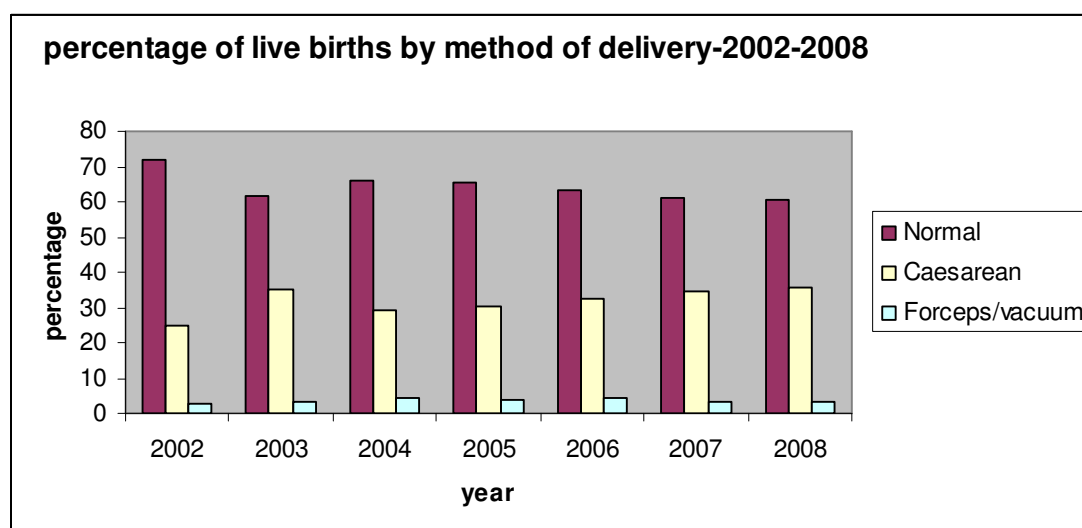
Live births by method of delivery

The percentage distribution of registered live births by method of delivery for the past seven years is given in the table furnished below. It is observed that normal delivery constitute about more than 60% of all registered live births. The chart below shows the pictorial representation of the above.

Table 2.1.3
Percentage distribution of registered live births by institutions and method of delivery - Kerala

Method of delivery/Year	Normal	Caesarean	Forceps/vacuum	Not stated	Total
2002	71.78	24.95	2.87	0.40	100.00
2003	61.55	35.03	3.27	0.15	100.00
2004	66.14	28.98	4.22	0.66	100.00
2005	65.56	30.38	3.94	0.13	100.00
2006	63.10	32.45	4.21	0.24	100.00
2007	60.88	34.63	3.24	1.25	100.00
2008	60.73	35.84	3.25	0.18	100.00

Chart 2.1.5



Live births by age of mother

Distribution of live births by age of mother from 1970 to 2008 is furnished in table 6 of Appendix. The table 2.1.4 below presents the percentage distribution of the above. The data reveals that the highest number of live births occurred were from the mothers belonging to the age group 20-24, followed by the age group 25-29 and there after it declined gradually with age. Analysis

reveals that percentage of live births declined from 8.85 in 1970 to 5.82 in 2008 in the case of mothers in the age group 15-19. It indicates that proportion of girls getting married before 18 years of age is not negligible. Percentage of live birth has decreased from 3.41 in 1970 to 0.31 in 2008 in the case of mothers in the age group 40&above.

Table 2.1.4
Percentage distributions of live births by age of mother – Kerala

Year	Age of mother (years)								
	Below 15	15-19	20-24	25-29	30-34	35-39	40 and above	Not stated	Total
1970	0.01	8.85	32.41	26.24	16.73	12.01	3.41	0.33	100
1977	0.01	10.11	39.21	27.63	11.88	8.27	2.74	0.15	100
1982	0.00	10.58	41.97	29.87	10.93	5.22	1.22	0.21	100
1985	0.00	13.02	42.53	29.09	10.01	4.23	0.81	0.31	100
1990	0.00	10.49	44.81	31.29	9.61	3.27	0.51	0.01	100
1995	0.00	9.07	45.44	32.93	8.98	2.09	0.24	0.00	100
2000	0.00	6.65	38.71	39.12	11.82	3.32	0.38	0.00	100
2005	0.00	6.68	40.82	36.08	13.25	2.95	0.19	0.02	100
2008	0.00	5.82	38.92	36.57	13.85	3.35	0.31	1.18	100

Live births by birth order

Table 7 of Appendix gives the number of registered live births by birth order for the year from 1970 to 2008. Percentage distribution of live births by birth order is presented in the table 2.1.5. On analysis it can be seen that among the registered live births major portion is of first order followed by second order and there after it gradually declined for higher birth orders. It also reveals that percentage of higher order births has decreased over the period 1970-2008. This phenomenon explains the state's low fertility levels. When the fertility is low, birth rates are low, the no of children born is low and consequently the population is old.

Table 2.1.5
Percentage distributions of live birth-by-birth order –Kerala

Birth order	Birth order							
	1	2	3	4	5	6+	Not stated	Total
1970	24.92	19.87	16.01	12.32	9.08	17.16	0.64	100
1977	29.65	24.81	16.78	10.30	6.69	11.17	0.60	100
1982	34.81	27.83	18.00	8.14	4.47	6.29	0.45	100
1985	40.63	28.59	16.40	6.63	3.06	4.56	0.49	100
1990	45.01	33.98	12.97	3.86	1.85	2.32	0.06	100
1995	47.40	36.59	10.60	3.21	1.16	1.04	0.02	100
2000	42.35	42.24	10.85	2.86	0.96	0.73	0.04	100
2005	52.05	35.67	9.81	2.01	0.30	0.13	0.00	100
2008	47.75	37.40	10.17	2.36	0.63	0.42	0.01	100

Live births by duration of pregnancy and birth weight

A clear association between duration of pregnancy and birth weight can be observed from the table given below. During 2006, 12.91% of the babies were born with low birth weight (less than 2.5Kg) where as in 2008 it is 13.08%. Cases of babies born with LBW decreases with increase in duration of pregnancy. It is quite evident from the table. Number of live births registered by duration of pregnancy and birth weight for the year from 2002 to 2008 is given in the table 8 of Appendix.

Table 2.1.6
Percentage distribution of live births by duration of pregnancy and birth weight Kerala-2006-08

2006						
Duration of pregnancy (weeks)	Birth weight (Kg)					
	<2.5	2.5-3.0	3.0-4.0	4+	Not stated	Total
<32	67.47	15.12	13.71	3.39	0.32	100
32-36	44.91	39.47	14.63	0.97	0.03	100
37-39	14.10	40.68	43.71	1.50	0.00	100
40	10.26	33.93	53.91	1.90	0.00	100
41+	11.35	37.07	50.06	1.53	0.00	100
Total	12.91	37.23	47.92	1.92	0.02	100

2007						
Duration of pregnancy (weeks)	Birth weight (Kg)					
	<2.5	2.5-3.0	3.0-4.0	4+	Not stated	Total
<32	71.38	12.00	14.00	1.85	0.77	100
32-36	36.32	32.25	29.83	0.82	0.78	100
37-39	12.53	39.18	46.72	1.24	0.33	100
40	9.32	36.23	52.67	1.54	0.24	100
41+	9.56	34.45	54.32	1.67	0.00	100
Total	13.34	37.00	46.75	1.32	1.58	100

2008						
Duration of pregnancy (weeks)	Birth weight (Kg)					
	<2.5	2.5-3.0	3.0-4.0	4+	Not stated	Total
<32	76.13	14.42	8.88	0.36	0.2	100
32-36	34.67	33.57	30.35	0.9	0.51	100
37-39	11.87	38.54	48.11	1.29	0.19	100
40	8.6	35.21	54.28	1.7	0.21	100
41+	7.1	30.29	60.87	1.74	0	100
Total	13.08	36.89	48.21	1.38	0.45	100

Live births by age of mother and birth weight

Table 9 of Appendix presents the distribution of live births by age of mother and birth weight for past seven years. Percentage distribution of the same for the years 2006 to 2008 is furnished in the table given below. It is observed that cases of low birth weight babies are more to mothers in the

higher age group of 40-44 and 45 and above and also in the lower age below 15.

Table 2.1.7
Percentage distribution of live births by age of mother and birth weight
Kerala-2006-08

2006						
Age of mother (years)	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
<15	33.33	50.00	16.67	0.00	0.00	100
15-19	14.22	41.72	42.90	1.15	0.01	100
20-24	13.17	38.68	46.58	1.56	0.00	100
25-29	12.40	35.78	49.74	2.08	0.00	100
30-34	12.62	35.07	49.94	2.38	0.00	100
35-39	13.91	36.28	46.92	2.90	0.01	100
40-44	16.05	38.22	41.67	4.06	0.00	100
45 and above	16.00	37.33	40.67	6.00	0.00	100

2007						
Age of mother (years)	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
<15	25.00	25.00	50.00	0.00	0.00	100
15-19	15.38	41.96	41.67	0.65	0.34	100
20-24	13.77	38.80	45.97	1.08	0.38	100
25-29	12.54	36.35	49.16	1.45	0.51	100
30-34	13.51	35.14	48.87	1.88	0.59	100
35-39	16.45	34.91	45.79	1.96	0.89	100
40-44	19.95	34.32	40.28	2.31	3.14	100
45 and above	25.00	32.69	32.05	1.28	8.97	100

2008						
Age of mother (years)	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
<15	14.29	85.71	0.00	0.00	0.00	100.00
15-19	14.40	41.02	43.67	0.65	0.26	100.00
20-24	13.27	38.24	46.99	1.12	0.38	100.00
25-29	12.31	35.77	49.94	1.52	0.46	100.00
30-34	13.30	34.66	49.71	1.88	0.46	100.00
35-39	15.48	35.44	46.36	2.01	0.71	100.00
40-44	19.83	34.25	42.03	2.31	1.58	100.00
45 and above	24.48	34.97	30.77	0.00	9.79	100.00

Live birth-by-birth order and birth weight

Table 2.1.8 reveals that birth order is not significantly associated with the birth weight. In all birth orders majority of birth falls in the category of birth weight 3-4Kg. Number of live births registered by birth order and birth weight for the period from 2002 to 2008 is furnished in table 10 of Appendix.

Table 2.1.8
Percentage distribution of Live birth by birth order and birth weight
Kerala-2006-08

2006						
Birth order	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
1	13.46	39.18	45.95	1.40	0.00	100.00
2	12.32	35.76	49.97	1.96	0.00	100.00
3	12.73	35.10	49.39	2.78	0.00	100.00
4+	12.65	34.44	48.35	4.57	0.00	100.00
All	13.46	39.18	45.95	1.40	0.00	100.00

2007						
Birth order	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
1	14.20	39.05	45.34	1.12	0.29	100
2	12.42	36.34	49.35	1.47	0.42	100
3	13.63	35.13	48.73	1.61	0.90	100
4+	14.73	33.18	47.41	2.03	2.65	100
All	13.34	37.00	46.75	1.32	1.58	100

2008						
Birth order	Birth weight (Kg)					
	<2.5	2.5-3	3-4	4+	Not stated	Total
1	13.78	38.31	46.54	1.16	0.22	100.00
2	12.05	35.98	49.98	1.52	0.46	100.00
3	13.34	34.75	49.49	1.67	0.75	100.00
4+	13.85	33.27	48.75	2.01	2.12	100.00
All	13.08	36.89	48.21	1.38	0.45	100.00

Live births by method of delivery and age of mother

The delivery characteristics by mother's age are presented in the tables given below. It reveals that percentage of normal deliveries decreases where as that of caesarean cases increases. As we analyses mothers age group it can be observed that occurrence of caesarean deliveries are more in the case of mothers belonging to higher age group. This is quite evident from the statement. Distribution of live births registered by age of mother and method of delivery for the period from 2002 to 2008 is given in table 11 of Appendix.

Table 2.1.9
Percentage distribution of live births by method of delivery and age group
Kerala-2006-08

2006									
Method of delivery	Age of mother (years)								
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45 and above	Total
Normal	66.67	71.68	66.78	60.97	56.67	53.45	53.06	74.00	63.10
Caesarean	16.67	20.00	28.25	35.21	40.34	43.77	44.58	25.33	32.45
Forceps/ Vacuum	16.67	8.07	4.76	3.63	2.81	2.56	2.06	0.67	4.21
Not stated	0.00	0.25	0.20	0.18	0.18	0.22	0.30	0.00	0.24
Total	100	100	100	100	100	100	100	100	100

2007									
Method of delivery	Age of mother (years)								
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45 and above	Total
Normal	50.00	70.90	65.25	59.78	54.62	50.90	52.02	62.18	60.88
Caesarean	0.00	21.66	30.76	37.42	43.22	46.89	46.82	35.90	34.63
Forceps/Vacuum	25.00	7.24	3.83	2.66	2.02	2.02	0.77	0.00	3.24
Not stated	25.00	0.20	0.16	0.14	0.14	0.19	0.39	1.92	1.25
Total	100	100	100	100	100	100	100	100	100

2008									
Method of delivery	Age of mother (years)								
	<15	15-19	20-24	25-29	30-34	35-39	40-44	45 and above	Total
Normal	42.86	70.21	64.42	58.78	54.30	50.65	47.14	60.84	60.74
Caesarean	28.56	22.74	31.53	38.49	43.53	47.36	50.97	37.06	35.86
Forceps/Vacuum	14.29	6.80	3.89	2.60	1.99	1.82	1.71	1.40	3.24
Not stated	14.29	0.25	0.16	0.13	0.18	0.17	0.18	0.70	0.16
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

2.2. DEATHS

Death rates measure the relative frequency of deaths in a particular population in a specified interval.

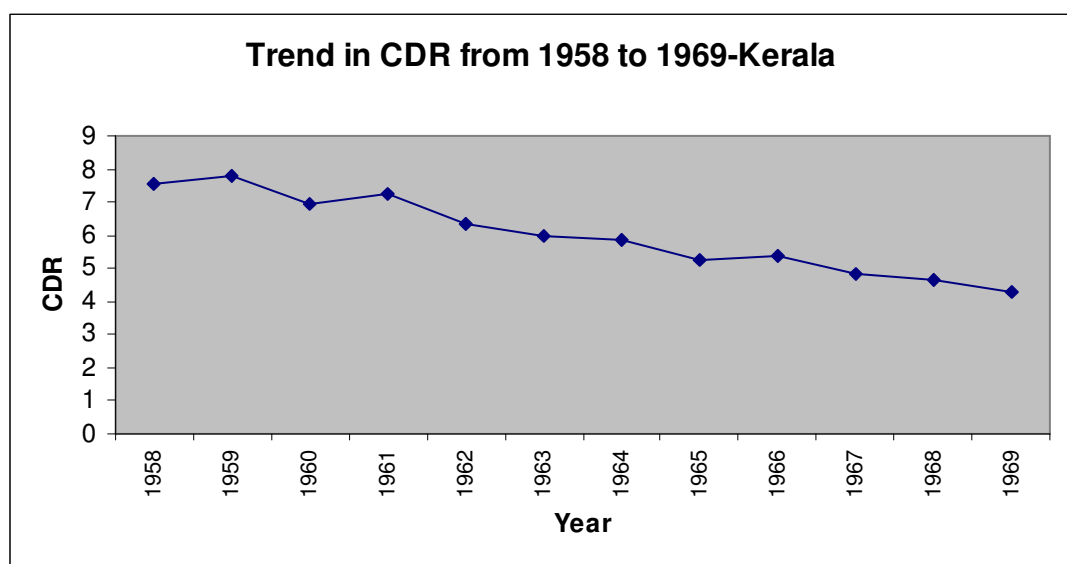
Crude Death Rate (CDR)

The Crude Death Rate is the most commonly used and widely available index of the level of mortality. CDR is defined as the total number of deaths in a given year and geographical region per one thousand mid-year population in that year and geographical region. The CDR for any period gives the rate at which the population is depleted through deaths over the course of the period. The CDR also provides us a general idea about the trend in mortality in a particular area over short period of time. Another important use of this simplest index of mortality is that it provides one of the bases for computing the rate of natural increase in population. On the basis of CDR, one can guess

the level of mortality of an entire population and reach preliminary conclusions about trends of mortality situation of a particular community over a short period of time. CDR is excellent for observing yearly or seasonal fluctuations, because such a period is normally too short to introduce serious change in composition in a population

Crude Death Rate of the state had declined from 7.57 in 1958 to 4.29 in 1969. It can be seen that during 1958 to 1961, death rate shows a fluctuating trend. After that period it shows a decreasing trend.. The trend is shown in the chart given below.

