



GOVERNMENT OF KERALA

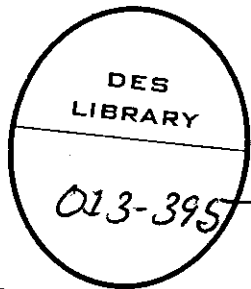
RESIDENTIAL VITAL RATES
IN
CORPORATIONS & MUNICIPALITIES
1980

REPORT No. 46

POPULATION DIVISION
DEPARTMENT OF ECONOMICS & STATISTICS

APRIL—1984

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RESIDENTIAL VITAL RATES IN MUNICIPALITIES—1980

Introduction

The report contains the results of the spot-check on births and deaths conducted for estimation of vital rates in Municipalities/Corporations of the State for the year 1980 under the Scheme—Improvement of Vital Statistics in Municipalities.

At present birth and death registration in the State is governed by the Registration of Births and Deaths Act of 1969 and the Kerala Births and Deaths Registration Rules. The data on vital statistics collected through civil registration are deficient in many aspects. All births and deaths are not registered due to various reasons under the system of registration, prevalent in the State, all the events occurring inside the towns whether they pertain to normal residents or outsiders have to be registered at the place of occurrence of the events.

The system of spot check was introduced in the Corporations and Municipalities to estimate the correct residential vital rates, after taking into account the extent of under registration of events to normal residents occurring outside and those occurring to residents outside the urban areas. This brief note intends to present these rates.

2. Measures for improvement of registration

The following measures were also taken to improve the registration of vital events:

(a) The Municipal authorities are exhibiting notices to educate the public the importance of births and deaths registration.

(b) Slides are exhibited in cinema theatres emphasising the importance of Vital Registration.

(c) Show cause notices are issued to defaulters for failure to register events and action is taken to prosecute them as per provisions of Births and Deaths Act by the Municipal/Corporation Commissioner.

3. Scheme for improvement of Vital Statistics in Municipalities

During the year 1980 three Corporations, 30 Municipalities and Guruvayoor Township were covered under the scheme. In the Corporations of Trivandrum, Cochin and Calicut 18 wards each and in Quilon and Alleppey Municipalities 50 per cent of the wards were selected as the sample for the study. All the wards in Guruvayoor Township and 15 wards each in all other municipalities were selected for spot check by the Statistical Staff.

The Compiler and Research Assistant visited these selected wards periodically and collected data on vital events from each household.

4. Methodology

The results of spot check are used to estimate (a) the extent of under-registration of vital events in the area and (b) residential rates of birth and death of the area.

(a) Calculation of the extent of under-registration

The vital events occurring to normal residents enumerated during the spot check are divided into 3 categories:

- (i) Events occurring inside the town and registered.
- (ii) Events occurring inside the town but not registered.
- (iii) Events occurring outside the town registered or unregistered.

For the calculation of the percentage of under-registration, the events occurring to persons coming into the town/city to avail themselves of better medical facilities are excluded.

(b) Calculation of residential rates of birth and death

Residential rates can broadly be defined as the rate of occurrence of vital events to the normal residents of an area in a year. Vital events occurred to outsiders should be excluded from the total registered events of the town/city in order to find out the event occurred to the normal residents alone. The registered rate to the normal residents is weighted for under-registration and further—adjusted for events occurring outside the town to the normal residents.

In the Corporation of Trivandrum, Cochin and Kozhikode and in the major Municipalities of Quilon and Alleppey the scheme for medical certification of cause of death has also been introduced to develop cause of death statistics.

5. General Background of the Towns/Cities

Appendix I presents a general picture of the Corporations and Municipalities under the scheme. The data on Hospitals and Dispensaries available in the Towns/Cities for the year 1980 are given in Appendix II. Appendix III shows the number of burial grounds and cremation grounds in the Corporations/Municipalities.

The details about the area and population per registration units are given in Appendix IV.

Appendix V—Town-wise details regarding the vital events registered during the year are furnished in Appendix V. The data on distribution of death according to causes are given in Appendix VI.

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PREFACE

This report presents the adjusted residential rates of birth and death in Municipalities and Corporations in the State for the year 1980. The rates have been estimated from the registered rates of births and deaths to the normal residents, after making adjustments for under registration and for the events occurring outside the Municipal/Corporation areas, using the result of spot-checks conducted in randomly selected wards of the Municipality/Corporation. The report has been prepared by the Vital Statistics section of the Population Division of the Directorate of Economics and Statistics.

Trivandrum,
9-4-1984.

