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GOVERNMENT OF KERALA

**REPORT ON  
RESIDENTIAL VITAL  
RATES IN  
CORPORATIONS AND  
MUNICIPALITIES  
1982**

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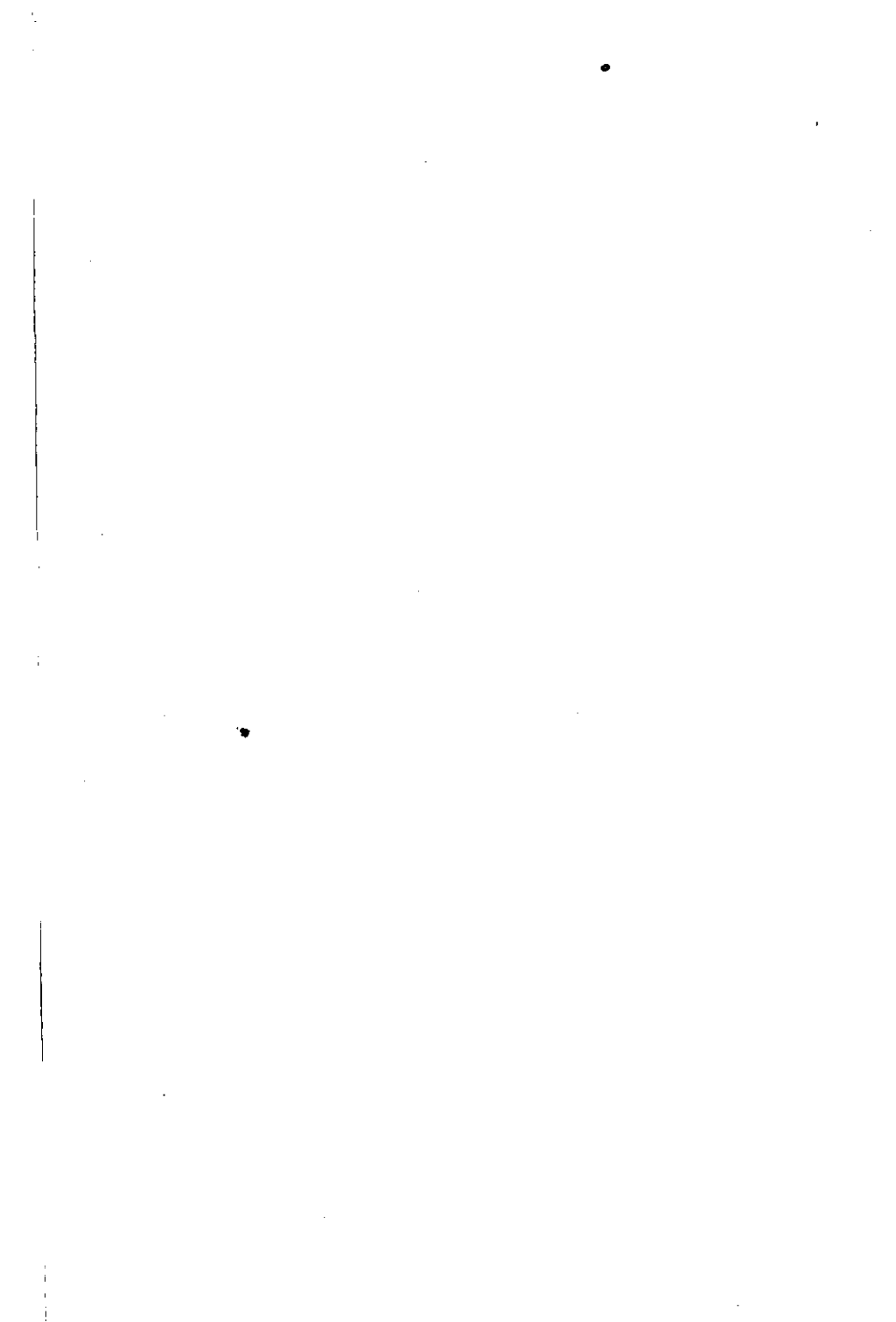
**DEPARTMENT OF ECONOMICS & STATISTICS  
SEPTEMBER 1985**