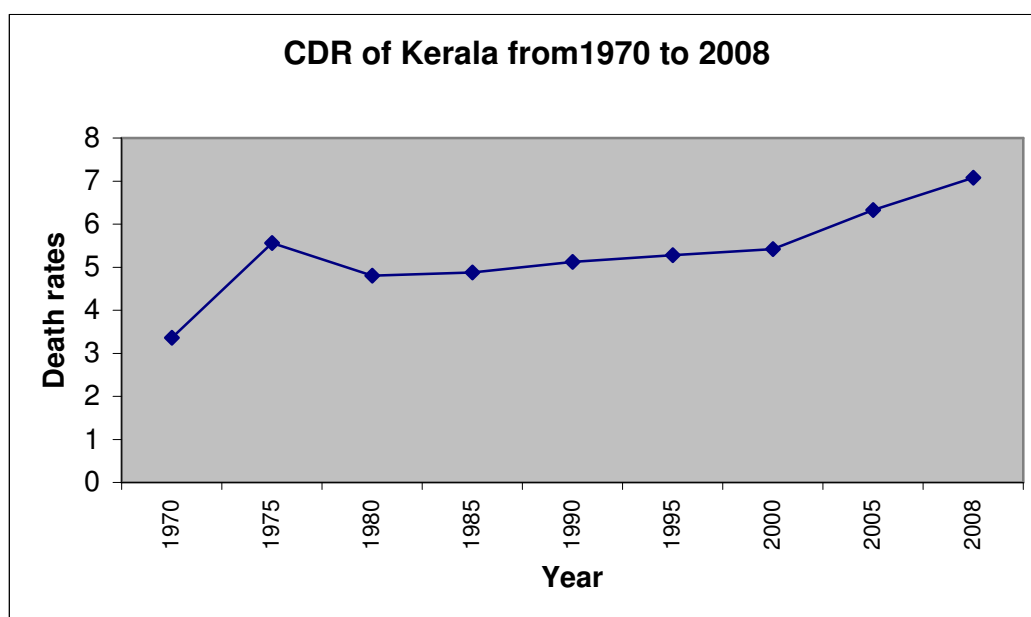
Chart 2.2.1



Analysis of death rate reveals that after the year 1970, CDR shows an increasing trend as compared to the decline in the previous period. It is evident from the chart 2.2.2. Several factors have played their role in this reversal. They are :

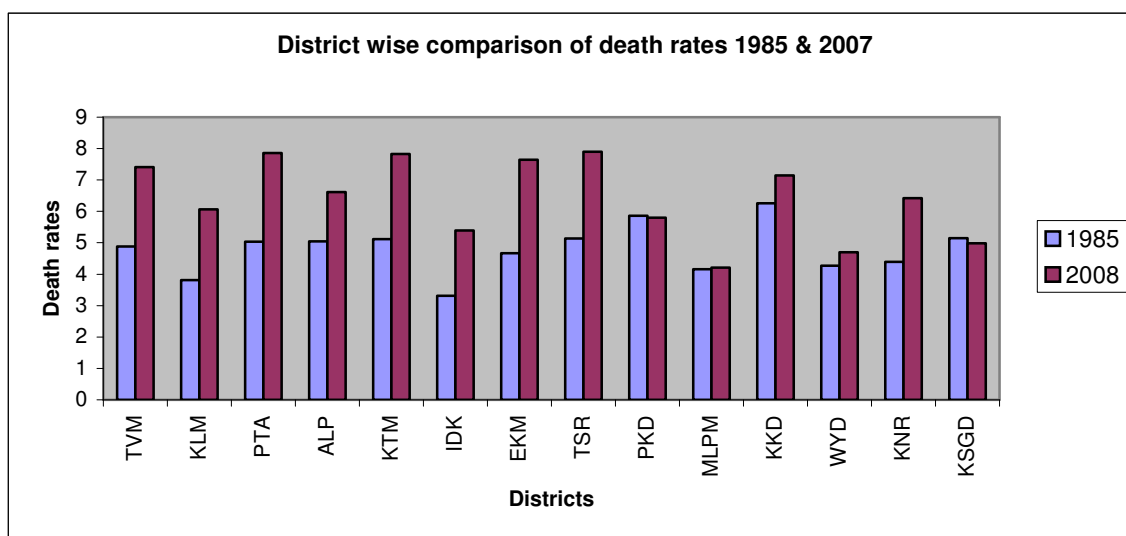
1. Increase in the number of registered deaths
2. Increase in the number of deaths occurred in the hospital
3. Change in the age structure of population

Chart 2.2.2



District wise comparison of death rates for the year 1985 & 2008 is given in the chart.

Chart 2.2.3



Deaths by type of medical attention at death

Table 2.2.1 shows the result of medical attention, the deceased had received at the time of death. It is evident from the statement that majority of the deaths have occurred in institutions. Another feature observed is that in spite of having enough medical facilities across the state about 20% of the death has not received any medical attention.

Table 2.2.1**Percentage Distribution of deaths by type of medical attention at death
Kerala-2006-08**

Year	Rural/Urban	Institutional	Non-institutional	No medical attention	Not stated	Total
2006	Rural	46.33	21.94	23.75	7.98	100
	Urban	79.15	9.29	11.40	0.16	100
	Total	57.07	17.80	19.71	5.42	100
2007	Rural	49.57	22.32	22.93	5.18	100
	Urban	79.88	8.03	11.42	0.67	100
	Total	59.05	17.85	19.33	3.77	100
2008	Rural	48.55	22.48	25.38	3.59	100
	Urban	79.65	8.86	11.3	0.19	100
	Total	58.55	18.1	20.85	2.5	100

Deaths by age and sex

Analysis further looked at the age pattern of mortality in the state by sex. The results have been shown in the table 2.2.2. It can be seen that percentage of male deaths is higher than that of females in all the age groups. The differential in the mortality of males and females is one of the factors determining the sex structure of a population. Biologically females are stronger and hence experience low level of mortality in comparison to males in the same age group.

Table 2.2.2**Percentage Distribution of deaths by age Kerala-1970-2008**

Age group/ Year	1970		1980		1990		2000		2008	
	M	F	M	F	M	F	M	F	M	F
<1	55.42	44.58	56.30	43.70	55.34	44.66	59.65	40.35	57.07	42.29

1-4	48.39	51.61	52.81	47.19	47.43	52.57	61.48	38.52	54.56	43.03
5-14	50.83	49.17	50.67	49.33	52.22	47.78	58.59	41.41	59.43	39.53
15-24	51.25	48.75	53.45	46.55	54.90	45.10	59.77	40.23	61.35	37.91
25-44	55.33	44.67	61.37	38.63	67.62	32.38	68.89	31.11	67.94	31.58
45-64	65.00	35.00	70.32	29.68	70.00	30.00	71.00	29.00	70.03	29.48
65+	52.66	67.44	50.21	49.79	51.98	48.02	54.38	45.62	51.60	47.80
Total	54.35	45.65	54.82	45.18	57.67	42.33	57.76	42.24	51.25	38.13

The table given below reveals that the percentage of death was lowest for both sexes in age group 1-4 years. Percentage of child death (in the age group 0-4 years) has shown a significant decline from 18.61 in 1970 to 2.28 in 2008. This may be due to the improved medical care available across the state. The highest percentage was seen in the age group 65 and above.

Table 2.2.3

Percentage distribution of deaths by age and sex Kerala-1970-2008

Age group/ Year	1970	1980	1990	2000	2008
<1	7.37	6.76	4.43	2.36	1.83
1-4yrs	11.24	4.83	1.09	0.66	0.45
5-14yrs	5.62	4.38	1.45	0.70	0.65
15-24	4.09	5.07	3.09	1.78	1.65
25-44	12.46	10.69	9.20	7.87	7.27
45-64	19.96	23.64	22.56	24.36	24.71
65+	39.26	44.64	57.61	62.28	62.80
Total	100.00	100.00	100.00	100.00	100.00

The data have been further analyzed by occupation and age group of the deceased. No particular pattern has been observed except in the category “non-

workers”. The percentage distribution of deaths is the highest in the case of non-workers for all age groups.

Cause of deaths by age and sex

One of the main objectives of death registration is to know the causes of death. Heart attack, Asthma, Cancer, and old age are the main cause of deaths

Table 2.2.4
Percentage distribution of death by cause of death Kerala-2000-2008

Cause of death/Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cancer	7.36	7.57	6.09	6.11	7.15	6.61	6.82	6.98	7.49
Diabetes	2.33	2.66	2.05	3.10	3.00	2.82	2.57	2.63	2.50
Heart attack	22.80	27.58	18.13	20.88	24.40	21.80	26.25	26.98	27.03
Asthma	9.38	8.77	7.80	11.72	12.18	11.69	12.73	11.98	12.17
Liver Disease	0.56	0.50	0.26	0.82	1.15	0.92	1.39	1.75	1.70
Paralysis	2.17	4.28	2.54	3.58	4.66	4.28	3.91	3.15	3.45
Accident(Traffic/Vehicle)	0.88	1.11	0.72	0.64	1.12	1.06	1.18	1.30	1.47
Suicide	2.05	2.30	1.88	2.11	2.42	2.49	2.51	2.33	2.38
Blood Pressure	0.18	2.13	1.55	2.85	3.26	3.12	2.72	2.90	2.70
Kidney Trouble	0.03	0.94	0.73	1.07	1.26	1.23	1.38	1.66	1.76
Old age	3.26	10.78	8.09	16.01	10.42	12.43	8.04	12.45	10.80
Pulmonary T.B	1.39	1.62	0.60	0.68	0.96	0.88	0.57	0.65	0.62
Cholera/Dysentery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10

Table 2.2.5
Percentage distribution of death by cause of death and sex Kerala

Analyzing cause of death by death it can be seen that in all cases percentage of male death is higher than that of females.

Cause of death/Year	2000		2005		2008	
	M	F	M	F	M	F
Cancer	64.22	35.78	60.98	36.89	60.78	38.61

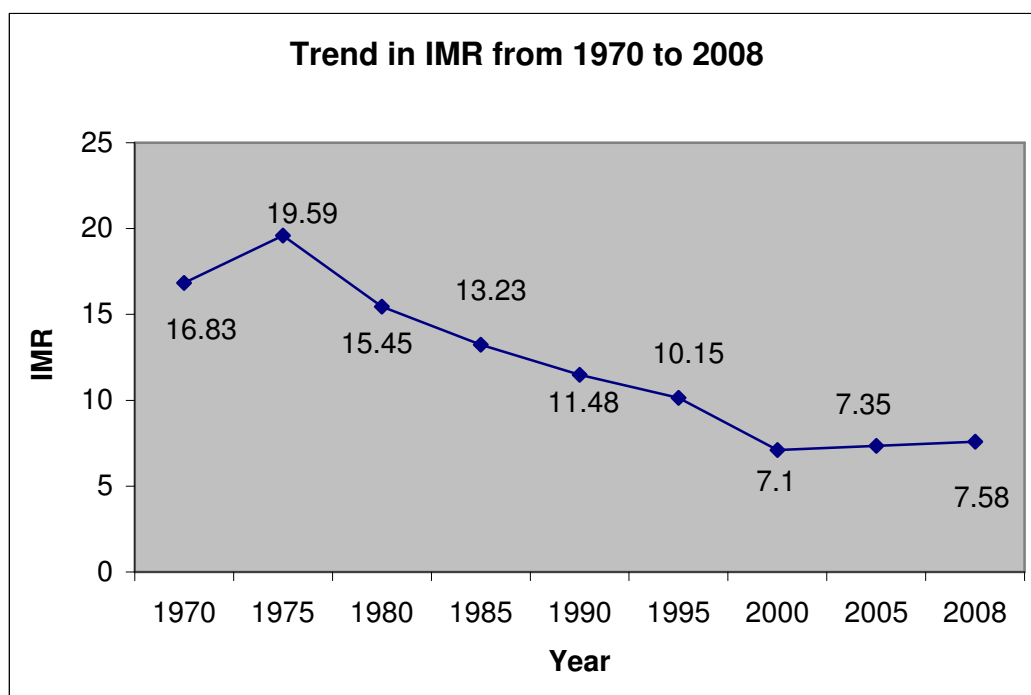
Diabetes	58.25	41.75	49.74	48.31	47.11	52.45
Heart attack	65.38	34.62	63.69	34.49	62.71	36.66
Asthma	58.56	41.44	53.05	44.67	54.26	44.97
Liver Disease	71.03	28.97	72.38	26.61	72.21	27.52
Paralysis	54.66	45.34	44.68	52.65	46.33	52.91
Accident(Traffic/Vehicle)	81.52	18.48	81.09	16.88	82.83	16.65
Suicide	72.74	27.26	73.98	23.86	73.98	25.02
Blood Pressure	57.75	42.25	47.02	51.28	43.30	55.99
Kidney Trouble	59.02	40.98	62.96	34.74	63.19	36.22
Old age	52.17	47.83	47.00	51.58	42.41	56.80
Pulmonary T.B	74.30	25.70	73.20	24.86	75.76	23.23

2.3. INFANT DEATHS

Infant mortality rate (IMR)

IMR is the number of infants dying under one year of age in a given year in a given geographical region per one thousand live births in the same year and geographical region. Infant mortality rate is considered as the most sensitive indicator of general health and medical facilities available in a population. Improvement in mortality conditions would spontaneously result in the lower infant mortality rates. In many studies, *IMR* has been assumed as a cause for high fertility levels. It is evident from the chart that IMR has decreased from 16.83 in 1970 to 7.58 in 2008.

Chart 2.3.1



Percentage of infant death to total death for the year 1970 to 2008 is given in the statement. The statement reveals that percentage of infant death to total death was 5.29 in 1970 and this declined to 1.83 in 2008.

Table 2.3.1

Percentage of infant death to total death-Kerala

Year//Deaths	1970	1980	1990	2000	2008
Infant death	5141	8227	6534	4216	4060
Total death	97130	176076	147551	178795	221769
Percentage	5.29	4.67	4.43	2.36	1.83

Infant Deaths by age

Percentage distribution of infant death by age is presented in the table 2.3.2. The data reveals that major portion of infant deaths have been occurred to the infants aged below I week. Further analysis reveals that in Kerala majority of infant death occurred either during the first week or the first month after birth.

Table 2.3.2
Percentage distribution of infant death by age Kerala-1970-2008

Year/Age group	1970	1975	1980	1985	1990	1995	2000	2005	2008
<1W	37.81	33.53	48.89	54.17	65.00	65.71	69.92	46.57	67.76
1W-1M	16.01	17.54	16.99	14.54	17.51	18.89	11.34	22.58	15.27
1-6M	21.42	31.06	22.50	18.49	10.15	10.33	12.74	15.88	12.59
6m-1Y	24.76	17.87	11.62	12.81	7.35	5.07	6.00	14.97	4.38

2.4. MATERNAL DEATH

Maternal Mortality Ratio (MMR): Number of maternal deaths (that is deaths of women while pregnant or within 42 days of termination of pregnancy from any cause related to pregnancy and/or childbirth or aggravated by pregnancy and/or childbirth) per 1000 live births in a given year.

MMR of the state for the period from 1970 to 2008 is given below. It is evident from the table that MMR shows a fluctuating trend over the period.

Table 2.4.1
Trend in MMR 1970-2008

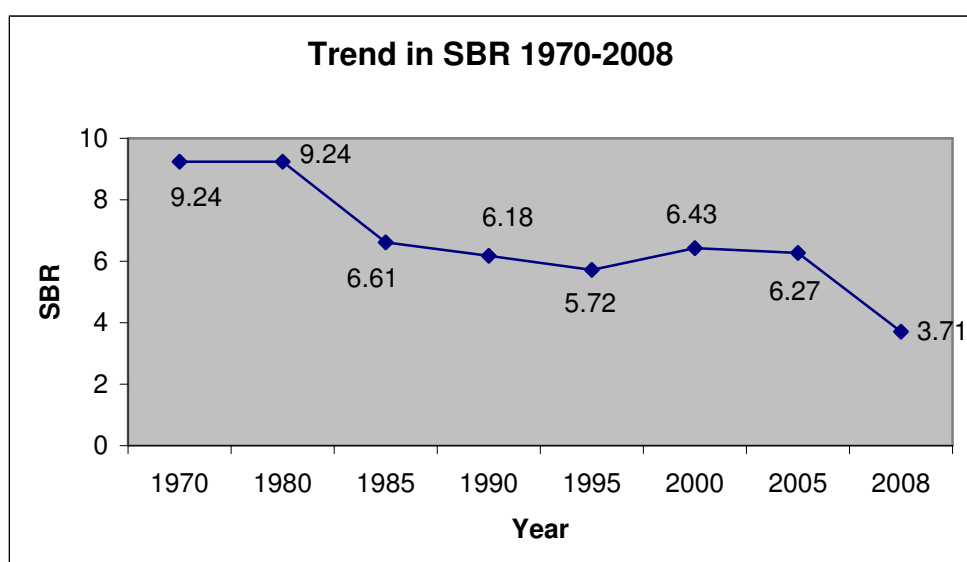
Year	MMR
1970	0.75
1975	0.33
1980	0.11
1985	0.02
1990	0.08
1995	0.07
2000	0.02
2005	0.64
2008	0.21

2.5. STILL BIRTH

Still birth is the death of fetus after completing 28 weeks and till the time of birth. Stillbirth rate is the number of Still birth in a given year in a given geographical region per one thousand live births and stillbirths in the same year and geographical region.

Number of still births registered and their rates for the state and district are given in table 23 and 24 of Appendix. Still birth rate for the period from 1970 to 2008 shows a decreasing trend. It is evident from the chart given below.

Chart 2.5.1



Still birth by sex

Statement given below provides the percentage distribution of registered stillbirths by sex. It can be noticed from the table 2.5.1 that proportion of male stillbirths is greater than that of female.

Table 2.5.1
Percentage distribution of registered still births by sex
Kerala-2002-2008

Sex	2002	2003	2004	2005	2006	2007	2008
Male	53.37	53.35	54.54	54.35	54.38	53.56	53.61
Female	44.36	44.34	44.48	44.32	44.37	45.24	45.44
Not reported	2.27	2.31	0.98	1.33	1.25	1.21	0.95
Total	100.00	100.00	100.00	100.00	100	100	100

Still births by age of mother

Table given below shows the percentage distribution of still births by age of mother at birth. It is evident from the statement that the percentage of still birth is more in the case of mothers belonging to the age group 20-24 followed by 25-29. Another important observation derived from the statement is that the incidence of still birth for mothers in the age group 45+ is less than 1% except in the year 2004. This may be due to the best medical care availed by these mothers during their pregnancy.