K. RAMA VARMA,
Director.



6. Results of spot Check

Appendix VII provides the details on vital events collected through spot check during the year 1980. Appendix VIII shows the percentage of under registration and the percentage of events occurred to the normal residents outside the town. The highest percentage of under-registration of birth and death is in Trichur by 36.34 and 47.40 per cent respectively. When compared to the previous year, the percentage of under-registration of births and death has increased in some of the towns. The highest percentage of under registration of birth and death in 1979 were 27.32 and 49.30 respectively. 100% of registration of birth recorded in Muvattupuzha and Alwaye and death in Atingal and Muvattupuzha. In short the percentage of under-registration of birth and death increased in some Municipalities, while it decreased in some other Municipalities.

7. Adjusted and Registered Vital Rates for 1980

The adjusted residential vital rates and the registered vital rates in 1980 are given in Appendix IX. The adjusted residential birth rate for urban area is 23.70 and the death rate is 6.13 for the year 1980.

In Appendix X, the adjusted residential vital rates are given for the last five years. The rates are fluctuating during the years in most of the towns, while in a few, they are falling.

8. Scheme for improvement of vital statistics—Sample Registration Scheme

The scheme was introduced in the State in 1965 under this scheme. A sample of 150 rural census villages and 80 urban blocks have been randomly selected. In each of these samples a part-time enumerator has been posted. The enumerator visits all the households in the sample—periodically and collects data on vital events in respect of the members of the households. This scheme for rural area is operated by the Directorate of Economics and Statistics, Trivandrum and that for urban areas by the Department of Census Operations, Government of India. The results of the survey for the year 1979 and 1980 are given below.

	<i>Birth rate</i> 1979-1980	<i>Death rate</i> 1979-1980
Rural	26.3-27.0	6.9-7.1
Urban	23.9-25.5	6.0-6.5
Combined	25.8-26.8	6.9-7.0

9. Conclusion

Under the existing conditions, the coverage of civil registration is incomplete due to under-registration of vital events. If a clear idea about the extent of under-registration of birth and death is obtained, the rates thrown

out by civil registration can be corrected. The Scheme for improvement of Vital Statistics in Municipalities and Corporations serves this purpose to a certain extent in the respective areas.

ANNUAL RESIDENTIAL VITAL RATES 1980

APPENDIX I

Area and population—1980

<i>Sl. No.</i>	<i>Name of Municipality</i>	<i>Area (Sq. km.)</i>	<i>Mid year population</i>	<i>Density of population</i>
1.	Neyyattinkara	9.99	277000	2772
2.	Trivandrum	75.00	477300	6364
3.	Attingal	14.78	29500	1995
4.	Quilon	18.48	137000	7414
5.	Kayamkulam	21.78	60800	2791
6.	Mavelikara	12.65	26500	2094
7.	Alleppey	44.94	169300	3767
8.	Shertallai	16.19	40200	2483
9.	Changanacherry	13.26	51700	3898
10.	Thiruvalla	14.48	29000	2002
11.	Kottayam	16.45	64100	3896
12.	Palai	25.90	21500	830
13.	Vaikom	8.73	21000	2405
14.	Muvattupuzha	13.18	25100	1904
15.	Cochin	83.52	507700	6078
16.	Alwaye	7.17	25200	3514
17.	Parur	9.02	26100	2893
18.	Perumbavoor	13.61	23100	1697
19.	Iringalakuda	11.24	26100	2322
20.	Trichur	12.89	76800	5958
21.	Guruvayoor town ship	7.48	17700	2366
22.	Kunnamkulam	6.89	19300	2801
23.	Palghat	26.60	110100	4139
24.	Chittoor-Thathamangalam	14.71	30300	2059
25.	Calicut Corporation	84.20	390100	4633
26.	Badagara	21.34	63500	2975
27.	Tellicherry	16.19	75100	4638
28.	Kasargode	16.84	42500	2523
29.	Cannanore	10.83	60500	5586
30.	Chalakkudy	25.23	41600	1648
31.	Punalur	34.60	42700	1234
32.	Tirur	16.55	40200	2429
33.	Malappuram	33.69	39200	1163
34.	Kodungalloor	17.40	28300	1626