Table 2.5.2
Percentage distribution of still births Kerala-2006-2008

Age of mother	2004	2005	2006	2007	2008
Below 15	0.00	0.00	0.03	0.06	0
15-19	3.06	5.78	6.53	5.97	5.27
20-24	41.50	35.36	34.91	32.94	30.59
25-29	28.34	33.04	33.46	33.91	33.30
30-34	13.23	15.22	15.41	15.10	16.40
35-39	4.99	5.30	5.44	5.76	5.17
40-44	0.79	0.91	0.55	0.57	0.30
45+	1.02	0.06	0.13	0.03	0.00
Age not stated	7.07	4.34	3.54	5.67	8.98
Total	100.00	100.00	100	100	100

3.3 Still births by duration of pregnancy

Percentage distribution of still births by duration of pregnancy for the past three years is given in the table 2.5.3. For major portion of still births, duration of pregnancy is less than 32 weeks.

Table 2.5.3
Percentage distribution of still births by duration of pregnancy Kerala –2006-2008

Duration of pregnancy	2004	2005	2006	2007	2008
<32	30.61	32.45	33.62	34.72	38.82
32-36	27.51	33.35	23.46	23.60	23.77
37-39	16.48	21.39	29.92	26.76	25.53
40	6.92	6.94	5.98	6.78	4.96
41+	18.48	1.08	5.86	6.57	5.82
Not reported	0.00	4.79	1.16	1.57	1.10
Total	100.00	100.00	100	100.00	100

2.6 Limitations of CRS

Under CRS the vital events get registered at the place of occurrence of the events as mandated in the RBD Act and vital rates are generated on the basis of the “place of occurrence”. Hence vital rates for urban areas are abnormally high as events mostly take place in urban areas due to the availability of modern medical facilities there. It is evident from the table given below.

Table 2.6.1

VITAL RATES OF KERALA, 1997-2006

Year		Crude Birth Rate		Crude Death Rate		Infant Mortality rate	
		CRS	SRS	CRS	SRS	CRS	SRS
1997	Rural	9.73	17.9	4.17	6.3	4.97	11
	Urban	77.55	17.9	11.95	6.1	12.23	15
	Total	19.19	17.9	5.25	6.2	9.07	12
1998	Rural	9.39	18.3	4.66	6.5	4.86	15
	Urban	74.40	18.2	12.75	6.2	12.24	17
	Total	18.43	18.3	5.79	6.4	9.00	16

1999	Rural	8.95	18.1	4.54	6.5	4.41	14
	Urban	76.56	17.7	13.10	6.3	11.08	16
	Total	18.32	18	5.73	6.4	8.27	14
2000	Rural	8.51	18	4.32	6.5	7.34	14
	Urban	77.28	17.5	12.27	6.2	6.94	14
	Total	18.01	17.9	5.42	6.4	7.10	14
2001	Rural	8.63	17.4	4.58	6.8	5.53	12
	Urban	66.88	16.7	11.45	6.2	5.37	9
	Total	18.13	17.3	5.7	6.6	5.43	11
2002	Rural	8.29	17	4.57	6.4	2.74	11
	Urban	68.26	16.4	11.67	6.2	7.29	8
	Total	18.05	16.9	5.73	6.4	5.54	10
2003	Rural	8.01	16.9	4.71	6.4	1.05	12
	Urban	64.32	16	12.46	6.1	6.56	10
	Total	17.16	16.7	5.97	6.3	4.40	11
2004	Rural	8.04	15.4	4.95	6	2.59	13
	Urban	64.21	14.6	11.81	6.4	5.31	9
	Total	17.15	15.2	6.06	6.1	4.25	12
2005	Rural	8.07	15.1	5.15	6.3	1.46	15
	Urban	65.04	14.8	12.42	6.5	11.11	12
	Total	17.34	15	6.33	6.4	7.35	14
2006	Rural	7.68	15	5.26	6.8	4.58	16
	Urban	62.98	14.6	13.24	6.5	10.33	12
	Total	16.63	14.9	6.55	6.7	8.10	15
2007	Rural	8.39	14.8	6.55	6.9	6.17	14
	Urban	38.54	14.5	8.59	6.4	9.92	10
	Total	16.16	14.7	7.08	6.8	8.48	13
2008	Rural	8.21	14.6	5.95	6.7	4.80	12
	Urban	37.45	14.6	8.13	6.4	9.33	10
	Total	15.74	14.6	6.52	6.6	7.58	12

To reduce the abnormality of vital rates in rural and urban areas, place of actual occurrence concept of CRS may be changed to the place of usual residence concept of SRS. The details of place of usual residence of the mother/deceased, with local body should be furnished properly in the CRS reporting forms of birth and death. This will permit grouping of vital events in rural/urban areas and in the district to which event normally relates.

2.7. Conclusion

It is worthwhile to mention that CRS is the only source, which can provide vital rates at below state level. Even though cent percentage registration has attained in the case of births, under registration of deaths still exist. Level of registration of maternal deaths and infant deaths are not satisfactory. There is also a need to correctly identify the maternal deaths for estimating the vital indicator MMR. Full coverage of maternal deaths and infant deaths by registration machinery only can help to calculate rates such as IMR, MMR etc, which are essential for health planning. Hence more concentration should be given to the proper implementation and monitoring of Civil Registration System.

Table 1
Number of registered live births and crude birth rate – Kerala

Year	Number	Rate
1958	-	24.58
1959	-	26.23
1960	-	23.92
1961	-	25.00
1962	395620	22.73
1963	398244	22.38
1964	424244	23.32
1965	415109	22.32
1966	428207	22.52
1967	402151	20.69
1968	415132	20.89
1969	378716	18.64
1970	305435	14.70
1971	398159	18.54
1972	468076	21.15
1973	466445	20.66
1974	471424	20.41
1975	530425	22.42
1976	529522	21.78
1977	494888	19.93
1978	498357	21.04
1979	527839	21.88
1980	532422	21.64
1981	-	21.64
1982	560859	21.48
1983	546192	20.57
1984	548998	20.32
1985	587966	21.38
1986	567210	20.26

1987	570283	20.01
1988	574312	19.80
1989	564066	19.82
1990	568981	19.73
1991	557697	19.08
1992	523455	17.67
1993	530470	17.67
1994	533209	17.52
1995	557787	18.09
1996	586253	18.76
1997	607727	19.19
1998	591508	18.43
1999	596948	18.32
2000	593724	18.01
2001	579063	18.13
2002	581925	18.05
2003	558369	17.16
2004	563153	17.15
2005	559082	17.34
2006	556326	16.63
2007	545154	16.18
2008	535738	15.74

Table 2
District wise birth rates –1970-2008

Sl.No.	District/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
1	Thiruvananthapuram	16.73	22.28	19.8	21.52	18.31	20.98	19.46	17.52	18.7	19.9	20.55
2	Kollam	16.93	16.24	23.15	20.96	20.53	21.15	20.66	19.41	19.4	19.68	20.01
3	Pathanamthitta											
4	Alappuzha	16.26	21.33	20.63	18.79	18.78	19.66	19.3	18.1	17.45	16.68	15.84
5	Kottayam	16.88	17.97	24.19	22.69	22.61	22.51	21.89	19.19	19.62	20.52	20.15
6	Idukki			21.45	21.41	20.54	21.63	19.64	17.46	14.21	15.11	16.66
7	Ernakulam	21.95	20.6	20.44	20.18	19.41	20.57	20.72	18.84	18.86	19.73	19.72
8	Thrisuur	10.53	14.87	16.11	16.64	17.2	18.86	18.54	17.6	18.89	20.39	20.1
9	Palakkad	8.68	15.85	18.42	18.95	19.92	23.31	23.21	19.31	20.58	22.36	21.74
10	Malappuram		12.77	20.26	20.55	22.4	27.03	25.55	23.94	25.7	26.63	25.64
11	Kozhikkode	15.97	20.09	24.56	22.84	23.38	25.6	24.33	22.09	28.29	28.65	28.63
12	Wayanad											
13	Kannur	7	21.71	23.52	22.95	22.03	25.31	25.31	23.73	25.74	27.19	25.78
14	Kasaragode											

Table 2 continued...

Sl.No.	District/Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1	Thiruvananthapuram	19.36	19.97	19.07	19.15	20.81	19.69	19.57	18.98	19.29	17.9
2	Kollam	19.72	19.21	17.71	17.9	18.09	17.13	17.19	16.87	16.85	16.98
3	Pathanamthitta			14.75	18.76	19.76	19.59	18.72	18.42	17.84	18.71
4	Alappuzha	18.28	17.4	15.88	15.53	15.25	14.49	14.43	13.97	14.83	14.7
5	Kottayam	19.87	19.05	18.38	18.39	18.5	16.7	16.66	17.3	17.89	17.06
6	Idukki	17.42	15.82	15.74	16.66	16.71	15.65	15.95	16.04	16.63	16.12
7	Ernakulam	19.81	19.44	19	18.83	18.68	17.82	17.97	17.32	18.14	17.15
8	Thrisuur	20.82	21.41	20.29	20.24	22.81	21.24	20.95	19.41	20.44	19.97
9	Palakkad	22.68	22.78	23.99	19.78	23.42	22.12	19.51	21.1	20.9	21.17
10	Malappuram	29.57	28.84	30	28.55	31.08	30.46	28.99	29.45	26.48	27.96
11	Kozhikkode	23.69	24.76	22.4	23.67	23.38	22.58	22.45	21.64	22.27	22.12
12	Wayanad	20.97	19.96	20.37	20.91	21.29	20.97	21.23	21.2	20.32	20.45
13	Kannur	24.28	24.15	22.2	21.53	21.62	18.82	21.03	21.31	19.98	20.72
14	Kasaragode					24.22	23.78	23.43	22.46	21.38	20.91

Table 2 continued...

Sl.No.	District/Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	Thiruvananthapuram	18.03	17.2	16.92	16.72	17.51	17.81	18.56	17.99	17.84	16.39
2	Kollam	16.52	15.76	15.39	15.29	16.06	16.33	16.56	16.53	16.25	15.19
3	Pathanamthitta	17.77	16.72	15.06	15.64	15.12	15.97	15.08	14.33	14.72	14.32
4	Alappuzha	14.12	13.13	13.16	12.71	13.24	13.42	14.04	13.99	13.77	12.98
5	Kottayam	17.26	16.22	15.93	16.38	16.65	17.58	17.71	17.75	16.69	17.2
6	Idukki	15.07	13.92	13.26	13.46	15.21	16.99	16.24	16.2	16.63	16.37
7	Ernakulam	17.48	16.71	16.45	16.21	17.13	17.97	18.69	17.59	17.16	16.24
8	Thrisuur	19.35	17.71	18.28	17.9	18.98	18.2	20.19	18.71	18.17	17.05
9	Palakkad	19.94	18.6	18.11	18.12	19.35	19.33	19.19	18.96	18.03	17.01
10	Malappuram	26.02	22.94	23.92	23.66	24.63	25.69	26.35	25.84	25.55	26.07
11	Kozhikkode	21.1	19.76	20.27	19.75	19.59	22.68	21.37	19.35	20.37	20.88
12	Wayanad	18.78	17.97	16.99	17.43	18.15	20.23	21	20.18	21.32	20.78
13	Kannur	19.95	17.72	17.87	18.23	17.13	16.99	17.85	16.75	17.21	18.93
14	Kasaragode	20.54	18.84	19.86	18.41	18.75	19.16	20.88	19.11	20.09	20.63

Table 2 continued...

Sl.No.	District/Year	2001	2002	2003	2004	2005	2006	2007	2008
1	Thiruvananthapuram	17.16	18.25	15.75	15.43	16.01	15.43	14.71	14.43
2	Kollam	16.58	17.02	15.41	15.23	14.55	14.27	13.75	13.53
3	Pathanamthitta	15.49	16.13	15.16	15.1	15.26	14.78	14.71	13.27
4	Alappuzha	14.38	13.73	13.16	12.75	12.36	11.96	11.13	10.59
5	Kottayam	17.77	17.79	15.79	17.63	16.98	16.14	15.56	14.22
6	Idukki	16.93	15.43	15.96	15.95	15.15	13.9	14.08	13.66
7	Ernakulam	17.04	18.22	15.92	15.61	15.38	15.37	14.87	14.6
8	Thrisuur	18.51	16.09	17.75	17.74	18.93	17.46	16.91	16.67
9	Palakkad	16.74	15.16	16.08	15.28	15.76	15.05	14.96	14.06
10	Malappuram	24.28	23.46	22.13	21.99	22.54	21.79	20.7	20.75
11	Kozhikkode	19.08	21.58	19.62	19.63	20.24	18.81	18.39	18.08
12	Wayanad	19.65	18.42	18.69	18.63	18.69	17.63	17.97	16.67
13	Kannur	17.55	19.37	18.12	18.67	19.31	18.71	18.81	18.71
14	Kasaragode	19.29	15.12	17.2	17.79	17.49	16.71	16.23	15.85

Table 3
Sex ratio at birth- Kerala-1963-2008

Year	Male	Female	Sex ratio at birth
1963	205790	192454	107
1964	219645	204599	107
1965	214564	200545	107
1966	220883	207324	107
1967	207736	194415	107
1968	213635	201497	106
1969	195725	182891	107
1970	158075	147360	107
1971	205259	192900	106
1972	241839	226237	107
1973	240439	226006	106
1974	243449	227975	107
1975	271841	258584	105
1976	272000	257522	106
1977	254908	239980	106
1978	252177	246180	102
1979	269770	258069	105
1980	272926	259496	105
1981	-	-	-
1982	288882	271977	106
1983	280437	265395	106
1984	282338	266660	106
1985	301506	286460	105
1986	291820	275390	106
1987	290972	279311	104
1988	293294	281018	104
1989	286685	277381	103

1990	298328	270653	110
1991	284581	273116	104
1992	268309	255146	105
1993	270469	260001	104
1994	273845	259364	106
1995	286480	271307	106
1996	300057	286196	105
1997	305946	301781	101
1998	298760	292748	102
1999	301319	295629	102
2000	297111	296613	100
2001	294226	284837	103
2002	294605	278242	106
2003	281827	267892	105
2004	287177	271756	106
2005	284827	270295	105
2006	283270	270465	105
2007	278724	263224	106
2008	273975	260854	105

Table 4
District wise Sex ratio at Birth

District/Year	1970	1973	1976	1979	1983	1984	1985	1986	1987	1988
Thiruvananthapuram	106	107	104	106	105	104	104	110	104	102
Kollam	110	107	106	106	106	108	103	107	104	108
Pathanamthitta					103	107	104	107	101	107
Alappuzha	108	106	104	106	105	108	105	106	105	103
Kottayam	103	106	104	105	105	107	104	107	99	102
Idukki			105	101	108	107	102	106	109	105
Ernakulam	107	105	104	106	106	105	106	107	104	105
Thrissur	107	107	107	107	105	106	108	107	104	104
Palakkad	106	107	107	106	105	104	107	103	103	105
Malappuram		108	107	109	107	150	104	107	106	106
Kozhikkode	108	106	106	104	107	105	107	103	104	103
Wayand					105	106	106	102	105	106
Kannur	111	107	106	107	105	106	105	100	103	102
Kasaragode							106	108	107	106
State	107	106	106	106	106	110	105	106	104	104

District/Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Thiruvananthapuram	76	110	100	102	102	110	106	107	101	99
Kollam	99	119	105	107	104	104	105	105	98	101
Pathanamthitta	127	114	102	106	103	105	104	104	100	106
Alappuzha	102	104	104	106	106	104	106	107	107	106
Kottayam	90	94	105	112	105	100	102	98	114	99
Idukki	117	108	100	113	104	118	106	90	107	104
Ernakulam	109	107	106	106	107	101	106	107	106	107
Thrissur	107	114	104	105	102	105	105	107	90	100
Palakkad	117	107	104	106	106	110	109	116	106	108
Malappuram	112	107	107	105	104	107	105	105	102	101
Kozhikkode	101	115	107	103	101	103	104	99	94	97
Wayand	108	126	104	104	100	104	106	109	106	103
Kannur	104	116	104	106	106	106	105	103	105	103
Kasaragode	106	111	97	91	110	106	111	1996	104	102
State	103	110	104	105	104	106	106	107	105	101

Table 4 contd...

District/Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Thiruvananthapuram	102	100	105	107	105	110	107	105	106	108
Kollam	97	100	100	106	106	107	106	106	105	108
Pathanamthitta	102	101	106	107	107	106	107	106	105	105
Alappuzha	103	99	106	106	105	106	107	106	104	106
Kottayam	115	100	106	104	104	101	102	106	114	107
Idukki	109	101	103	103	105	105	102	102	105	106
Ernakulam	106	100	101	106	103	105	106	105	104	104
Thrissur	93	99	105	109	105	107	107	104	107	105
Palakkad	105	102	106	108	108	105	107	104	107	104
Malappuram	84	100	100	104	106	105	102	104	106	102
Kozhikkode	103	100	102	107	102	106	105	105	106	104
Wayand	103	102	103	102	105	105	103	106	104	100
Kannur	94	101	105	105	107	105	109	104	104	107
Kasaragode	100	103	98	104	105	106	105	103	106	106
State	102	96	100	103	106	105	106	105	105	105

Table 5
Live births by type of attention received at the time of delivery
Kerala-1975-2008

Year	Institutional	Physician, Nurse and trained midwife	Untrained midwife	Others
1975	340211	57967	162092	88501
1976	367949	53608	96400	129206
1977	380697	25835	82778	43112
1978	192173	50796	139128	237316
1979	491591	32974	87229	45786
1980	511064	27898	83832	34116
1982	395276	20948	54909	89726
1983	360839	15876	50049	79490
1984	420395	11229	43380	73994
1985	463609	15676	33741	74940

1986	467190	14290	24500	91228
1987	494370	6530	21559	47884
1988	502384	5050	18837	48041
1989	494701	7028	15953	46409
1990	536246	2488	13172	7025
1991	476648	18591	40112	22346
1992	485482	8983	27840	1150
1993	490332	5668	32629	1841
1994	501401	8404	22347	1122
1995	531051	5425	20978	212
1996	562157	5000	18808	157
1997	583033	5425	18975	155
1998	570236	5022	16023	122
1999	577502	4766	14478	82
2000	565779	13654	9547	4744
2001	557573	8015	8575	4900
2002	552263	7790	15143	6729
2003	494739	30788	13656	19306
2004	465841	72107	11493	13712
2005	437913	99345	9029	12795
2006	498499	39146	10769	3567
2007	453319	25893	7485	3821
2008	487393	12211	7844	3801

Table 6
Live births by age of mother – Kerala

Sl.No.	Age of mother (Year)	1970	1972	1977	1982	1983	1984	1985	1986	1988	1989
1	<15	39	89	44	24	36	17	15	94	36	11
2	15-19	27019	47051	35392	59312	60754	61819	76555	64289	62824	59782
3	20-24	99002	161656	137301	235379	230678	238054	250039	252183	260169	256672
4	25-29	80152	122973	96764	167518	162120	161598	171058	166790	172396	177554
5	30-34	51102	69435	41596	61327	58508	56654	58863	54694	54600	48765
6	35-39	36682	50094	28952	29285	27449	24507	24855	23042	20080	17693
7	40-44	8881	11882	7071	5709	4268	4030	4062	3582	3039	2695
8	>45	1544	2162	2518	1136	1033	862	725	845	572	537
9	Age NR	1014	2734	514	1169	986	1457	1794	1691	596	357
10	State	305435	468076	350152	560859	545832	548998	587966	567210	574312	564066

Table 6 contd...

Sl.No.	Age of mother/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1	<15	7	26	17	4	21	26	20	9	4	3
2	15-19	59695	53865	44384	46241	48888	50576	53534	55695	56013	57346
3	20-24	254934	246519	224214	235326	238124	253461	265653	277485	273702	274947
4	25-29	178060	183862	190532	184341	180312	190670	201968	208723	199920	201182
5	30-34	54696	53037	49517	49207	51319	50070	53151	56682	53736	55832
6	35-39	18604	16680	12633	13190	12750	11630	10820	8478	7543	7207
7	40-44	2499	2652	1857	1766	1454	1195	932	586	530	385
8	>45	427	541	301	264	272	157	92	66	58	44
9	Age NR	59	515	0	131	66	2	3	3	2	2
10	State	568981	557697	523455	530470	533206	557787	586253	607727	591508	596948

Table 6 contd...

Sl.No.	Age of mother/Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	<15	0	13	8	30		8	6	4	7
2	15-19	39456	41847	44133	16247	38748	37339	35517	31728	32013
3	20-24	229833	232468	237330	273461	232206	228241	222699	212156	209977
4	25-29	232275	210448	205532	194205	197565	201715	200577	199372	198831
5	30-34	70162	72152	74194	59243	75161	74103	76564	75498	74260
6	35-39	19740	19366	17365	13583	17075	16511	18546	18254	18338
7	40-44	1945	1950	1683	1092	1506	1059	1651	1559	1644
8	>45	313	756	1035	300	329	2	150	156	143
9	Age NR	0	63	645	208	563	104	616	6427	525
10	State	593724	579063	581925	558369	563153	559082	556326	545154	535738

Table 7
Live births by birth order-Kerala

Birth order/Year	1970	1972	1977	1982	1983	1984	1985	1986	1987	1988	1989
1	76132	127191	103811	195262	191714	207189	238893	230215	240155	237580	242130
2	60682	91531	86860	156105	154704	157740	168125	172109	177815	189430	189190
3	48905	76796	58761	100950	98877	94742	96430	87746	83524	86201	78770
4	37617	55841	36070	45657	43347	39137	38970	35469	31855	29940	27260
5	27729	39978	23438	25093	22783	19414	17994	16805	14995	13839	12348
6	20231	27619	15854	15459	13846	11733	10623	9672	8440	7659	6559
7	14013	18442	9730	9061	8137	6968	6331	5778	4802	4114	3392
8	9044	11911	6043	5429	4892	4301	3802	3673	3075	2600	2245
9	4777	6091	3260	2917	2530	2223	2011	1936	1564	1334	1138
10	2601	3474	2723	1568	1567	1562	1162	1076	940	763	670
11 and above	1760	2256	1493	855	690	694	2877	544	396	366	207
NR	1944	6946	2109	2503	2745	3295	748	2187	2722	486	157
Total	305435	468076	350152	560859	545832	548998	587966	567210	570283	574312	564066

Table 7 contd...

Birth order/Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
1	256103	249473	228717	235098	246167	264398	279751	288145	288173	289834
2	193362	188269	194648	194316	189128	204071	209295	215602	207768	208616
3	73816	73917	63010	63762	63907	59114	64976	70909	67060	68319
4	21962	24588	20559	20751	19801	17898	21178	21928	18776	20189
5	10545	10423	8274	8113	7512	6485	6284	6808	6056	6151
6	6084	5062	4295	4161	3311	2839	2540	2654	2285	2363
7	3187	2620	1965	2002	1557	1401	1157	935	811	901
8	1921	1619	964	1078	873	825	584	476	374	374
9	1135	880	557	629	650	438	259	149	125	124
10	535	518	321	348	197	193	129	77	56	53
11 and above	323	224	142	169	90	111	84	37	21	21
NR	8	104	3	43	16	14	16	7	3	3
Total	568981	557697	523455	530470	533209	557787	586253	607727	591508	596948

Table 7 contd...

Birth order/Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	251453	263191	271976	248939	259155	290995	261644	260296	258152
2	250814	226740	217102	214988	213589	199416	210900	203891	201298
3	64436	61367	64026	70952	61646	54847	60909	55443	57068
4	16971	16639	18243	18098	15514	11263	14418	12859	13142
5	5727	5060	5789	2962	4856	1673	4100	3453	3414
6	2184	2073	2257	1201	1825	225	1556	1162	1088
7	978	877	1096	472	907	298	746	535	502
8	507	392	614	248	499	146	429	290	254
9	261	233	368	153	377	41	296	172	148
10	153	117	218	85	113	7	137	94	72
11 and above	240	113	182	5	601	2	86	32	0
NR		2261	54	266	4071	169	1105	6927	600
Total	593724	579063	581925	558369	563153	559082	556326	545154	535738

Table 8
Live births by duration of pregnancy and birth weight

Duration of Pregnancy (In weeks)	2002						2003					
	Birth weight						Birth weight					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
Below 32	0	0	0	0	0	0	0	0	0	0	0	0
32-36	13803	12594	11356	388	1149	39290	13244	12084	10896	372	1102	37700
37-39	30499	100176	118514	3310	3746	256245	29264	96121	113717	3176	3594	245872
40	17619	75066	109275	3606	3134	208700	16906	72027	104852	3460	3007	200252
41 & above	12653	25993	26890	729	11423	77688	12141	24941	25802	699	10961	74543
Not Stated	0	0	2	0	0	2	0	0	2	0	0	2
Total	74574	213829	266037	8033	19452	581925	71555	205173	255268	7708	18665	558369

Table 8 contd...

Duration of Pregnancy (In weeks)	2004						2005					
	Birth weight						Birth weight					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
Below 32	1834	6885	6349	157	711	15936	0	0	0	0	0	0
32-36	9284	21767	17146	467	5057	53721	12954	12838	12422	346	62	38622
37-39	29136	111629	127201	3388	7301	278655	36284	115420	137571	3595	205	293075
40	15509	78103	113401	3639	2268	212920	19452	78007	111451	3316	178	212404
41 & above	100	379	487	11	88	1065	2706	5163	6735	122	248	14974
Not Stated	104	268	321	8	155	856	1	2	0	0	4	7
Total	55967	219031	264905	7670	15580	563153	71397	211430	268179	7379	697	559082

Table 8 contd...

Duration of Pregnancy (In weeks)	2006						2007					
	Birth weight						Birth weight					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
Below 32	1713	384	348	86	8	2539	1856	312	364	48	20	2600
32-36	4513	3966	1470	97	3	10049	14773	13117	12131	335	315	40671
37-39	31513	90900	97687	3360	5	223465	37505	117256	139835	3715	999	299310
40	20810	68784	109282	3852	0	202728	17888	69520	101062	2961	452	191883
41 & above	12794	41790	56436	1725	0	112745	63	227	358	11	0	659
Not Stated	485	1320	1351	1576	68	4800	635	1287	1119	144	6846	10031
Total	71828	207144	266574	10696	84	556326	72720	201719	254869	7214	8632	545154

Table 8 contd...

Duration of Pregnancy (In weeks)	2008					
	Birth weight					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
Below 32	1895	359	221	9	5	2489
32-36	16023	15516	14024	416	234	46213
37-39	37326	121180	151269	4068	602	314445
40	14492	59308	91418	2861	348	168427
41 & above	49	209	420	12	0	690
Not Stated	282	1047	924	19	1202	3474
Total	70067	197619	258276	7385	2391	535738

Table 9
Live births by age of mother and birth weight

Age of mother	2002						2003					
	Birth weight(Kg)						Birth weight(Kg)					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
Below 15	1	6	1	0	0	8	4	23	4	0	0	30
15-19	6809	18316	17247	304	1457	44133	2507	6743	6349	112	536	16247
20-24	31253	90377	105330	2533	7837	237330	36011	104136	121365	2919	9030	273461
25-29	24333	73278	98522	3238	6161	205532	22992	69240	93092	3060	5821	194205
30-34	9064	25154	36031	1527	2418	74194	7237	20085	28770	1219	1931	59243
35-39	2651	5734	7745	392	843	17365	2074	4485	6058	307	659	13583
40-44	285	542	637	29	190	1683	185	352	413	19	123	1092
45 & Above	97	247	321	8	362	1035	28	72	93	2	105	300
Not Stated	81	175	203	2	184	645	26	56	65	1	59	208
Total	74574	213829	266037	8033	19452	581925	71555	205173	255268	7708	18665	558369

Age of mother	2004						2005					
	Birth weight (Kg)						Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
Below 15	0	0	0	0	0	0	3	2	3	3	0	8
15-19	4434	16933	16390	228	763	38748	5675	15830	15590	15590	12	37339
20-24	24019	93546	106177	2445	6019	232206	30063	88933	106687	106687	248	228241
25-29	18481	74198	96569	3095	5222	197565	23907	74039	100431	100431	244	201715
30-34	6906	27332	37087	1490	2346	75161	9043	26358	37186	37186	117	74103
35-39	1870	6266	7820	366	753	17075	2518	5882	7754	7754	31	16511
40-44	183	563	626	35	99	1506	181	358	493	493	9	1059
45 & Above	41	96	108	5	79	329	1	0	1	1	0	2
Not Stated	33	97	128	6	299	563	6	28	34	34	36	104
Total	55967	219031	264905	7670	15580	563153	71397	211430	268179	268179	697	559082

Table 9 contd...

Age of mother	2006						2007					
	Birth weight (Kg)						Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
Below 15	2	3	1	0	0	6	1	1	2	0	0	4
15-19	5051	14817	15237	410	2	35517	4880	13314	13221	206	107	31728
20-24	29334	86148	103739	3473	5	222699	29224	82319	97532	2281	800	212156
25-29	24864	71774	99761	4174	4	200577	24998	72467	98017	2881	1009	199372
30-34	9659	26848	38233	1822	2	76564	10202	26533	36898	1421	444	75498
35-39	2579	6728	8701	537	1	18546	3003	6372	8359	357	163	18254
40-44	265	631	688	67	0	1651	311	535	628	36	49	1559
45 & Above	24	56	61	9	0	150	39	51	50	2	14	156
Not Stated	51	138	153	204	70	616	62	127	162	30	6046	6427
Total	71828	207144	266574	10696	84	556326	72720	201719	254869	7214	8632	545154

Age of mother	2008					
	Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
Below 15	1	6	0	0	0	7
15-19	4610	13133	13979	207	84	32013
20-24	27860	80297	98675	2343	802	209977
25-29	24482	71115	99298	3031	905	198831
30-34	9876	25736	36914	1393	341	74260
35-39	2838	6499	8502	369	130	18338
40-44	326	563	691	38	26	1644
45 & Above	35	50	44	0	14	143
Not Stated	39	220	173	4	89	525
Total	70067	197619	258276	7385	2391	535738

Table 10
Live births by birth order and birth weight

Birth order	2002						2003					
	Birth weight (Kg)						Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
1	38087	105717	117382	2934	7856	271976	34861	96763	107439	2685	7191	248939
2	24445	77071	105625	3422	6539	217102	24207	76321	104596	3389	6475	214988
3	8257	21867	30201	1120	2581	64026	9150	24232	33468	1241	2860	70952
4	2405	5955	8312	348	1223	18243	2386	5908	8246	345	1213	18098
5	807	1731	2609	108	534	5789	413	886	1335	55	273	2962
6	301	713	963	51	229	2257	160	379	512	27	122	1201
7	120	366	403	20	187	1096	52	158	174	9	81	472
8	70	175	262	14	93	614	28	71	106	6	38	248
9	26	114	114	3	111	368	11	47	47	1	46	153
10 and above	53	115	145	12	75	400	12	26	33	3	17	90
Not stated	3	5	21	1	24	54	15	25	103	5	118	266
Total	74574	213829	266037	8033	19452	581925	71555	205173	255268	7708	18665	558369

Table 10 contd...

Age of mother	2004						2005					
	Birth weight (Kg)						Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
1	28564	106382	115650	2815	5744	259155	41553	114869	131182	3056	335	290995
2	18809	79718	106444	3361	5257	213589	21060	72609	102521	3027	199	199416
3	5924	22700	29965	1013	2044	61646	6941	19275	27582	965	84	54847
4	1437	5646	7450	273	708	15514	1513	3844	5609	266	31	11263
5	473	1802	2217	101	263	4856	222	544	854	44	9	1673
6	153	657	802	27	186	1825	26	77	113	5	4	225
7	73	320	374	17	123	907	39	89	156	9	5	298
8	51	166	183	11	88	499	10	53	73	5	5	146
9	26	143	155	3	50	377	3	12	25	0	1	41
10 and above	457	1497	1665	49	1117	4785	0	4	5	0	0	9
Not stated	0	0	0	0	0	0	30	54	59	2	24	169
Total	55967	219031	264905	7670	15580	563153	71397	211430	268179	7379	697	559082

Table 10 contd...

Birth order	2006						2007					
	Birth weight (Kg)						Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total	< 2.5	2.500 - 3.000	3.000- 4.000	4.000+	NS	Total
1	35222	102518	120218	3676	10	261644	36952	101666	118009	2916	753	260296
2	25977	75410	105381	4130	2	210900	25325	74089	100623	2995	859	203891
3	7752	21379	30083	1692	3	60909	7557	19477	27021	891	497	55443
4	1818	4911	7134	554	1	14418	1868	4303	6221	264	203	12859
5	530	1438	1940	192	0	4100	542	1168	1569	70	104	3453
6	192	551	714	99	0	1556	169	371	541	20	61	1162
7	95	278	325	48	0	746	81	150	230	18	56	535
8	55	140	186	48	0	429	39	87	125	5	34	290
9	36	98	135	27	0	296	22	59	68	0	23	172
10 and above	27	80	90	26	0	223	18	32	63	1	12	126
Not stated	123	342	368	204	68	1105	147	317	399	34	6030	6927
Total	71828	207144	266574	10696	84	556326	72720	201719	254869	7214	8632	545154

Table 10 contd...

Birth order	2008					
	Birth weight (Kg)					
	< 2.5	2.500 - 3.000	3.000-4.000	4.000+	NS	Total
1	35567	98893	120154	2982	556	258152
2	24255	72435	100614	3068	926	201298
3	7614	19833	28243	952	426	57068
4	1806	4395	6508	270	163	13142
5	498	1113	1656	67	80	3414
6	132	351	520	20	65	1088
7	71	180	204	8	39	502
8	46	77	105	5	21	254
9	15	51	58	5	19	148
10 and above	10	28	27	0	7	72
Not stated	53	263	187	8	89	600
Total	70067	197619	258276	7385	2391	535738

Table-11
Live births by age of mother and method of delivery Kerala-2002-08

Age of mother (years)	2002					2003				
	Method of delivery					Method of delivery				
	Normal	Caesarean	Forceps/ Vacuum	Not stated	Total	Normal	Caesarean	Forceps/V acuum	Not stated	Total
<15	7	1	0	0	8	26	4	0	0	30
15-19	35531	6304	2105	193	44133	13080	2321	775	71	16247
20-24	178096	50671	7624	939	237330	205209	58385	8785	1082	273461
25-29	142348	57390	5174	620	205532	134503	54227	4889	586	194205
30-34	48224	24255	1450	265	74194	38506	19367	1158	212	59243
35-39	11192	5804	296	73	17365	8754	4540	232	57	13583
40-44	1136	511	30	6	1683	737	332	19	4	1092
45 and above	752	136	15	132	1035	218	39	4	38	300
NS	418	119	22	86	645	135	38	7	28	208
Total	417704	145191	16716	2314	581925	400796	139314	16039	2220	558369

Table-11 contd...

Age of mother (years)	2004					2005				
	Method of delivery					Method of delivery				
	Normal	Caesarean	Forceps/ Vacuum	Not stated	Total	Normal	Caesarean	Forceps/ Vacuum	Not stated	Total
<15	0	0	0	0	0	4	4	0	0	8
15-19	29017	6561	2852	318	38748	28125	6715	2461	38	37339
20-24	160669	58589	11201	1747	232206	158361	59308	10306	266	228241
25-29	126501	63029	7085	950	197565	127212	67456	6787	260	201715
30-34	45012	27620	2178	351	75161	42793	29127	2067	116	74103
35-39	9896	6691	413	75	17075	9297	6805	386	23	16511
40-44	885	586	30	5	1506	656	386	15	2	1059
45 and above	227	67	8	27	329	0	2	0	0	2
NS	265	48	16	234	563	62	21	5	16	104
Total	372472	163191	23783	3707	563153	366510	169824	22027	721	559082

Table-11contd...