APPENDIX II

No. of Hospitals and other Institutions—1960

Sl. No.	Name of Municipality/ Corporation	Hospitals				Dispensaries and other institutions				Maternity and child welfare centre									
		Public		Private		Public		Private		Public		Private							
		No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds	No. Beds						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.	Neyyattinkara	3	185	4	49	7	234	..	..	7	..	7	..	2	..	..	..	..	2
2.	Trivandrum	20	4250	14	575	34	4825	8	..	60	..	68	..	37	..	..	..	..	37
3.	Attungal	..	..	7	190	7	190	2	45	8	..	10	45	3	..	..	..	..	3
4.	Quilon	6	894	18	888	24	1782	5	..	27	..	32	..	15	..	..	..	..	15
5.	Kayamkulam	1	80	8	170	9	250	..	..	4	..	4	..	4	..	..	..	..	4
6.	Mavelikara	2	200	1	170	3	370	..	..	6	51	6	51	1	..	..	..	..	1
7.	Alleppey	6	..	3	..	9	..	..	..	30	..	30	..	6	..	..	..	..	6
8	Sherattalai	1	126	2	164	3	290	2	..	..	..	2	..	4	..	..	..	..	4
9.	Changanacherry	2	139	9	196	11	335	..	..	9	..	9	..	4	..	..	..	..	4
10.	Thiruvalla	2	140	6	445	8	585	..	..	11	..	11	..	1	..	..	..	..	1
11.	Kottayam	2	295	14	185	16	480	3	..	53	..	56	..	3	..	..	..	..	3
12.	Palai	4	230	6	367	10	597	..	..	13	..	13	..	..	..	..	..	..	..
13.	Vaikom	2	230	2	30	4	260	..	..	32	..	32	..	2	20	..	..	..	2
14.	Muvattupuzha	2	144	9	260	12	404	1	20	2	..	3	20	2	..	..	..	..	2
15.	Cochin	12	1902	30	1913	42	3815	3	14	90	..	93	14	6	..	..	..	..	6

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
16.	Alwaye	1	146	12	325	13	471	1	..	2	..	3	..	2	..	..	..	..	2
17.	Parur	2	143	4	85	6	228	..	..	8	..	8	..	2	..	..	..	..	2
18.	Perumbavoor	2	116	8	205	10	321	1	..	6	..	7	..	4	..	..	..	..	4
19.	Irinjalakuda	2	189	2	40	4	229	1	..	..	..	1	..	2	..	..	..	..	2
20.	Trichur	5	1124	10	564	15	1698	1	..	12	..	13	..	4	..	..	..	..	4
21.	Guruvaayoor	2	33	..	..	2	33	..	..	..	..	..	..	1	..	..	..	..	1
22.	Kunnamkulam	1	83	6	92	7	175	2	..	..	..	2	..	1	..	..	..	..	1
23.	Palghat	4	508	15	169	19	677	2	..	11	..	13	..	3	..	..	..	..	3
24.	Chittoor-Thatha- mangalam	2	97	..	..	2	97	..	..	6	7	6	7	1	..	..	..	..	1
25.	Calicut	9	3271	27	1080	36	4351	18	..	65	..	83	..	13	..	..	..	..	13
26.	Badagara	2	190	..	..	2	190	..	..	2	244	2	244	6	..	2	13	8	13
27.	Tellicherry	2	410	11	182	13	592	2	..	39	..	41	..	2	10	2	15	4	25
28.	Kasaragode	1	120	15	250	2	370	..	..	13	300	13	300	1	..	..	..	..	1
29.	Cannanore	2	55	16	360	18	415	2	..	16	42	18	42	3	9	..	..	..	3
30.	Chalakudy	1	144	7	250	8	394	2	..	..	..	2	..	1	..	..	..	..	1
31.	Punahur	1	100	8	180	9	280	2	..	3	..	5	..	3	..	..	..	..	3
32.	Tirur	3	140	2	69	5	209	2	..	..	..	2	..	3	..	..	..	..	3
33.	Malappuram	2	32	1	55	3	87	..	..	..	..	..	..	2	..	..	..	..	2
34.	Kodungalloor	1	147	2	40	3	187	1	..	..	..	1	..	2	..	..	..	..	2

APPENDIX IV

Registration units with area and population 1980

Sl. No.	Name of Municipality/ Corporation	No. of Registration Unit	Area in Sq. Kms.	Area/ registration Unit	Estimated population	Population/ Registration Unit
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Neyyattinkara	1	9.99	9.99	27700	27700
2.	Trivandrum	13	75.00	5.77	477300	36715
3.	Attingal	1	14.78	14.78	29500	29500
4.	Quilon	3	18.48	6.16	137000	45666
5.	Kayamkulam	1	21.78	21.78	60800	60800
6.	Mavelikara	1	12.65	12.65	26500	26500
7.	Alleppey	6	44.94	7.49	169300	28216
8.	Shertallai	1	16.19	16.19	40200	40200
9.	Changanacherry	1	13.26	13.26	51700	51700
10.	Thiruvalla	1	14.48	14.48	29000	29000
11.	Kottayam	4	16.45	4.11	64100	16025
12.	Palai	1	25.90	25.90	21500	21500
13.	Vaikom	1	8.73	8.73	21000	21000
14.	Muvattupuzha	1	13.18	13.18	25100	25100
15.	Cochin	2	83.52	41.76	507700	253850
16.	Alwaye	2	7.17	3.59	25200	12600
17.	Parur	1	9.02	9.02	26100	26100
18.	Perumbavoor	1	13.61	13.61	23100	23100
19.	Irinjalakuda	1	11.24	11.24	26100	26100
20.	Trichur	1	12.89	12.89	76800	76800
21.	Guruvayoor Township	1	7.48	7.48	17700	17700
22.	Kunnamkulam	1	6.89	6.89	19300	19300
23.	Palghat	5	26.60	5.32	110100	22020
24.	Chittoor-Thathamangalam	2	14.71	7.36	30300	15150
25.	Calicut	4	84.20	21.05	390100	97525
26.	Badagara	3	21.34	7.11	63500	21166
27.	Tellicherry	4	16.19	4.05	75100	18775
28.	Kasargode	3	16.84	5.61	42500	14166
29.	Cannanore	4	10.83	2.71	60500	15125
30.	Chalakyudy	1	25.23	25.23	41600	41600
31.	Punalur	1	34.60	34.60	42700	42700
32.	Tirur	1	16.55	16.55	40200	40200
33.	Malappuram	1	33.69	33.69	39200	39200
34.	Kodungalloor	1	17.40	17.40	28300	28300

APPENDIX V

Vital events registered during the year 1980

Sl. No.	Name of Municipality/ Corporation	Number of live births						Number of still births					
		Total events			Events to normal residents			Total events			Events to normal residents		
		M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Neyyattinkara	1279	1113	2392	182	145	327	22	22	44	..	2	2
2	Trivandrum	13728	13134	26860	4575	4400	8975	130	103	233	45	35	80
3	Attungal	758	822	1580	134	172	306	11	4	15	2	2	4
4	Quilon	4454	4531	8985	1070	1090	2162	130	96	226	38	22	60
5	Kayamkulam	1707	1722	3429	668	654	1322	21	22	43	3	6	9
6	Mavelikara	1567	1554	3121	218	213	431	6	2	8	1	..	1
7	Alleppey	3772	3644	7416	1012	967	1979	15	9	24	..	..	..
8	Sherattalai	984	1004	1988	288	304	582	30	24	54	11	11	22
9	Changanacherry	1192	1108	2300	392	356	748	3	4	7	2	3	5
10	Thiruvalla	1296	1199	2495	163	146	309	15	10	25	1	4	5
11	Kottayam	2062	1957	4019	348	340	688	28	24	52	8	6	14
12	Palai	1259	1131	2390	121	100	221	15+1	19	35	2	1	3
13	Vaikom	1031	1027	2058	121	120	241	16	12	28	2	3	5
14	Muvattupuzha	1218	1178	2396	249	203	452	15	12	27	6	4	10
15	Cochin	7153	6847	14000	4316	4063	8379	109	92	211	54	56	110

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
16	Alwaye	2116	1866	3982	100	91	191	25	30	55	3	2	5
17	Parur	1537	1387	2924	188	166	354	39	42	81	7	6	13
18	Perumbavoor	701	702	1403	122	96	218	12	7	19	..	1	1
19	Ininjalakuda	978	889	1867	200	188	388	24	25	49	..	2	2
20	Trichur	5955	5816	11771	565	580	1145	54	71	125	5	3	8
21	Guruvayoor	55	53	108	26	25	51	..	..	..	..	..	..
22	Township Kunnamkulam	1421	1265	2686	124	89	213	34	32	66	..	1	1
23	Palghat	2937	3145	6082	976	1192	2168	71	84	155	30	38	68
24	Chittoor-												
	Thathamangalam	648	577	1225	352	320	672	18	22	40	12	9	21
25	Calicut	10438	9995	20433	4884	5200	10084	265	233	498	39	34	73
26	Badagara	3185	3047	6232	699	707	1406	29	10	39	5	7	12
27	Tellicherry	3323	2940	6263	479	450	929	46	44	90	..	..	..
28	Kasargode	1827	1835	3662	592	520	1112	62	66	128	15	10	25
29	Cannanore	1308	1827	3135	713	827	1540	4	2	6	..	2	2
30	Chalakydy	1257	1162	2419	217	198	415	20	14	34	4	3	7
31	Punalur	1288	1532	2820	421	489	910	33	32	65	10	8	18
32	Tirur	1529	1431	2960	374	361	735	25	20	45	..	..	..
33	Malappuram	841	788	1629	422	380	802	9	12	21	1	..	1
34	Kodungalloor	1600	1410	3010	427	289	716	42	26	68	2	1	3

APPENDIX V (Contd.)