Age of mother (years)	2006					2007				
	Method of delivery					Method of delivery				
	Normal	Caesarean	Forceps/ Vacuum	Not stated	Total	Normal	Caesarean	Forceps/ Vacuum	Not stated	Total
<15	4	1	1	0	6	2	0	1	1	4
15-19	25460	7102	2866	89	35517	22495	6873	2296	64	31728
20-24	148722	62921	10600	456	222699	138440	65248	8119	349	212156
25-29	122299	70631	7289	358	200577	119191	74609	5300	272	199372
30-34	43392	30886	2152	134	76564	41236	32626	1527	109	75498
35-39	9913	8118	475	40	18546	9292	8559	369	34	18254
40-44	876	736	34	5	1651	811	730	12	6	1559
45 and above	111	38	1	0	150	97	56	0	3	156
NS	281	80	19	236	616	312	93	21	6001	6427
Total	351058	180513	23437	1318	556326	331876	188794	17645	6839	545154

Table-11contd...

Age of mother (years)	2008				
	Method of delivery				
	Normal	Caesarean	Forceps/Vacuum	Not stated	Total
<15	3	2	1	1	7
15-19	22475	7281	2177	80	32013
20-24	135265	66211	8168	333	209977
25-29	116865	76532	5170	264	198831
30-34	40322	32328	1479	131	74260
35-39	9289	8685	334	30	18338
40-44	775	838	28	3	1644
45 and above	87	53	2	1	143
NS	271	81	26	147	525
Total	325352	192011	17385	990	535738

Table 12
Number of deaths registered and Crude Death Rates, Kerala 1958-2008

Year	Number	Rate
1958	-	7.57
1959	-	7.8
1960	-	6.94
1961	-	7.25
1962	110456	6.35
1963	106667	5.99
1964	106496	5.85
1965	97709	5.25
1966	102245	5.38
1967	94552	4.86
1968	92669	4.66
1969	87186	4.29
1970	69745	3.36
1971	91272	4.25
1972	102515	4.63
1973	105721	4.68
1974	113447	4.91
1975	131473	5.56
1976	133602	5.49
1977	119113	4.79
1978	114434	4.83
1979	117961	4.89
1980	118140	4.8
1981	-	4.84
1982	119827	4.59

1983	119414	4.5
1984	120841	4.47
1985	134230	4.88
1986	133654	4.77
1987	141047	4.95
1988	146596	5.05
1989	146194	5.14
1990	147551	5.12
1991	156919	5.37
1992	162644	5.49
1993	161403	5.38
1994	163711	5.38
1995	162868	5.28
1996	172103	5.51
1997	166428	5.25
1998	185788	5.79
1999	186828	5.73
2000	178795	5.42
2001	182059	5.7
2002	184597	5.72
2003	194264	5.97
2004	199017	6.06
2005	204157	6.33
2006	219094	6.55
2007	238691	7.08
2008	221769	6.52

Table 13.
District wise crude death rates of Kerala

Sl.No.	District/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1	Thiruvananthapuram	3.9	4.35	4.15	4.24	4.18	4.91	4.88	4.44	4.6	4.7	4.76	4.67
2	Kollam	3.55	3.39	3.91	4.06	4.48	5.02	4.78	4.08	4.05	3.57	3.96	3.97
3	Pathanamthitta												
4	Alappuzha	3.87	5.53	4.94	5.02	5.22	5.86	5.76	5.02	4.71	4.35	4.32	5.03
5	Kottayam	3.52	3.78	5.09	5.3	5.51	5.78	5.38	4.55	4.68	4.97	4.92	5.07
6	Idukki			3.66	3.37	3.58	3.81	3.81	3.3	2.53	2.77	3.17	3.3
7	Ernakulam	3.94	4.17	4.06	4.17	4.23	4.88	4.87	4.14	4.1	4.28	4.39	4.48
8	Thrisuur	1.39	2.67	3.07	3.41	3.65	4.6	4.58	4.23	4.36	4.62	4.63	4.85
9	Palakkad	2.67	5.18	5.73	6.13	6.7	7.4	7.19	6.65	6.06	6.5	5.95	6.28
10	Malappuram		3.26	5.1	4.89	5.43	6.08	6	4.92	4.75	5.03	4.52	4.59
11	Kozhikkode	4.47	5.3	6.06	5.62	5.82	6.35	6.83	5.54	7.01	6.85	6.71	5.98
12	Wayanad												3.71
13	Kannur	1.63	5	5.09	4.99	5.08	5.94	5.75	5.29	5.37	5.32	4.99	4.91
14	Kasaragode												

Table 13contd...

Sl.No.	District/Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
1	Thiruvananthapuram	4.68	4.26	4.74	4.88	4.92	5.23	5.54	5.66	5.89	5.55	5.54
2	Kollam	3.92	3.64	3.68	3.81	3.72	4.88	4.18	4.17	4.24	4.77	4.62
3	Pathanamthitta		3.66	4.49	5.04	4.92	5.03	4.99	5.51	5.56	5.62	5.97
4	Alappuzha	4.82	4.61	4.71	5.05	4.99	5.06	5.04	5.45	5.28	5.66	5.67
5	Kottayam	4.73	4.81	4.88	5.12	4.87	4.96	5.34	5.71	5.45	6.08	6.1
6	Idukki	3.21	2.96	3.28	3.31	3.31	3.31	3.45	3.88	3.81	4.06	4.24
7	Ernakulam	4.39	4.54	4.44	4.67	4.69	4.94	4.92	5.23	5.41	5.72	5.76
8	Thrisuur	4.66	4.48	4.39	5.14	5.33	5.33	5.44	5.61	5.69	6.02	6.19
9	Palakkad	5.53	5.82	4.7	5.86	5.68	5.14	5.62	5.63	5.59	6.17	5.88
10	Malappuram	4.13	4.39	3.96	4.16	4.26	4.1	4.1	3.74	3.91	3.96	3.83
11	Kozhikkode	5.71	5.37	5.7	6.26	5.71	6.05	6.25	6.19	5.86	6.05	6.17
12	Wayanad	3.59	3.39	3.76	4.27	4.24	4.27	3.96	4.14	4.18	4.26	4.46
13	Kannur	4.5	4.61	4.39	4.74	4.43	4.61	5.17	5.11	4.79	5.07	5.04
14	Kasaragode				5.15	4.42	4.89	5.12	4.7	4.5	4.9	8.04

Table 13contd...

Sl.No.	District/Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	Thiruvananthapuram	5.62	5.88	5.82	6.31	5.89	6.3	6.63	6.15	6.9	5.99	6.42	6.81	6.86	7.71	8.26	7.41
2	Kollam	4.66	4.65	4.69	4.95	4.81	5.21	5.18	4.82	5.13	5.52	5.72	5.45	5.94	6.36	7.15	6.06
3	Pathanamthitta	6.45	6.02	6.18	5.74	5.53	6.55	6.57	6.03	6.99	6.94	7.67	7.78	7.82	7.96	9.53	7.86
4	Alappuzha	5.85	5.71	5.44	5.74	5.43	6.17	5.81	5.3	5.41	6.22	6.25	6.33	6.41	7.07	7.22	6.61
5	Kottayam	6.04	5.93	6.06	6.12	5.73	6.81	6.7	6.4	6.69	6.78	6.45	7.53	7.36	7.77	8.9	7.83
6	Idukki	3.86	3.92	3.92	4.12	3.98	4.42	4.5	4.2	4.22	4.05	4.87	4.79	5.17	4.89	5.65	5.39
7	Ernakulam	5.65	5.4	5.72	5.82	5.82	6.13	6.19	5.67	6.53	6.17	6.57	5.78	7	7.32	8.1	7.64
8	Thrisuur	6.4	6.02	6.52	5.85	6.33	6.46	6.6	6.48	7.34	6.91	7.42	7.66	7.88	7.91	8.29	7.9
9	Palakkad	5.82	5.84	5.34	5.61	4.93	5.71	5.48	5.27	5.35	5.19	5.65	5.76	6.16	6.07	6.5	5.8
10	Malappuram	3.83	3.96	3.85	4.1	3.83	4.5	4.22	4.08	4.08	3.87	4.2	4.18	4.47	4.35	4.9	4.21
11	Kozhikkode	5.95	6.42	5.81	6.87	6.01	6.48	6.29	6.05	5.58	6.45	6.17	6.58	6.7	6.96	7.09	7.14
12	Wayanad	5.17	4.41	4.05	4.55	4.09	4.45	4.58	4.63	4.09	4.4	4.64	4.79	4.76	4.53	4.76	4.7
13	Kannur	4.99	5.28	4.63	4.9	4.89	5.41	5.19	4.93	5.25	5.85	5.75	5.84	5.93	5.95	6.23	6.42
14	Kasaragode	4.28	4.5	4.42	4.84	4.61	4.92	5.05	4.79	4.43	4.72	5.22	5.18	5.04	5.25	5.11	4.98

Table 14
Registered deaths by type of attention at the time of death

Year	Rural/Urban	Type of attention at death				
		Institutional	Medical Attention Other than Institution	No Medical Attention	Not Stated	Total
2002	Rural	58516	28484	26159	10207	123366
	Urban	47183	5160	4910	3978	61231
	Total	105699	33644	31069	14185	184597
2003	Rural	60897	29643	27223	10622	128385
	Urban	50765	5552	5283	4280	65879
	Total	111234	35406	32696	14928	194264
2004	Rural	46546	52196	31576	5640	135958
	Urban	44629	8804	6872	2629	62934
	Total	91175	61000	38448	8269	198892
2005	Rural	57126	47005	32969	1890	138990
	Urban	47901	9397	7165	704	65167
	Total	105027	56402	40134	2594	204157
2006	Rural	68293	32340	35017	11764	147414
	Urban	56734	6659	8174	113	71680
	Total	125027	38999	43191	11877	219094
2007	Rural	81323	36622	37607	8497	164049
	Urban	59627	5990	8527	498	74642
	Total	140950	42612	46134	8995	238691
2008	Rural	73085	33835	38198	5403	150521
	Urban	56751	6310	8049	138	71248
	Total	129836	40145	46247	5541	221769

Table 15
Age and sex wise distribution of registered deaths Kerala-1970-2008

Age group	1970			1971			1972			1973		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	2849	2292	5141	3658	3162	6820	4667	4132	8799	4437	3794	8231
1-4yrs	3794	4047	7841	5008	5276	10284	4627	5140	9767	4734	5087	9821
5-14yrs	1991	1926	3917	2578	2505	5083	2789	2937	5726	3125	3007	6132
15-24	1461	1390	2851	1959	1794	3753	2096	1993	4089	2115	1956	4071
25-44	4808	3882	8690	5595	4206	9801	6356	4727	11083	6538	4620	11158
45-64	9048	4872	13920	12588	6693	19281	14142	7334	21476	14862	7353	22215
65+	14422	12963	27385	19222	17028	36250	21429	19362	40791	23341	19885	43226
Age NR							523	361	884			
Total	38373	31372	69745	50608	40664	91272	56529	45986	102515	59152	45702	104854

Age group	1974			1976			1977			1978		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	4832	3875	8707	6131	4959	11090	5051	3846	8897	4277	4072	8349
1-4yrs	4537	4940	9477	5096	5566	10662	3822	3924	7746	4855	4727	9582
5-14yrs	2774	2766	5540	3040	3039	6079	2545	2403	4948	3196	3039	6235
15-24	2315	2170	4485	2845	2648	5493	2686	2362	5048	3383	3309	6692
25-44	6836	4786	11622	7573	5307	12880	6993	4794	11787	5477	5379	10856
45-64	16089	8101	24190	18746	10010	28756	17713	8920	26633	11980	11507	23487
65+	25662	23292	48954	30187	28455	58642	27503	25860	53363	24509	24724	49233
Age NR							423	268	691			
Total	63045	49930	112975	73618	59984	133602	66736	52377	119113	57677	56757	114434

Table 15contd...

Age group	1979			1980			1982			1983		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	4728	3906	8634	4632	3595	8227	4859	3727	8586	4959	3700	8659
1-4yrs	3585	2907	6492	3107	2776	5883	2517	2474	4991	2551	2517	5068
5-14yrs	3540	2885	6425	2699	2328	5027	1942	1595	3537	1877	1715	3592
15-24	4116	3381	7497	3297	2871	6168	2505	2138	4643	2446	2134	4580
25-44	8141	5428	13569	7985	5027	13012	7445	4028	11473	7458	4087	11545
45-64	21699	8391	30090	20240	8541	28781	20351	8719	29070	20170	8354	28524
65+	22819	22435	45254	27281	23761	51042	30727	26360	57087	30404	26486	56890
Age NR							270	170	440	344	212	556
Total	68628	49333	117961	69241	48899	118140	70616	49211	119827	70209	49205	119414

Age group	1984			1985			1986			1987		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	4037	3004	7041	4447	3331	7778	3679	2719	6398	4084	3401	7485
1-4yrs	2106	2110	4216	2000	1927	3927	1971	2387	4358	1670	1646	3316
5-14yrs	1643	1405	3048	1659	1514	3173	1603	1445	3048	1621	1461	3082
15-24	2548	2014	4562	2382	2149	4531	2522	2167	4689	2719	2255	4974
25-44	7609	4349	11958	7986	4131	12117	8383	4814	13197	9233	4662	13895
45-64	20567	8566	29133	21964	9334	31298	21279	9928	31207	21997	9922	31919
65+	32944	27469	60413	38020	32893	70913	38679	31480	70159	40882	34286	75168
Age NR	334	136	470	331	162	493	364	234	598	773	435	1208
Total	71788	49053	120841	78789	55441	134230	78480	55174	133654	82979	58068	141047

Table 15contd...

Age group	1970			1971			1972			1973		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	2849	2292	5141	3658	3162	6820	4667	4132	8799	4437	3794	8231
1-4yrs	3794	4047	7841	5008	5276	10284	4627	5140	9767	4734	5087	9821
5-14yrs	1991	1926	3917	2578	2505	5083	2789	2937	5726	3125	3007	6132
15-24	1461	1390	2851	1959	1794	3753	2096	1993	4089	2115	1956	4071
25-44	4808	3882	8690	5595	4206	9801	6356	4727	11083	6538	4620	11158
45-64	9048	4872	13920	12588	6693	19281	14142	7334	21476	14862	7353	22215
65+	14422	12963	27385	19222	17028	36250	21429	19362	40791	23341	19885	43226
Age NR												
Total	52795	44335	97130	69830	57692	127522	77535	64987	142522	59643	46078	105721

Age group	1988			1989			1990			1991		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	4103	3089	7192	3913	3209	7122	3616	2918	6534	3491	2824	6315
1-4yrs	1312	1274	2586	1183	1183	2366	766	849	1615	972	1017	1989
5-14yrs	1410	1265	2675	1386	1075	2461	1116	1021	2137	1410	1217	2627
15-24	2558	2059	4617	2469	2087	4556	2503	2056	4559	2729	2120	4849
25-44	8802	4506	13308	8684	4150	12834	9176	4394	13570	9657	4562	14219
45-64	23777	10621	34398	22818	10340	33158	23302	9988	33290	24496	10787	35283
65+	43092	38283	81375	42713	40790	83503	44185	40824	85009	48265	43181	91446
Age NR	289	156	445	139	55	194	427	410	837	108	83	191
Total	85343	61253	146596	83305	62889	146194	85091	62460	147551	91128	65791	156919

Table 15contd...

Age group	1992			1993			1994			1995		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	2934	2218	5152	3080	2477	5557	3094	2457	5551	3060	2576	5636
1-4yrs	783	687	1470	862	684	1546	492	505	997	653	601	1254
5-14yrs	1029	862	1891	927	874	1801	796	643	1439	870	693	1563
15-24	2259	1662	3921	2228	1724	3952	2017	1576	3593	2095	1688	3783
25-44	9352	4249	13601	12663	4922	17585	10228	5137	15365	9855	5269	15124
45-64	27239	12048	39287	25529	12992	38521	26297	12680	38977	27049	14516	41565
65+	50608	46256	96864	49975	45204	95179	51748	44177	95925	49262	43752	93014
Age NR	319	139	458	126	136	262	830	1034	1864	475	454	929
Total	94523	68121	162644	95390	69013	164403	95502	68209	163711	93319	69549	162868

Age group	1996			1997			1998			1999		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	3037	2551	5588	2980	2525	5505	2849	2477	5326	2578	2358	4936
1-4yrs	720	657	1377	653	611	1264	770	664	1434	566	545	1111
5-14yrs	897	695	1592	832	646	1478	1018	806	1824	814	687	1501
15-24	2341	1798	4139	2204	1687	3891	2489	1931	4420	2285	1812	4097
25-44	9921	5581	15502	9248	5356	14604	10962	6695	17657	10554	6457	17011
45-64	29333	16858	46191	28309	16650	44959	30764	23725	54489	30356	23487	53843
65+	51027	45086	96113	48848	44527	93375	52357	46666	99023	53411	49370	102781
Age NR	866	735	1601	777	575	1352	983	632	1615	897	651	1548
Total	98142	73961	172103	93851	72577	166428	102192	83596	185788	101461	85367	186828

Table 15contd...