Sl. No.	Name of Municipality/ Corporation	Number of Infant deaths						Number of other deaths						Number of maternal deaths					
		Total events			Events to normal residents			Total events			Events to normal residents			Total events			Events to normal residents		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
(1)	(2)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
1.	Neyyattinkara	10	18	28	3	4	7	130	83	213	71	48	119	..	..	..	..	..	..
2.	Trivandrum	575	441	1016	195	150	345	2325	1541	4066	1033	658	1691	..	..	..	7	7	7
3.	Atingal	2	2	4	..	..	..	52	57	109	34	39	73	..	..	..	..	..	..
4.	Quilon	160	141	301	25	15	40	750	562	1312	242	182	429	..	..	..	6	6	2
5.	Kayamkulam	10	8	18	6	6	12	136	113	249	108	87	195	..	..	..	..	..	..
6.	Mavelikara	14	11	25	3	2	5	174	103	277	96	63	159	..	..	..	..	..	..
7.	Alleppey	78	79	157	20	23	43	915	585	1500	295	230	525	..	..	..	..	..	..
8.	Shertallai	27	28	55	7	7	14	225	157	382	120	79	199	..	..	..	1	1	1
9.	Changanacherry	13	10	23	5	5	10	134	85	219	96	69	165	..	..	..	..	..	..
10.	Thiruvalla	23	11	34	5	2	7	209	131	340	79	48	127	..	..	..	..	..	..
11.	Kottayam	15	14	29	5	3	8	218	160	378	111	106	217	..	..	..	3	3	1
12.	Palai	16	8	24	2	1	3	119	63	182	54	30	84	..	..	..	..	..	..
13.	Vaikom	16	15	31	4	2	6	91	79	170	44	38	82	..	..	..	..	..	..
14.	Muvattupuzha	16	18	34	6	4	10	118	86	204	59	41	100	..	..	..	..	..	..
15.	Cochin	173	143	316	89	86	175	2007	1094	3101	1279	775	2054	..	..	..	11	11	2

(1)	(2)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
16.	Alwaye	30	27	57	10	5	15	157	140	297	27	30	57						
17.	Parur	25	7	32	7	1	8	132	88	220	58	52	110						
18.	Perumbavoor	11	9	20	1	1	2	73	51	124	43	35	78						
19.	Irinjalakuda	16	13	29	2	4	6	110	82	192	58	58	116						
20.	Trichur	103	82	185	20	12	32	1099	653	1752	162	104	2266						
21.	Guruvayoor	1	2	3	1	1	2	56	42	98	40	46	86						
22.	Kunnamkulam	30	19	49	1	1	2	118	90	208	52	64	116						
23.	Palghat	141	118	259	42	32	74	747	504	1251	270	234	504						
24.	Chittoor- Thathamangalam	36	21	57	17	11	28	182	126	308	134	98	232						
25.	Calicut	501	335	836	122	91	213	3073	1750	4823	1160	809	1969						
26.	Badagara	50	39	89	9	3	12	244	170	414	156	113	269						
27.	Tellicherry	68	27	95	7	9	16	463	241	704	170	149	319						
28.	Kasargode	52	30	82	31	23	54	198	156	354	120	84	204						
29.	Cannanore	27	23	50	13	10	23	229	234	463	192	218	410						
30.	Chalakydy	7	6	13	2	1	3	130	73	203	80	44	124						
31.	Punalur	14	21	35	5	8	13	128	116	244	91	64	155						
32.	Tirur	46	36	82	11	12	23	196	127	323	88	62	150						
33.	Malappuram	24	25	49	8	10	18	103	76	179	89	64	153						
34.	Kodungalloor	29	26	55	9	4	13	124	112	236	55	42	97						

Deaths according to causes—1980

Sl. No.	Municipality/Corporation	Plague	Cholera	Small pox	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
		Diarrhoea	Respiratory	Enteric diseases	Septicemic	Diphtheria	Hydrophobia	Gastroenteritis	Rabies	Heart failure	Respiratory & others	Others	Total		
1.	Neyyattinkara	..	..	1	32	34	..	..	..	..	..	..	..	174	241
2.	Trivandrum	..	..	130	58	56	5	130	..	1545	..	..	..	3165	5089
3.	Attingal	..	..	..	9	..	..	..	..	..	..	..	27	77	113
4.	Quilon	..	..	27	..	2	3	18	..	110	..	..	..	1459	1619
5.	Kayamkulam	..	..	15	22	11	..	..	..	65	..	..	..	154	267
6.	Mavelikara	..	..	4	..	5	..	12	..	113	..	..	..	168	302
7.	Alleppey	..	..	10	..	97	..	10	..	..	..	..	..	1540	1657
8.	Sertallai	..	..	13	..	14	..	1	..	..	..	..	..	410	438
9.	Changanacherry	..	..	5	31	11	..	..	..	..	..	..	..	195	242
10.	Thiruvalla	..	..	..	..	..	1	..	..	..	..	..	..	373	374
11.	Kottayam	..	..	3	..	..	..	..	..	..	..	..	..	407	410
12.	Palai	..	..	..	..	..	..	..	..	1	..	..	..	205	206
13.	Vaikom	..	2	3	..	4	3	2	..	..	..	..	..	187	201
14.	Muvattupuzha	..	..	16	19	13	8	..	..	..	..	..	5	177	238
15.	Cochin	..	..	13	169	..	..	..	..	4	..	..	..	3241	3427

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
16.	Alwaye	..	..	..	1	..	..	1	..	..	..	..	352	354
17.	Parur	..	..	..	1	34	1	..	..	..	..	..	216	252
18.	Perumbavoor	..	..	..	1	..	..	..	..	..	..	..	143	144
19.	Irinjakuda	..	..	..	..	..	..	..	..	..	..	..	..	..
20.	Trichur	..	..	..	2	219	2	1	1	..	2	263	1447	1937
21.	Guruvayoor	..	..	..	5	20	7	..	..	..	..	7	62	101
22.	Kunnankulam	..	..	..	4	..	..	..	..	..	..	..	253	257
23.	Palghat	..	..	..	34	..	13	8	1	..	1	..	1453	1510
24.	Chittur-Thathamangalam	..	..	..	4	11	7	..	1	..	..	..	342	365
25.	Calicut	..	1	..	48	26	3	2	3	..	..	..	5602	5685
26.	Badagara	..	..	..	..	..	5	..	..	..	..	..	498	503
27.	Tellicherry	..	..	..	..	37	2	..	..	..	..	..	760	799
28.	Kasargode	..	..	..	12	..	20	4	..	..	..	..	400	436
29.	Cannanore	..	..	..	47	..	10	..	..	..	..	..	456	513
30.	Chalakkudy	..	..	..	4	..	..	..	..	..	..	..	193	219
31.	Punalur	..	..	..	2	..	..	..	..	1	21	..	276	280
32.	Tirur	..	..	..	6	..	23	..	..	..	..	..	369	409
33.	Malappuram	..	..	..	7	..	..	..	..	..	..	..	222	229
34.	Kodungalloor	..	..	..	..	..	..	..	..	..	..	..	291	291

Results of Spot Check—1980

Sl. No.	Name of Municipality/Corporation	No. of wards selected for spot check	Total No. of households visited	Live births			No. of events to normal residents detected			Infant deaths			Other deaths	
				Enumerated	Registered	Enumerated outside the Municipality	Occurred outside the Municipality	Enumerated	Registered	Occurred outside the Municipality	Enumerated	Registered	Enumerated	Occurred outside Municipality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
1.	Neyyattinkara	15	4872	4146	431	182	207	9	4	5	138	98	24	
2.	Trivandrum	18	35455	35455	1438	1342	..	110	110	..	540	500	..	
3.	Atingal	15	5175	5175	193	115	71	1	1	..	88	55	25	
4.	Quilon	18	12640	12560	928	774	103	84	38	19	186	116	20	
5.	Kayamkulam	15	4203	4203	570	378	195	4	1	1	97	58	25	
6.	Mavelikara	15	3704	3704	316	199	113	2	1	..	127	105	14	
7.	Alleppey	18	13767	13767	1441	1142	240	6	2	..	402	310	11	
8.	Sherthallai	15	6562	6562	348	182	165	2	2	..	136	120	15	
9.	Changanacherry	15	6246	6246	346	175	150	3	2	..	101	60	24	
10.	Thiruvalla	15	3983	3983	265	181	69	6	6	..	111	87	18	
11.	Kottayam	15	8049	8049	235	119	113	..	..	..	80	65	13
12.	Palai	15	2667	2667	229	140	87	2	2	..	89	60	20	
13.	Vaikom	15	3607	3607	131	129	66	4	4	..	57	47	6	
14.	Muvattupuzha	15	2898	2898	143	117	26	..	..	..	33	26	7
15.	Cochin	18	29225	29225	2757	1861	527	29	19	1	689	418	20	

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
16.	Alwaye	15	4916	4916	182	93	89	..	..	..	49	25	20
17.	Patur	15	4957	4957	370	246	108	..	..	..	95	79	7
18.	Perumbavoor	15	3085	3085	245	105	136	3	..	1	63	40	17
19.	Irinjalakuda	15	3249	3249	388	167	211	6	4	2	116	89	17
20.	Trichur	15	8736	8736	489	240	112	3	1	..	172	80	18
21.	Guruvayoor	4	2890	2890	265	49	214	6	3	2	105	77	21
22.	Kunnamkulam	15	3699	3699	356	176	176	5	2	2	144	100	20
23.	Palghat	15	7318	7318	765	606	144	15	14	..	198	172	24
24.	Chittoor—Thathamangalam	15	4627	4027	244	201	40	6	6	..	137	123	11
25.	Calicut	18	16716	16716	1650	1385	112	..	..	..	491	414	29
26.	Badagara	15	4131	4131	695	562	110	..	..	..	159	120	20
27.	Tellicherry	15	5112	5112	596	542	32	13	13	..	191	182	1
28.	Kasargode	15	5874	5874	279	250	21	2	2	..	122	110	10
29.	Cannanore	15	6438	6438	502	302	96	..	..	..	200	133	37
30.	Chalakydy	15	4130	4130	434	225	190	1	..	1	112	58	17
31.	Punatur	15	4526	4526	463	386	54	9	6	..	88	87	1
32.	Tirur	15	3227	3227	550	516	21	11	11	..	103	100	2
33.	Malappuram	15	3683	3683	560	327	131	9	2	..	86	56	15
34.	Kodungalloor	15	4157	4157	280	164	104	..	..	..	67	49	15