Age group	2000			2001			2002			2003		
	M	F	T	M	F	T	M	F	T	M	F	T
<1	2515	1701	4216	1836	1311	3147	1789	1222	3223	1236	1047	2459
1-4yrs	723	453	1176	873	652	1525	904	780	1858	848	474	1340
5-14yrs	730	516	1246	1053	735	1788	1102	755	1994	1201	720	1935
15-24	1903	1281	3184	2448	1301	3749	2185	1465	3866	1992	1726	3757
25-44	9692	4376	14068	11005	4473	15478	10111	4749	15656	9279	4143	13552
45-64	30925	12632	43557	31048	11194	42242	29182	11993	43382	25475	13773	39619
65+	60553	50795	111348	68106	46024	114130	56996	47460	110305	65982	55505	122200
Age NR							1909	1289	4313	3929	3335	9132
Total	107041	71754	178795	116369	65690	182059	104178	69713	184597	109942	80723	193994

Age group	2004			2005			2006			2007			2008		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
<1	1349	965	2391	2173	1906	4109	2424	1969	4508	2629	1957	4622	2317	1717	4060
1-4yrs	676	497	1229	1256	921	2252	640	534	1216	610	519	1154	544	429	997
5-14yrs	1357	1012	2497	1185	924	2176	850	670	1556	883	693	1592	851	566	1432
15-24	2508	1484	4088	2297	1520	3881	2350	1433	3840	2331	1457	3834	2248	1389	3664
25-44	11133	4879	16409	10609	5007	15849	11354	5102	16754	11715	5178	17041	10959	5094	16131
45-64	32302	13491	46850	32788	14452	47963	36970	15249	53163	39390	16561	56500	38378	16155	54804
65+	64813	55192	122901	65895	57916	125947	71483	63051	137196	79270	70984	151965	71865	66572	139278
Age NR	1375	847	2652	1109	599	1980	359	260	861	781	635	1983	719	535	1403
Total	115513	78367	199017	117312	83245	204157	126430	88268	219094	137609	97984	238691	127881	92457	221769

Table 16
Deaths by major causes

Cause of death/Year	1992	1993	1994	1995	1996	1997	1998	1999
Cancer	9507	9871	9698	11711	13332	13829	21384	21354
Diabetes	3153	2379	2419	2840	3342	3057	4882	5365
Heart attack	29765	42554	35916	37601	41748	40435	48085	48121
Asthma	16792	16581	13459	13041	13816	13124	14345	14292
Liver Disease	1168	2540	2612	565	691	762	1055	1036
Paralysis	4976	11833	9786	3466	3809	3684	4583	4578
Accident(Traffic/Vehicle)	2490	2547	1672	1309	1648	1860	3774	3974
Suicide	4540	4496	5584	2009	2270	2849	4664	5055
Blood Pressure		0	0	0	0	0	0	0
Kidney Trouble		0	0	0	0	0	0	0
Old age		0	0	0	0	0	0	0
Pulmonary T.B	2803	3034	2954	970	1320	1281	1766	1694

Table 16 contd...

Cause of death/Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cancer	13157	13786	11905	11864	14229	13500	14946	16651	16617
Diabetes	4158	4851	3984	6017	5963	5754	5639	6271	5540
Heart attack	40769	50216	35278	40554	48552	44509	57507	64393	59954
Asthma	16766	15975	15334	22760	24240	23866	27880	28602	26986
Liver Disease	994	915	484	1598	2285	1883	3039	4185	3779
Paralysis	3873	7799	4948	6948	9271	8746	8576	7519	7645
Accident (Traffic/Vehicle)	1569	2020	1401	1251	2221	2168	2589	3105	3268
Suicide	3658	4191	3709	4092	4824	5085	5502	5571	5276
Blood Pressure	329	3886	3051	5534	6491	6367	5960	6930	5997
Kidney Trouble	61	1710	1426	2082	2510	2519	3022	3958	3901
Old age	1568	19631	15933	31102	20732	25370	17612	19895	23642
Pulmonary T.B	2479	2947	1182	1313	1919	1802	1245	1557	1382

Table17
Number of Maternal deaths registered and Maternal Death Rates, Kerala
1958-2008

Year	Number	Rate
1961	-	2.38
1962	708	1.78
1963	748	1.86
1964	606	1.42
1965	505	1.21
1966	564	1.31
1967	339	0.84
1968	294	0.7
1969	292	0.77
1970	231	0.75
1971	244	0.61
1972	235	0.5
1973	142	0.3
1974	121	0.25
1975	177	0.33
1976	131	0.24
1977	106	0.21
1978	230	0.45
1979	163	0.31
1980	61	0.11
1981		
1982	127	0.22
1983	111	0.2
1984	82	0.15
1985	11	0.02
1986	3	0.01

1987	70	0.12
1988	57	0.1
1989	33	0.06
1990	43	0.08
1991	51	0.09
1992	16	0.03
1993	9	0.02
1994	30	0.06
1995	42	0.07
1996	62	0.12
1997	77	0.13
1998	71	0.12
1999		
2000	9	0.02
2001	7	0.01
2002	76	0.13
2003	133	0.24
2004	129	0.23
2005	360	0.64
2006	610	0.67
2007	105	0.19
2008	112	0.21

Table18
District wise MMR

Sl.No.	District/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1	Thiruvananthapuram	0.5	0.3	0.26	0.18	0.32	0.23	0.16	0.31	0.38	0.28	0.08		0.24
2	Kollam	0.83	0.58	0.39	0.35	0.11	0.35	0.15	0.18	0.42	0.29	0.09		0.2
3	Pathanamthitta													
4	Alappuzha	0.74	0.46	0.31	0.26	0.14	0.2	0.04	0.09	0.43	0.28	0.16		0.1
5	Kottayam	0.58	0.24	0.07	0.11	0.19	0.24	0.13	0.12	0.46	0.23	0.03		
6	Idukki			0.52	0.34	0.11	0.32	0.22	0.06	0.77	0.42			0.37
7	Ernakulam	0.39	0.42	0.35	0.13	0.24	0.02	0.11	0.2	0.21	0.18	0.04		0.24
8	Thrisur	0.33	0.41	0.47	0.16	0.1	0.34	0.12	0.43	0.22	0.16	0.1		0.09
9	Palakkad	1.41	1	0.93	0.3	0.53	0.49	0.56	0.42	0.44	0.29	0.2		0.39
10	Malappuram		1.75	1.12	0.71		0.43	0.27	0.28	0.6	0.44	0.16		0.28
11	Kozhikkode	1.24	0.64	0.42	0.33	0.51	0.52	0.51	0.26	0.69	0.43	0.17		0.09
12	Wayanad													0.17
13	Kannur	0.84	0.88	0.73	0.42	0.41	0.41	0.28	0.08	0.48	0.33	0.11		0.42
14	Kasaragode													

Table18 contd...

Sl.No.	District/Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1	Thiruvananthapuram	0.04	0.02	0.02		0.35			0.02	0.13	0.06		0.08	0.09
2	Kollam	0.1		0.03		0.12	0.07	0.1	0.2	0.05	0.03		0.03	0.07
3	Pathanamthitta	0.23		0.09		0.04	0.04	0.05			0.05	0.05	0.05	0.05
4	Alappuzha	0.1	0.08			0.07		0.03		0.25	0.19	0.04	0.08	0.11
5	Kottayam	0.03	0.45			0.16	0.12	0.06		0.09	0.03		0.06	0.06
6	Idukki	0.19	0.41	0.29		0.75	0.06		0.06				0.07	0.11
7	Ernakulam	0.14						0.02	0.23	0.18		0.06	0.04	0.06
8	Thrisuur	0.1	0.1			0.07	0.13	0.02		0.09	0.02		0.04	0.07
9	Palakkad	0.23	0.05			0.13	0.12	0.02		0.18	0.04		0.04	0.08
10	Malappuram	0.09	0.14	0.02	0.01	0.04	0.16	0.05			0.01		0.04	0.06
11	Kozhikkode	0.19				0.03	0.02	0.1	0.28	0.13	0.02	0.02	0.04	0.04
12	Wayanad	2.94	0.56			0.15			0.15			0.17	0.24	0.23
13	Kannur	0.28	0.5	0.03	0.02	0.11	0.09	0.23	0.04				0.07	0.05
14	Kasaragode					0.09	0.76	0.09	0.09	0.09		0.05	0.1	0.14

Table18 contd...

Sl.No.	District/Year	1996	1997	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	Thiruvananthapuram	0.07	0.08	0.08	0.04	0.02	0.02	0.46	0.23	1.59		0.35	0.32
2	Kollam	0.12	0.14	0.14			0.05	0.57	0.05	0.1		0.13	0.08
3	Pathanamthitta	0.1	0.15	0.11			0.15	0.05	0.05	0.05		0.11	0.3
4	Alappuzha	0.2	0.2	0.06		0.03	0.27	0.14	0	0.45		0.08	0.17
5	Kottayam	0.12	0.14	0.11			0.17	0.29	0.4	0.95		0.03	0.1
6	Idukki	0.15	0.21	0.16			0.05	0.44	.	0.92		0.06	0.19
7	Ernakulam	0.11	0.12	0.07			0.31	0.1	0.22	0.78		0.53	0.6
8	Thrisuur	0.13	0.08	0.12	0.08	0.02	0.12	0.06	0.15	0.78		0.15	0.17
9	Palakkad	0.08	0.1	0.16	0.06		0.07	0.12	0.31	0.38		0.22	0.13
10	Malappuram	0.09	0.1	0.14		0.02	0.06	0.28	0.13	0.25		0.19	0.21
11	Kozhikkode	0.09	0.15	0.11		0.04	0.11	0.29	0.26	0.64		0.14	0.09
12	Wayanad	0.2	0.2	0.27			0.06	0.20	0.52	0.67		0.06	0.28
13	Kannur	0.05	0.11	0.1			0.1	0.13	0.58	0.55		0.06	0.11
14	Kasaragode	0.09	0.21	0.18	0.02		0.48	0.09	0.68	0.79		0.24	0.14

Table19
Maternal deaths by age

Year/Age group	1976	1977	1978	1979	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990
<15	2	27	3	3	5	0	2	2	0	0	0	0	0	0
15-19	13	13	7	10	23	66	8	26	4	0	5	3	3	6
20-24	36	14	24	16	17	25	24	14	1	0	11	7	3	2
25-29	32	13	39	47	14	20	29	13	0	1	6	6	4	1
30-34	14	10	48	39	1	8	20	14	2	1	3	2	2	7
35-39	22	9	38	28	1	7	17	3	1	1	8	8	7	15
40-44	1	5	33	10		0	7	8	2	0	1	1	0	0
>45	9	14	31	7		1	4	2	1	0	0	0	0	0
Age NR	2	1	7	3		0		0	0	0	36	30	14	12
State	131	106	230	163	61	127	111	82	11	3	70	57	33	43

Year/Age group	1991	1992	1993	1994	1995	1996	1997	1998	2000	2001	2002	2005	2006	2007	2008
<15	0	0	0	0	0	0	0	0	0	0	3	13	35	0	0
15-19	5	2	0	0	2	4	6	5	0	0	0	14	17	7	3
20-24	4	1	2	3	8	17	22	15	0	1	5	37	37	18	21
25-29	6	2	2	5	9	24	31	29	0	1	11	36	42	20	23
30-34	11	3	2	8	12	10	12	14	0	2	13	27	28	26	13
35-39	13	6	3	9	5	3	4	6	2	3	6	20	22	9	20
40-44	0	0	0	2	4	3	2	2	1	0	3	6	15	6	10
>45	0	0	0	0	1	1	0	0	0	0	35	202	404	16	17
Age NR	12	2	0	3	1	0	0	0	0	0	0	5	10	3	5
State	51	16	9	30	42	62	77	71	3	7	76	360	610	105	112

Table 20
**Number of Infant deaths registered and Infant Mortality Rates, Kerala
 1958-2008**

Year	Number	Rate
1958		49.31
1959		49.77
1960		39.79
1961		41.82
1962	13695	34.62
1963	12750	32.02
1964	12034	28.36
1965	11328	27.28
1966	11138	26.01
1967	9683	24.08
1968	8690	20.93
1969	7519	19.85
1970	5141	16.83
1971	6820	17.13
1972	8799	18.79
1973	8231	17.65
1974	8707	18.47
1975	10393	19.59
1976	11090	20.94
1977	8897	17.97
1978	8349	16.75
1979	8634	16.36
1980	8227	15.45
1981		
1982	8587	15.32
1983	8659	15.86

1984	7041	12.83
1985	7778	13.23
1986	6398	11.28
1987	7485	13.13
1988	7192	12.52
1989	7122	12.63
1990	6534	11.48
1991	6315	11.32
1992	5152	9.84
1993	5557	10.48
1994	5551	10.41
1995	5664	10.15
1996	5588	9.53
1997	5510	9.07
1998	5326	9.00
1999	4936	8.27
2000	4216	7.10
2001	3147	5.43
2002	3223	5.54
2003	2459	4.40
2004	2391	4.26
2005	4109	7.35
2006	4508	8.10
2007	4622	8.48
2008	4060	7.58

Table 21
District wise IMR

Sl.No.	District/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1	Thiruvananthapuram	14.66	13.11	17.38	15.21	12.92	20.39	20.21	19.64	15.59	16.32	19.98		24.72
2	Kollam	15.74	13.4	12.79	12.6	15.89	17.07	19.23	16.05	13.7	11.75	12.53		12.38
3	Pathanamthitta													
4	Alappuzha	14.42	13.47	15.51	13.24	14.65	13.82	15.65	11.16	11.12	10.92	9.63		12.16
5	Kottayam	16.16	22.42	18.32	15.84	19.94	20.7	20.42	17.8	16.75	17.07	17.1		14.55
6	Idukki			34.73	27.66	31.06	27.75	34.79	26.89	10.27	10.01	21.03		21.15
7	Ernakulam	11.24	15.32	15.95	16.18	17.8	18.1	16.78	16.15	12.63	14.76	16.47		15.01
8	Thrisuur	13.05	10.87	12.97	13.66	14.42	13.75	15.67	15.13	14.88	12.29	10.69		12.73
9	Palakkad	26.49	24.9	25.73	27.09	29.3	30.16	26.9	27.71	25.53	24.21	20.08		17.55
10	Malappuram		21.43	21.48	19.51	18.89	19.17	21.04	17.22	13.52	13.5	11.59		10.78
11	Kozhikkode	23.38	24.08	24.05	22.95	20.68	21.66	27.3	19.39	24.79	26.02	19.24		20.48
12	Wayanad													18.26
13	Kannur	21.68	17	19.4	17.93	17.26	18.74	20.28	17.83	18.86	16.91	14.97		11.95
14	Kasaragode													

Table 21 contd...

Sl.No.	District/Year	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
1	Thiruvananthapuram	21.14	17.87	13.83	4.86	16.95	14.46	15.36	14.73	12.89	12.48	12.93	11.78	12.71
2	Kollam	14.53	11.38	11.89	9.59	11.08	9.96	9.97	9.34	11.19	9.32	8.22	8.84	6.59
3	Pathanamthitta	11.79	9.7	8.46	8.13	7.74	8.34	8.76	7.12	7.73	7.56	7.69	6.54	7.41
4	Alappuzha	13.86	9.6	17.08	12.54	12.54	13.33	10	11.18	10.25	10.91	11.15	11.66	10.67
5	Kottayam	16.63	12.73	14.75	11.51	10.27	11.98	13.17	14.28	15.68	8.45	9.06	9.77	14.88
6	Idukki	19.69	17.17	15.67	14.86	14.56	11.28	12.31	10.6	11.77	7.13	9.16	8.24	10.3
7	Ernakulam	15.41	13.37	14.3	16.17	15.33	12.35	13.25	13.56	12.88	11.27	12.25	10.95	8.89
8	Thrisuur	14.73	12.39	12.6	12.25	10.19	10.47	13.8	11.92	11.74	11.26	12.9	13.22	12.75
9	Palakkad	17.05	14.59	14.06	11.89	13.97	10.09	9.42	12.23	10.18	7.41	8.61	9.37	7.61
10	Malappuram	11.67	8.22	8.65	7.69	7.45	7.71	8.24	7.54	5.97	5.02	5.88	5.43	6.42
11	Kozhikkode	22.45	15.66	19	18.36	25.42	29.94	25.35	18.69	20.26	20.72	19.23	18.29	15.96
12	Wayanad	14.38	15.21	17.34	11.49	15.55	12.17	11.66	9.51	9.63	8.14	11.62	11.53	9.83
13	Kannur	13.34	10.52	10.23	9.48	9.24	9.41	9.1	6.78	7.87	5.97	6.26	9.02	9.35
14	Kasaragode			12.79	12.88	12.49	9.22	10.28	9.48	9.18	5.45	8.61	8.63	8.18

Table 21 contd...

Sl.No.	District/Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	Thiruvananthapuram	14.04	13.46	12.89	12.06	5.76	7.42	7.41	11.97	3.22	11.84	15.19	14.52	13.63
2	Kollam	7.27	5.78	5.97	6.53	5.14	3.28	2.39	2.12	1.98	2.11	2.58	2.69	2.69
3	Pathanamthitta	6.92	9.99	6.65	6.08	4.67	3.35	1.74	4.13	3.91	3.64	3.91	6.02	4.63
4	Alappuzha	9.08	9.42	7.64	9.55	3.54	2.18	5.31	1.71	2.41	3.43	6.04	4	5.13
5	Kottayam	9.27	8.51	9.78	4.84	13.16	16.51	1.43	1.37	2.13	1.4	8.97	5.83	5.69
6	Idukki	8.24	9.97	11.47	10.78	9.2	3.08	3.3	1.86	2.82	2.61	3	5.07	4.26
7	Ernakulam	9.95	9.96	7.08	10.19	6.69	6.48	6.89	5.27	2.08	4.84	9.8	9.1	7.43
8	Thrisuur	12.67	11.12	10.6	10.63	9.86	7.26	11.88	3.69	4.29	7.25	9.25	12.53	9.24
9	Palakkad	6.85	8.66	8.33	6.37	6.51	4.87	1.94	1.77	1.28	3.64	5.12	4.07	3.75
10	Malappuram	5.35	5.05	5.48	4.13	3.63	3.08	2.19	2.43	3.82	2.39	4.46	5.86	5.10
11	Kozhikkode	14.34	13.6	17.57	16.699	14.2	3.54	12.35	10.05	14.47	34.35	16.45	18.5	17.07
12	Wayanad	11.02	5.27	3.94	3.87	8.02	7.4	5.19	1.66	4.4	0.74	1.62	10.18	7.16
13	Kannur	7.28	6.56	6.95	4.87	5.59	5.26	5.26	3.01	4.81	2.21	6.93	5.79	5.95
14	Kasaragode	9.8	6.94	6.2	2.08	2.6	2.83	2	3.01	1.62	0.84	7.69	3.57	3.99

Table 22
Infant deaths by age and sex

Age group/ Year	1970			1971			1972			1973		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	1127	817	1944	1093	867	1960	1550	1300	2850	1436	1141	2577
1W-1M	432	391	823	915	749	1664	986	817	1803	1073	916	1989
1-6M	600	501	1101	811	793	1604	1034	1032	2066	1071	940	2011
6m-1Y	690	583	1273	839	753	1592	1097	983	2080	857	797	1654

Age group/ Year	1974			1975			1976			1977		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	1648	1164	2812	2001	1484	3485	1973	1336	3309	2039	1292	3331
1W-1M	884	684	1568	1056	767	1823	1066	848	1914	798	677	1475
1-6M	1399	1253	2652	1702	1526	3228	1745	1516	3261	1218	1007	2225
6m-1Y	901	774	1675	975	882	1857	1061	1004	2065	699	703	1402

Age group/ Year	1978			1979			1980			1982		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	1645	1582	3227	2182	1778	3960	2316	1706	4022	2640	1868	4508
1W-1M	644	599	1243	847	636	1483	767	631	1398	715	544	1259
1-6M	1111	1064	2175	1151	997	2148	1017	834	1851	880	788	1668
6m-1Y	877	827	1704	548	495	1043	532	424	956	624	528	1152

Table 22 contd...