APPENDIX VIII

Under registration and occurrence of outside events

Sl. No.	Name of Municipality/Corporation	Percentage of under Registration		Percentage of events to normal residents occurring outside the town	
		Births	Deaths	Births	Deaths
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara	18.75	13.56	48.03	19.73
2.	Trivandrum	6.68	7.41	Nil	Nil
3.	Attingal	5.74	Nil	36.79	31.25
4.	Quilon	6.18	33.33	11.10	14.44
5.	Kayamkulam	13.10	21.33	23.68	25.74
6.	Mavelikara	1.97	7.83	35.76	10.85
7.	Alleppey	4.91	21.41	16.66	2.70
8.	Shertallai	0.55	0.83	47.41	11.03
9.	Changanacherry	10.71	22.50	43.35	23.08
10.	Thiruvalla	7.65	6.45	26.04	16.22
11.	Kottayam	2.46	2.99	48.09	16.25
12.	Palai	1.41	12.68	37.99	21.98
13.	Vaikom	1.53	7.27	33.50	9.84
14.	Muvattupuzha	Nil	Nil	18.18	21.21
15.	Cochin	16.10	37.30	19.12	2.92
16.	Alwaye	Nil	13.79	48.90	40.82
17.	Parur	6.11	10.23	29.19	7.37
18.	Perumbavoor	3.67	16.67	55.51	27.27
19.	Irinjalakuda	5.65	10.10	62.43	14.66
20.	Trichur	36.34	47.40	22.90	10.47
21.	Guruvayoor Township	3.92	9.09	80.75	20.72
22.	Kunnarakulam	2.22	19.69	49.44	14.77
23.	Palghat	0.82	1.15	19.07	12.12
24.	Chittoor—Thathamangalam	1.47	2.27	16.39	7.69
25.	Calicut	9.95	10.39	6.79	5.91
26.	Badagara	3.93	13.67	15.83	12.58
27.	Tellicherry	3.90	3.94	5.37	0.49
28.	Kasargode	3.10	1.75	7.53	8.06
29.	Cannanore	25.62	18.40	19.12	18.50
30.	Chalakudy	7.79	38.95	43.78	15.98
31.	Punalur	5.62	3.13	11.66	1.08
32.	Tirur	2.46	0.89	3.82	1.75
33.	Malappuram	23.78	27.50	23.39	15.79
34.	Kodungalloor	6.82	5.77	37.14	8.98

APPENDIX IX

Adjusted residential vital rates & Registered vital rates for
the year—1980

Sl. No.	Name of Municipality/ Corporation	Registered Birth Rate	Registered death rate	Adjusted Birth rate D	Adjusted death rate
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara				
2.	Trivandrum	11.81	4.55	27.98	6.55
3.	Attingal	18.80	4.28	20.15	4.62
4.	Quilon	10.37	2.47	17.40	3.59
5.	Kayamkulam	15.78	3.44	18.71	7.74
6.	Mavelikkara	21.74	3.40	32.78	5.82
7.	Alleppey	16.26	6.19	25.83	7.54
8.	Sherattalai	11.69	3.36	14.75	4.40
9.	Changanacherry	14.48	5.32	27.69	6.02
10.	Thiruvalla	14.47	3.38	28.61	5.67
11.	Kottayam	10.66	4.62	15.60	5.90
12.	Palai	10.73	3.53	21.19	4.35
13.	Vaikom	10.28	4.05	16.84	5.95
14.	Muvattupuzha	11.48	4.19	17.53	5.01
15.	Cochin	18.01	4.38	22.01	5.56
16.	Alwaye	16.50	4.39	24.32	7.21
17.	Parur	7.58	2.86	14.83	5.61
18.	Perumbavoor	13.56	4.52	20.39	5.44
19.	Irinjalakuda	9.44	3.46	22.03	5.71
20.	Trichur	14.87	4.67	41.95	6.08
21.	Guruvayoor Township	14.91	3.88	30.38	8.24
22.	Kunnamkulam	2.88	4.97	15.58	6.90
23.	Palghat	11.04	6.11	22.33	8.93
24.	Chittoor—Thathamangalam	19.69	5.25	24.53	6.04
25.	Calicut	22.18	8.58	26.92	9.51
26.	Badagara	25.85	5.60	30.80	6.64
27.	Tellicherry	22.14	4.43	27.39	5.87
28.	Kasargode	12.37	4.46	3.03	4.66
29.	Cannanore	26.16	6.07	29.20	6.72
30.	Chalakydy	25.45	7.16	42.31	10.76
31.	Punalur	9.98	3.05	19.25	5.95
32.	Tirur	21.31	3.93	28.96	4.10
33.	Malappuram	18.28	4.33	19.48	4.45
34.	Kodungallur	20.46	4.39	35.03	7.20
	State:	25.30	3.89	43.19	4.54
				23.70	6.13