Age group/ Year	1983			1984			1985			1986		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	2574	1880	4454	2292	1607	3899	2518	1695	4213	2079	1473	3552
1W-1M	683	508	1191	578	412	990	607	524	1131	605	436	1041
1-6M	1052	815	1867	721	562	1283	767	671	1438	623	489	1112
6m-1Y	650	497	1147	446	423	869	555	441	996	372	321	693

Age group/ Year	1987			1988			1989			1990		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	2493	1911	4404	2673	1922	4595	2513	2009	4522	2377	1870	4247
1W-1M	574	462	1036	569	449	1018	577	444	1021	650	494	1144
1-6M	671	636	1307	560	478	1038	511	474	985	365	298	663
6m-1Y	346	392	738	301	240	541	312	282	594	224	256	480

Age group/ Year	1991			1992			1993			1994		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	2134	1574	3708	2141	1488	3629	2249	1799	4048	2330	1844	4174
1W-1M	486	421	907	416	404	820	360	301	661	353	297	650
1-6M	540	535	1075	221	206	427	305	241	546	271	215	486
6m-1Y	331	294	625	156	120	276	166	136	302	140	101	241

Age group/ Year	1995			1996			1997			1998		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	1987	1735	3722	1791	1406	3197	1817	1445	3262	1809	24	1833
1W-1M	607	463	1070	518	440	958	507	465	972	479	436	915
1-6M	343	242	585	524	513	1037	522	515	1037	459	441	900
6m-1Y	159	128	287	204	192	396	134	105	239	102	81	183

Table 22 contd...

Age group/ Year	1999			2000			2001			2002		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	1756	1376	3132	1800	1148	2948	1230	836	2066	1153	778	2068
1W-1M	462	367	829	278	200	478	326	234	560	276	171	482
1-6M	452	352	804	293	244	537	150	139	289	251	185	464
6m-1Y	99	72	171	144	109	253	130	102	232	109	88	209

Age group/ Year	2003			2004			2005			2006		
	M	F	T	M	F	T	M	F	T	M	F	T
<1W	726	530	1378	958	618	1623	1015	858	1889	1627	1335	3047
1W-1M	257	316	596	244	202	469	490	421	916	368	288	667
1-6M	154	113	286	89	72	163	328	311	644	318	249	584
6m-1Y	99	88	199	58	73	136	320	283	607	111	97	210

Age group/ Year	2007			2008		
	M	F	T	M	F	T
<1W	1771	1262	3062	1619	1110	2751
1W-1M	401	321	724	351	266	620
1-6M	347	278	627	264	246	511
6m-1Y	110	96	209	83	95	178

Table 23
Number of Still births registered and Still birth Rates, Kerala 1961-2008

Year	Number	Rate
1961	-	9.06
1962	3030	7.60
1963	3183	7.93
1964	3457	8.08
1965	3571	8.53
1966	3292	7.63
1967	2936	7.25
1968	2833	6.78
1969	2910	7.63
1970	2848	9.24
1971	3550	8.84
1972	4623	9.78
1973	3005	6.4
1974	3955	8.32
1975	3884	7.27
1976	4144	7.76
1977	4586	9.18
1978	5304	10.47
1979	5207	9.77
1980	4967	9.24
1981		
1982	4854	8.58
1983	3441	6.26
1984	4175	7.55
1985	3909	6.61
1986	3236	5.67

1987	3694	6.44
1988	3249	5.63
1989	3244	5.72
1990	3537	6.18
1991	3413	6.08
1992	2782	5.29
1993	2692	5.05
1994	2743	5.14
1995	3210	5.72
1996	3026	5.14
1997	3167	5.18
1998	2762	4.65
1999	3136	5.25
2000	3841	6.43
2001	2704	4.65
2002	2863	4.89
2003	2253	4.02
2004	2646	4.68
2005	3529	6.27
2006	3108	5.56
2007	3318	6.05
2008	1994	3.71

Table 24
District wise Still birth rates

Sl.No.	District/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978
1	Thiruvananthapuram	9.01	9.83	11.79	7.01	9.83	4.36	7.74	6.55	11.87
2	Kollam	11.23	9.45	12.52	8.59	7.71	7.66	10.99	9.07	11.07
3	Pathanamthitta									
4	Alappuzha	6.83	4.78	6.53	4.73	4.52	3.94	7.31	6.81	7.74
5	Kottayam	5.89	8.82	7.35	5.13	6.95	7.19	5.18	6.67	5.37
6	Idukki			5.96	11.86	8.32	6.93	3.96	9.63	7.13
7	Ernakulam	10.71	14.52	17.71	6.39	13.39	12.51	12.96	12.84	14.25
8	Thrisuur	7.25	5.31	10.48	6.28	7.47	5.77	6.12	8.21	13.5
9	Palakkad	11.99	6.32	9.17	6.32	3.16	4.19	9.75	14.48	14.35
10	Malappuram		6.2	3.09	5.39	4.59	2.91	2.89	6.26	9.32
11	Kozhikkode	8.49	14.59	13.38	6.51	14.52	14.21	11.26	12	12.65
12	Wayanad									
13	Kannur	14.99	5.71	5.16	4.98	8.3	7.83	4.62	8.61	6.26
14	Kasaragode									

Table 24 contd...

Sl.No.	District/Year	1979	1980	1982	1983	1984	1985	1986	1987	1988
1	Thiruvananthapuram	11.38	10.28	7.84	2.42	1.66	3.15	1	2.67	1.44
2	Kollam	9.86	9.48	9.55	7.87	9.3	6.47	8.07	6.56	4.23
3	Pathanamthitta				5.66	8.99	4.55	2.05	3.26	3.6
4	Alappuzha	7.56	7.44	3.56	6.4	2.95	3.96	1.51	2.85	4.16
5	Kottayam	5.81	6	7.84	6.72	9.35	5.6	3.42	2.93	3.6
6	Idukki	8.79	10.25	7.85	10.52	5.29	6.03	3.46	1.73	4.21
7	Ernakulam	14.24	12.35	10.71	8.06	7.99	8	6.18	7.72	7.16
8	Thrisuur	11.94	11.22	8.93	7.29	6.45	6.29	4.87	5.64	6.11
9	Palakkad	10.73	8.7	7.77	8.14	6.25	8.86	7.11	10.43	4.43
10	Malappuram	8.64	7.74	6.66	2.73	5.36	3.24	5.76	5.46	4.16
11	Kozhikkode	12.64	12.99	13.19	10.27	18	12.51	12.45	13.87	14.17
12	Wayanad			11.55	11.85	12.45	9.48	10.44	8.43	6.3
13	Kannur	5.68	5.28	8.3	3.26	6.27	7.14	5.03	5.56	5.28
14	Kasaragode						10.36	5.88	8.79	9.13

Table 24 contd...

Sl.No.	District/Year	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
1	Thiruvananthapuram	1.95	4.26	3.34	3.46	3.51	3.03	5.2	6.63	6.51	6.83
2	Kollam	3.81	4.14	3.34	4.15	4.48	3.98	3.79	3.12	2.28	1.73
3	Pathanamthitta	3.18	3.86	3.32	3.84	4.1	2.82	3.72	3.03	3.01	2.76
4	Alappuzha	4.07	5.36	4.73	4.76	5.23	6.69	5.31	5.76	5.27	5.15
5	Kottayam	7.55	14.61	8.54	4.94	4.31	1.76	7.08	4.7	5.08	5.94
6	Idukki	7.27	1.1	6.51	4.37	3.31	4.09	3.67	3.65	2.98	4.14
7	Ernakulam	7.04	6.83	6.29	5.77	5.08	5.23	5.06	4.46	4.9	2.9
8	Thrisuur	5.31	6.04	6.33	6.92	7.88	8.14	8.11	7.44	5.08	5.81
9	Palakkad	4.45	3.91	5.77	4.26	2.89	3.57	4.14	2.94	3.44	2.16
10	Malappuram	3.78	5.73	3.98	1.79	1.79	2.08	2.14	2.71	2.36	1.71
11	Kozhikkode	12.71	10.51	12.57	11.2	12.9	11.84	10.46	8.45	11.45	10.44
12	Wayanad	8.63	5.94	5.49	5.9	5.4	7.02	4.47	4.5	6.08	4.32
13	Kannur	4.59	3.84	5.47	4.64	2.38	5.69	7.94	5.76	7.28	6.4
14	Kasaragode	9.37	9.3	10.48	10.35	6.43	6.11	9.63	9.08	5.23	4.71

Table 24 contd...

Sl.No.	District/Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
1	Thiruvananthapuram	9.08	1.11	5.63	0.58	3	3.19	8.2	11.69	9.03	4.36
2	Kollam	2.58	3.99	2.76	2.8	2.07	2.1	3.2	3.37	2.71	1.65
3	Pathanamthitta	2.5	4.24	1.52	2.73	4.21	1.95	3.26	2.3	3.22	1.84
4	Alappuzha	5.49	6.12	6.59	5.01	3.05	3.75	9.09	4.78	6.27	3.95
5	Kottayam	6.42	2.94	6.63	4.69	0.80	4.41	7.01	7.53	6.98	6.88
6	Idukki	4.59	2.15	2.87	2.55	1.53	2.11	3.75	2.39	1.22	2.56
7	Ernakulam	3.16	3.75	4.49	3.32	3.67	4.58	4.63	2.93	6.37	3.97
8	Thrisuur	5.65	3.69	5.24	5.6	5.72	6.88	6.84	3.74	5.35	1.55
9	Palakkad	2.94	7.31	3.33	3.25	3.08	2.47	3.7	2.67	4.31	3.26
10	Malappuram	1.16	5.26	2.39	5.32	2.39	4.52	4.96	4.64	4.94	2.07
11	Kozhikkode	11.98	20.42	8.76	10.39	9.51	8.95	9.75	8.82	9.24	7.77
12	Wayanad	6	10.43	6.78	6.18	6.59	9.62	9.07	7.42	7.66	1.17
13	Kannur	6.32	7.12	3.83	6.28	5.17	3.19	7.07	6.95	6.95	5.96
14	Kasaragode	5.94	7.33	4.61	9.75	3.75	6.71	6	4.34	6.38	1.44

Table 25
Still births by sex and age of mother

Age group/ Year	2002				2003			
	M	F	NR	T	M	F	NR	T
Below 15	1	0	0	1	1	0	0	1
15 - 19	129	83	4	216	102	65	3	170
20 - 24	446	419	24	889	351	330	19	700
25 - 29	453	364	17	834	356	286	13	656
30 - 34	215	164	3	382	169	129	3	301
35 - 39	67	65	3	135	53	51	2	106
40 - 44	13	9	1	23	10	7	1	18
45 & above	184	148	12	344	145	116	10	271
Age not reported	20	18	1	39	16	14	1	31
Total	1528	1270	65	2863	1202	999	52	2253

Age group/ Year	2004				2005			
	M	F	NR	T	M	F	NR	T
Below 15	0	0	0	0	0	0	0	0
15 - 19	45	33	3	81	89	115	0	204
20 - 24	623	464	11	1098	685	542	21	1248
25 - 29	414	331	5	750	650	507	9	1166
30 - 34	183	161	6	350	271	259	7	537
35 - 39	69	63	0	132	112	69	6	187
40 - 44	12	9	0	21	21	11	0	32
45 & above	13	14	0	27	0	2	0	2
Age not reported	84	102	1	187	90	59	4	153
Total	1443	1177	26	2646	1918	1564	47	3529

Table 25 contd...

Age group/ Year	2006				2007			
	M	F	NR	T	M	F	NR	T
Below 15	0	1	0	1	1	1	0	2
15 - 19	102	97	4	203	87	110	1	198
20 - 24	589	478	18	1085	583	491	19	1093
25 - 29	564	466	10	1040	610	507	8	1125
30 - 34	275	198	6	479	269	223	9	501
35 - 39	89	80	0	169	109	81	1	191
40 - 44	7	10	0	17	9	10	0	19
45 & above	3	1	0	4	1	0	0	1
Age not reported	61	48	1	110	108	78	2	188
Total	1690	1379	39	3108	1777	1501	40	3318

Age group/ Year	2008			
	M	F	NR	T
Below 15	0	0	0	0
15 - 19	61	42	2	105
20 - 24	328	275	7	610
25 - 29	360	298	6	664
30 - 34	168	157	2	327
35 - 39	55	48	0	103
40 - 44	2	4	0	6
45 & above	0	0	0	0
Age not reported	95	82	2	179
Total	1069	906	19	1994

Table 26
Still births by sex and duration of pregnancy

Age group/ Year	2002				2003			
	M	F	NR	T	M	F	NR	T
< 32	306	274	14	594	241	216	11	467
32-36	375	294	19	688	295	231	15	541
37-39	351	234	12	597	276	184	9	470
40	140	110	4	254	110	87	3	200
41+	356	358	16	730	280	282	13	574
Not stated	0	0	0	0	0	0	0	0
Total	1528	1270	65	2863	1202	999	51	2253

Age group/ Year	2004				2005			
	M	F	NR	T	M	F	NR	T
< 32	408	384	18	810	675	464	6	1145
32-36	419	303	6	728	620	545	12	1177
37-39	234	201	1	436	384	360	11	755
40	110	72	1	183	139	99	7	245
41+	272	217	0	489	20	18	0	38
Not stated	0	0	0	0	80	78	11	169
Total	1443	1177	26	2646	1918	1564	47	3529

Age group/ Year	2006				2007			
	M	F	NR	T	M	F	NR	T
< 32	540	488	17	1045	559	571	22	1152
32-36	405	316	8	729	437	338	8	783
37-39	517	403	10	930	505	377	6	888
40	91	92	3	186	123	99	3	225
41+	115	66	1	182	125	92	1	218
Not stated	22	14	0	36	28	24	0	52
Total	1690	1379	39	3108	1777	1501	40	3318

Age group/ Year	2008			
	M	F	NR	T
< 32	417	346	11	774
32-36	243	229	2	474
37-39	284	222	3	509
40	56	41	2	99
41+	59	57	0	116
Not stated	10	11	1	22
Total	1069	906	19	1994

Table 27
PROJECTED POPULATION AS ON 1ST MARCH –INDIA, STATES AND UNION TERRITORIES*: 2001-2026 (000’)

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
	India	1028610	532157	496454	1112186	575529	536657	1192506	617316	575191
1	Jammu & Kashmir	10144	5361	4783	10941	5756	5185	11718	6139	5579
2	Himachal Pradesh	6078	3088	2990	6455	3289	3166	6793	3471	3322
3	Punjab	24359	12985	11374	26059	13956	12104	27678	14886	12792
4	Chandigarh*	901	507	394	1103	632	471	1438	832	606
5	Uttaranchal	8489	4326	4163	9219	4699	4520	9943	5072	4871
6	Haryana	21145	11364	9781	23314	12568	10746	25439	13754	11685
7	Delhi*	13851	7607	6243	16021	8835	7186	18451	10215	8235
8	Rajasthan	56507	29420	27087	62276	32466	29811	67830	35394	32436
9	Uttar Pradesh	166198	87565	78633	183282	96589	86693	200764	105798	94966
10	Bihar	82999	43244	39755	90752	47165	43586	97720	50640	47080
11	Sikkim	541	288	252	576	307	269	612	325	287
12	Arunachal Pradesh	1098	580	518	1169	617	553	1241	654	587
13	Nagaland	1990	1047	943	2119	1113	1006	2249	1180	1069

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
14	Manipur	2167	1096	1071	2308	1165	1143	2449	1235	1214
15	Mizoram	889	459	429	946	488	458	1004	517	487
16	Tripura	3199	1642	1557	3407	1746	1661	3616	1851	1765
17	Meghalaya	2319	1176	1143	2470	1251	1219	2621	1325	1296
18	Assam	26656	13777	12878	28665	14763	13902	30568	15698	14870
19	West Bengal	80176	41466	38710	85216	43947	41268	89499	46045	43454
20	Jharkhand	26946	13885	13061	29299	15088	14211	31472	16198	15274
21	Orissa	36805	18661	18144	38887	19692	19196	40750	20602	20148
22	Chhatisgargh	20834	10474	10360	22594	11345	11249	24258	12177	12081
23	Madhya Pradesh	60348	31444	28904	66390	34617	31773	72200	37673	34527
24	Gujarat	50671	26386	24285	54979	28760	26220	59020	31005	28016
25	Dadra & Nagar Haveli*	220	122	99	266	157	109	354	194	160
26	Maharashtra	96879	50401	46478	104804	54623	50181	112660	58844	53816
27	Andhra Pradesh	76210	38527	37683	80712	40677	40036	84735	42611	42124
28	Karnataka	52851	26899	25952	56258	28573	27685	59419	30140	29278

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
29	Goa	1348	687	660	1492	776	716	1767	926	841
30	Daman Diu*	158	93	66	216	131	85	270	175	95
31	Lakshadweep*	61	31	30	72	36	36	76	38	38
32	Kerala	31841	15469	16373	33265	16191	17074	34563	16859	17704
33	Tamil Nadu	62406	31401	31005	65135	32730	32405	67444	33852	33592
34	Pondicherry*	974	487	487	1098	551	547	1391	730	661
35	Andaman & Nicobar Islands*	356	193	163	419	231	188	494	261	233

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
	India	1268961	657168	611793	1339741	694080	645660	1399838	725176	674663
1	Jammu & Kashmir	12419	6479	5940	12987	6747	6240	13434	6951	6483
2	Himachal Pradesh	7095	3635	3460	7361	3781	3580	7575	3900	3675
3	Punjab	29112	15718	13394	30323	16432	13891	31345	17038	14307
4	Chandigarh*	1780	1056	724	2226	1372	854	2518	1604	914
5	Uttaranchal	10632	5431	5201	11241	5750	5491	11746	6014	5732
6	Haryana	27477	14892	12586	29362	15944	13418	31087	16903	14184
7	Delhi*	21285	11827	9458	24485	13650	10835	27982	15645	12337
8	Rajasthan	72948	38090	34858	77676	40568	37107	81501	42551	38950
9	Uttar Pradesh	218088	114903	103185	234631	123532	111099	248763	130793	117970
10	Bihar	103908	53676	50331	109431	56341	53091	113847	58409	55437
11	Sikkim	647	344	303	679	360	319	709	375	334
12	Arunachal Pradesh	1313	691	622	1379	724	655	1438	754	684
13	Nagaland	2380	1247	1133	2500	1308	1192	2606	1361	1245
14	Manipur	2592	1305	1287	2723	1368	1354	2839	1424	1414

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
15	Mizoram	1063	547	516	1116	573	543	1164	597	567
16	Tripura	3826	1955	1871	4019	2051	1968	4191	2135	2056
17	Meghalaya	2773	1400	1373	2914	1469	1445	3038	1529	1509
18	Assam	32449	16625	15825	34183	17478	16705	35602	18162	17440
19	West Bengal	93550	48012	45538	97383	49847	47535	100534	51307	49226
20	Jharkhand	33652	17303	16349	35652	18297	17355	37356	19129	18227
21	Orissa	42479	21438	21041	44068	22198	21870	45324	22775	22549
22	Chhatisgargh	25879	12989	12890	27337	13719	13618	28591	14344	14247
23	Madhya Pradesh	77875	40661	37213	83135	43432	39703	87729	45827	41902
24	Gujarat	62825	33140	29685	66139	35020	31119	69258	36793	32465
25	Dadra & Nagar Haveli*	422	228	194	506	273	233	534	280	254
26	Maharashtra	120076	62849	57226	127082	66639	60442	133333	70023	63310
27	Andhra Pradesh	88361	44348	44013	91549	45880	45669	94073	47061	47012
28	Karnataka	62374	31613	30761	64848	32732	32016	66933	33846	33087

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
29	Goa	1977	1063	914	2232	1249	983	2275	1317	958
30	Daman Diu*	330	221	109	409	284	125	441	310	131
31	Lakshadweep*	81	39	42	86	41	45	78	36	42
32	Kerala	35677	17440	18236	36569	17917	18652	37254	18297	18956
33	Tamil Nadu	69396	34790	34605	70865	35482	35383	71857	35937	35920
34	Pondicherry*	1669	929	740	2028	1208	820	2232	1410	822
35	Andaman & Nicobar Islands*	551	283	268	617	312	305	653	338	315

Source: Report of the Technical Group on Population Projections Constituted by the National Commission on Population, Office of the Registrar General & Census Commissioner, India.

Table 28
PROJECTED POPULATION AS ON 1ST JULY INDIA, STATES AND UNION TERRITORIES* 2001-2026 (000')

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
	India	1034931	535245	499686	1117734	578412	539322	1197813	620079	577734
1	Jammu & Kashmir	10228	5405	4823	10995	5783	5212	11768	6164	5605
2	Himachal Pradesh	6108	3104	3004	6479	3302	3177	6815	3483	3332
3	Punjab	24511	13068	11443	26172	14020	12152	27782	14946	12836
4	Chandigarh*	912	514	398	1121	643	478	1462	847	615
5	Uttaranchal	8540	4349	4192	9268	4724	4544	9990	5096	4894
6	Haryana	21328	11463	9865	23460	12649	10810	25580	13832	11747
7	Delhi*	14021	7705	6316	16175	8923	7253	18626	10315	8311
8	Rajasthan	56999	29660	27339	62661	32669	29992	68194	35586	32608
9	Uttar Pradesh	167481	88170	79312	184449	97205	87244	201942	106418	95524
10	Bihar	83788	43609	40179	91253	47418	43836	98168	50862	47306
11	Sikkim	547	292	255	578	308	270	615	326	288
12	Arunachal Pradesh	1105	583	522	1174	619	555	1246	656	590
13	Nagaland	2025	1066	960	2128	1118	1010	2258	1185	1073

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
14	Manipur	2174	1099	1076	2317	1170	1148	2459	1239	1219
15	Mizoram	895	462	433	950	490	460	1008	519	489
16	Tripura	3203	1644	1559	3421	1753	1668	3630	1858	1772
17	Meghalaya	2338	1185	1153	2480	1256	1224	2631	1330	1301
18	Assam	26779	13838	12941	28797	14828	13969	30695	15760	14935
19	West Bengal	80492	41609	38883	85531	44102	41429	89777	46181	43596
20	Jharkhand	27131	13969	13162	29452	15166	14286	31617	16272	15345
21	Orissa	36961	18736	18225	39021	19757	19263	40871	20661	20210
22	Chhatisgargh	20911	10510	10401	22710	11402	11307	24369	12232	12136
23	Madhya Pradesh	60751	31642	29109	66791	34828	31963	72587	37877	34711
24	Gujarat	51058	26593	24464	55262	28916	26346	59286	31153	28133
25	Dadra & Nagar Haveli*	225	125	100	271	160	111	360	196	163
26	Maharashtra	97476	50724	46752	105338	54908	50430	113179	59123	54055
27	Andhra Pradesh	76399	38614	37785	81001	40815	40186	84994	42735	42259
28	Karnataka	53119	27029	26090	56480	28682	27798	59625	30243	29382

State Code	India and State/Union Territory*	2001			2006			2011		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
29	Goa	1355	691	664	1506	784	722	1785	936	849
30	Daman Diu*	161	95	66	220	134	86	274	178	96
31	Lakshadweep*	61	31	30	73	36	36	76	38	38
32	Kerala	31916	15495	16421	33357	16238	17119	34646	16902	17744
33	Tamil Nadu	62598	31484	31114	65306	32813	32493	67589	33922	33667
34	Pondicherry*	978	488	489	1112	559	553	1412	743	668
35	Andaman & Nicobar Islands*	358	194	164	424	233	190	499	263	236

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
	India	1273986	659789	614197	1344306	696462	647844	1403476	727044	676432
1	Jammu & Kashmir	12463	6500	5963	13020	6762	6258	13461	6963	6498
2	Himachal Pradesh	7115	3646	3469	7377	3790	3588	7588	3907	3681
3	Punjab	29201	15770	13431	30397	16476	13921	31409	17076	14333
4	Chandigarh*	1801	1071	730	2262	1398	864	2528	1614	914
5	Uttaranchal	10677	5455	5222	11279	5770	5509	11777	6030	5747
6	Haryana	27612	14966	12645	29483	16012	13471	31198	16964	14234
7	Delhi*	21492	11944	9547	24712	13779	10932	28226	15784	12441
8	Rajasthan	73276	38262	35014	77984	40729	37255	81722	42664	39058
9	Uttar Pradesh	219239	115507	103732	235710	124092	111618	249612	131224	118387
10	Bihar	104303	53869	50434	109787	56511	53276	114103	58527	55576
11	Sikkim	649	345	304	681	361	320	711	376	335
12	Arunachal Pradesh	1318	693	625	1383	726	657	1442	756	686
13	Nagaland	2389	1251	1137	2507	1312	1196	2613	1365	1248
14	Manipur	2601	1309	1292	2731	1372	1358	2846	1428	1418

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
15	Mizoram	1067	549	518	1120	575	545	1167	598	569
16	Tripura	3840	1963	1878	4032	2057	1974	4202	2140	2061
17	Meghalaya	2784	1405	1378	2922	1473	1449	3046	1533	1513
18	Assam	32577	16688	15889	34293	17532	16761	35685	18201	17484
19	West Bengal	93827	48146	45681	97634	49967	47667	100716	51390	49327
20	Jharkhand	33803	17379	16424	35777	18358	17419	37460	19179	18280
21	Orissa	42593	21493	21100	44171	22247	21924	45395	22806	22589
22	Chhatisgarh	25988	13043	12945	27428	13764	13663	28669	14383	14286
23	Madhya Pradesh	78255	40862	37393	83471	43609	39862	88014	45974	42039
24	Gujarat	63075	33281	29794	66343	35136	31206	69469	36912	32557
25	Dadra & Nagar Haveli*	425	230	195	513	277	236	533	278	254
26	Maharashtra	120554	63108	57446	127542	66888	60654	133725	70236	63490
27	Andhra Pradesh	88596	44460	44136	91750	45977	45773	94220	47128	47092
28	Karnataka	62568	31710	30858	64995	32904	32092	67064	33909	33155
29	Goa	1985	1070	915	2253	1264	989	2267	1315	952

State Code	India and State/Union Territory*	2016			2021			2026		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
30	Daman Diu*	334	224	110	415	289	126	440	310	131
31	Lakshadweep*	82	39	42	86	41	45	77	35	42
32	Kerala	35745	17476	18269	36622	17946	18676	37294	18320	18974
33	Tamil Nadu	69518	34849	34669	70947	35520	35427	71910	35961	35949
34	Pondicherry*	1683	941	742	2057	1231	826	2236	1418	818
35	Andaman & Nicobar Islands*	554	284	269	622	314	308	654	339	314

Source: Report of the Technical Group on Population Projections Constituted by the National Commission on Population, Office of the Registrar General & Census Commissioner, India.

Table 29
PROJECTED POPULATION CHARACTERISTICS AS ON 1ST MARCH: 2001-2026
KERALA

Indicator	2001	2006	2011	2016	2021	2026
Population (000 ')						
Total	31841	33265	34563	35677	36569	37254
Male	15469	16191	16859	17440	17917	18297
Female	16373	17074	17704	18236	18652	18956
Sex Ratio	1058	1055	1050	1046	1041	1036
Population Density(Sq.km)	819	856	889	918	941	959
Population by broad age-groups (000' s)						
18 years and above	21747	23562	25120	26491	27722	28760
0-14	8303	8005	7849	7593	7319	6988
15-59	20176	21530	22458	23100	23417	23462
60+	3362	3729	4256	4983	5833	6804
Proportion (percent)						
0-14	26.1	24.1	22.7	21.3	20.0	18.8
15-59	63.4	64.7	65.0	64.7	64.0	63.0
15-49(Female Population)	55.4	55.5	54.5	52.8	50.7	48.3
60+	10.6	11.2	12.3	14.0	16.0	18.3
Medium Age (Years)	28.05	29.87	31.81	33.79	35.79	37.67
Dependency Ratio						
Young (0-14)	412	372	349	329	313	298
Old (60+)	167	173	189	216	249	290
Total (Young and old)	578	545	539	544	562	588

Source: Report of the Technical Group on Population Projections Constituted by the National Commission,
Office of the Registrar General & Census Commissioner, India.

Table 30
DEMOGRAPHIC INDICATORS: 2001-2025 –KERALA

INDICATOR	2001-05	2006-10	2011-15	2016-20	2021-25
1	2	3	4	5	6
Population growth rate	0.9	0.8	0.6	0.5	0.4
Crude Birth Rate(CBR)	16.3	15.4	14.2	13.1	12.3
Crude Death Rate (CDR)	6.8	7.0	7.1	7.4	7.8
Infant Mortality Rate (IMR)	12.1	11.1	10.0	9.2	8.4
Under-5 mortality rate(qs)	14.1	13.0	11.8	11.0	10.1
Total Fertility Rate (TFR)	1.8	1.8	1.8	1.8	1.8
Life expectancy of males	70.8	72.0	73.2	74.2	75.2
Life expectancy of females	76.0	76.8	77.6	78.1	78.6

Source: Report of the Technical Group on Population Projections constituted by the National Commission on Population, Office of the Registrar General & Census Commissioner, India.

Table 31

PROJECTED POPULATION BY AGE AND SEX AS ON 1ST MARCH: 2001-2026 KERALA

Age Group	2001			2006			2011		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1	2	3	4	5	6	7	8	9	10
0-4	2713	1392	1321	2609	1351	1258	2571	1332	1239
5-9	2712	1382	1330	2698	1384	1314	2594	1343	1251
10-14	2878	1458	1420	2699	1375	1325	2685	1376	1308
15-19	2988	1485	1503	2851	1446	1405	2672	1363	1310
20-24	2937	1417	1520	2942	1468	1475	2806	1429	1377
25-29	2771	1306	1464	2906	1400	1506	2912	1450	1461
30-34	2574	1207	1367	2742	1289	1454	2878	1382	1496
35-39	2352	1115	1237	2546	1189	1357	2715	1271	1444
40-44	2075	1008	1068	2320	1095	1225	2514	1170	1344
45-49	1812	898	914	2037	983	1055	2281	1070	1211
50-54	1484	736	748	1762	864	897	1986	949	1037
55-59	1184	573	611	1423	695	727	1695	820	874
60-64	1025	476	549	1109	524	585	1340	642	698
65-69	863	389	475	922	415	507	1007	463	543
70-74	730	320	410	726	316	411	788	345	444
75-79	462	200	262	560	236	324	570	240	330
80+	282	107	175	412	162	250	550	215	335
Total	31841	15469	16373	33265	16191	17074	34563	16859	17704

Age Group	2016			2021			2026		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1	2	3	4	5	6	7	8	9	10
0-4	2456	1272	1184	2333	1209	1124	2239	1160	1079
5-9	2556	1324	1233	2441	1264	1177	2319	1202	1118
10-14	2581	1335	1246	2544	1316	1228	2429	1257	1172
15-19	2657	1364	1293	2554	1324	1230	2517	1305	1212
20-24	2627	1346	1281	2611	1347	1264	2508	1306	1201
25-29	2776	1412	1364	2598	1330	1269	2583	1331	1252
30-34	2885	1433	1452	2750	1396	1354	2574	1314	1260
35-39	2851	1365	1486	2859	1416	1442	2726	1381	1346
40-44	2684	1252	1431	2821	1346	1474	2830	1399	1431
45-49	2475	1145	1330	2645	1228	1417	2783	1323	1459
50-54	2229	1037	1192	2422	1112	1310	2592	1196	1396
55-59	1917	905	1012	2157	992	1164	2350	1069	1281
60-64	1605	763	842	1824	848	976	2061	936	1125
65-69	1227	575	652	1480	691	789	1693	776	918
70-74	874	393	481	1077	496	581	1312	604	707
75-79	632	269	363	710	312	398	885	400	486
80+	645	250	395	743	289	454	853	338	515
Total	35677	17440	18236	36569	17917	18652	37254	18297	18956

Source: Report of the Technical Group on Population Projections Constituted by the National Commission on Population, Office of the Registrar General & Census Commissioner, India.

Table 32

PROJECTED POPULATION BY SEX FOR AGES 5 TO 18 YEARS AS ON 1ST MARCH 2001-2026

Age Group	2001			2006			2011		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1	2	3	4	5	6	7	8	9	10
5	540	276	264	534	275	259	516	267	249
6	537	274	263	539	277	262	516	267	248
7	539	274	264	542	278	264	517	268	249
8	544	277	267	542	278	265	520	269	251
9	553	281	272	541	277	264	525	271	254
10	563	286	277	537	274	263	531	273	258
11	571	290	281	535	273	262	537	275	261
12	577	293	284	536	273	263	539	276	263
13	582	294	288	541	275	266	540	276	264
14	585	295	291	550	279	270	538	275	263
15	591	296	295	559	284	275	533	272	261
16	598	299	299	566	288	278	530	271	260
17	601	299	302	572	290	281	531	271	260
18	601	297	303	576	292	284	535	273	262
5-18	7982	4032	3950	7669	3913	3757	7408	3805	3603

Age Group	2016			2021			2026		
	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1	11	12	13	14	15	16	17	18	19
5	504	261	243	480	248	231	457	237	220
6	510	264	246	484	251	233	460	238	222
7	513	266	247	488	253	235	463	240	223
8	515	266	248	493	255	237	467	242	225
9	514	266	248	497	257	239	472	245	328
10	313	266	248	502	260	242	477	247	230
11	514	266	248	508	263	245	482	249	233
12	515	267	248	511	264	247	486	252	235
13	518	268	250	512	265	247	490	254	236
14	522	269	252	511	265	247	493	255	238
15	527	271	256	509	264	245	498	258	240
16	532	273	259	509	264	245	503	261	242
17	534	274	260	510	264	245	506	262	244
18	534	274	260	512	265	246	506	262	244
5-18	7264	3751	3513	7025	3638	3387	6760	3502	3259