Adjusted Residential Rates from 1976 to 1980

Adjusted Births Rates

Sl. No. Name of Municipality/Corporation

Adjusted Births Rates

Adjusted Death Rates

Sl. No.	Name of Municipality/Corporation	Adjusted Births Rates					Adjusted Death Rates				
		1976 (3)	1977 (4)	1978 (5)	1979 (6)	1980 (7)	1976 (8)	1977 (9)	1978 (10)	1979 (11)	1980 (12)
1.	Neyyattinkara	46.21	32.89	15.38	28.62	27.98	6.88	7.20	5.65	6.22	6.55
2.	Trivandrum	23.76	24.10	20.51	23.64	20.15	5.54	4.36	5.51	4.71	4.62
3.	Attingal	22.30	21.81	20.86	14.66	17.40	4.90	5.00	4.50	5.55	3.59
4.	Quilon	21.50	27.46	18.32	30.61	18.71	6.10	6.77	5.77	5.99	7.74
5.	Kayamkulam	31.72	32.05	38.76	35.97	32.78	7.45	6.32	7.98	7.55	5.82
6.	Mavelikkara	24.10	24.46	23.40	24.38	25.83	8.10	9.72	7.04	12.48	7.54
7.	Alleppey	25.50	26.87	22.69	22.33	14.75	7.40	9.05	6.27	7.24	4.40
8.	Sherattalai	30.86	27.45	28.05	26.37	27.69	8.91	7.00	6.08	6.25	6.02
9.	Changanacherry	30.24	28.95	27.90	24.78	28.61	6.18	6.12	5.53	7.44	5.67
10.	Thiruvalla	22.30	16.02	16.32	14.30	15.60	5.70	5.91	5.75	5.91	5.90
11.	Kottayam	11.80	18.09	18.56	15.34	21.19	6.50	6.50	3.42	3.92	4.35
12.	Palai	18.00	15.92	19.65	18.06	16.84	4.14	4.61	4.39	7.57	5.95
13.	Vaikom	28.89	24.11	18.90	17.33	17.53	6.04	6.50	6.08	4.59	5.01
14.	Muvattupuzha	25.50	19.70	31.67	25.38	22.01	6.70	3.15	5.02	5.79	5.56
15.	Cochin	28.13	29.25	16.02	27.04	24.32	5.96	6.89	6.19	7.40	7.21

(1)	(2)	(3)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
16.	Always	24.77	20.08	28.41	18.85	14.83	3.93	3.16	4.12	3.95	5.61
17.	Parur	30.36	28.44	28.53	21.97	20.39	4.52	6.51	6.13	6.84	5.44
18.	Perumbavoor	25.19	27.65	28.58	21.90	22.03	5.20	4.70	4.29	4.09	5.71
19.	Irinjalakuda	23.50	21.07	30.68	25.32	41.95	4.90	6.10	10.58	5.32	6.08
20.	Trichur	19.30	22.46	17.87	34.23	30.38	5.00	6.49	6.98	6.43	8.24
21.	Guruvayoor	15.46	20.97	21.97	17.78	15.58	5.85	6.46	6.00	5.83	6.90
22.	Kunnamkulam	22.04	21.18	20.31	26.98	22.33	6.75	7.72	8.01	8.91	8.93
23.	Palghat	27.36	22.27	25.48	32.38	24.53	6.34	7.08	7.92	7.53	6.04
24.	Chittur-Thathamangalam	36.00	31.00	17.21	22.30	26.92	11.58	14.17	7.85	9.46	9.51
25.	Calicut	31.68	36.21	38.35	25.71	30.80	8.23	9.81	10.85	7.18	6.64
26.	Badagara	30.46	30.46	18.57	29.59	27.39	5.16	7.73	5.80	6.74	5.87
27.	Tellicherry	17.57	15.03	12.67	24.26	3.03	3.96	4.61	4.14	6.15	4.66
28.	Kasargode	32.30	27.13	31.86	30.01	29.20	9.60	8.35	8.36	6.59	6.72
29.	Cannanore	39.91	36.20	30.16	40.43	42.31	7.43	7.70	6.67	8.58	10.76
30.	Chalakudy	..	20.33	18.66	21.56	19.25	..	5.58	4.40	6.81	5.95
31.	Punalur	..	..	26.14	23.60	28.96	..	..	5.81	4.27	4.10
32.	Tirur	..	..	30.15	24.00	19.48	..	..	6.45	5.46	4.45
33.	Malappuram	31.94	32.70	35.03	9.08	7.55	7.20
34.	Kodungalloor	30.68	42.79	43.19	9.39	7.24	4.54

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Government of Kerala

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