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1981

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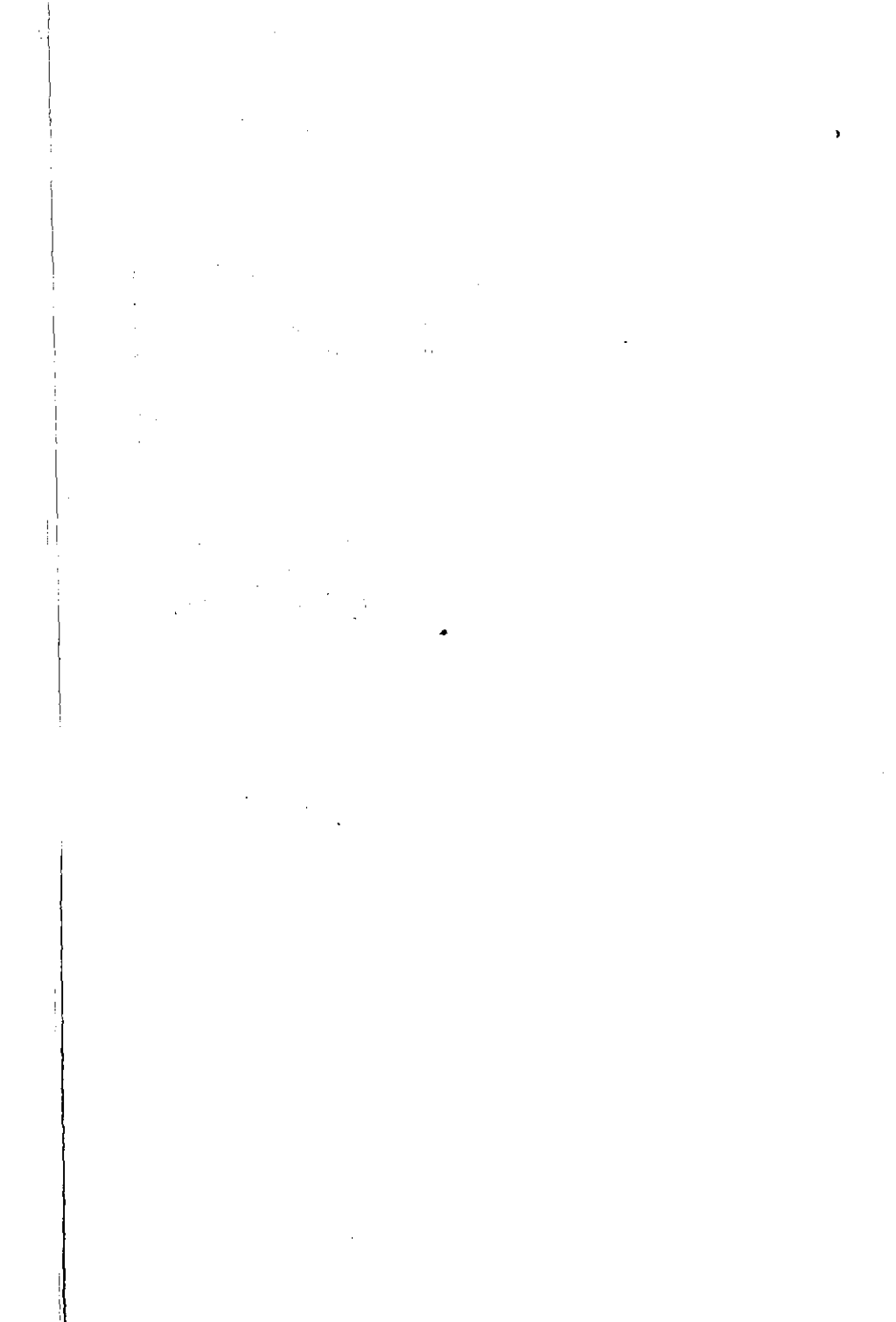


## PREFACE

This report presents the adjusted residential vital rates of births and deaths in Municipalities and Corporations in the State for the year 1982. The rates have been estimated from the registered 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 results of spot check conducted in the Municipality/Corporation. 34 Municipalities including 3 Corporations are covered in the report. The report has been prepared by the vital statistics section of the population division of the department of Economics and Statistics.

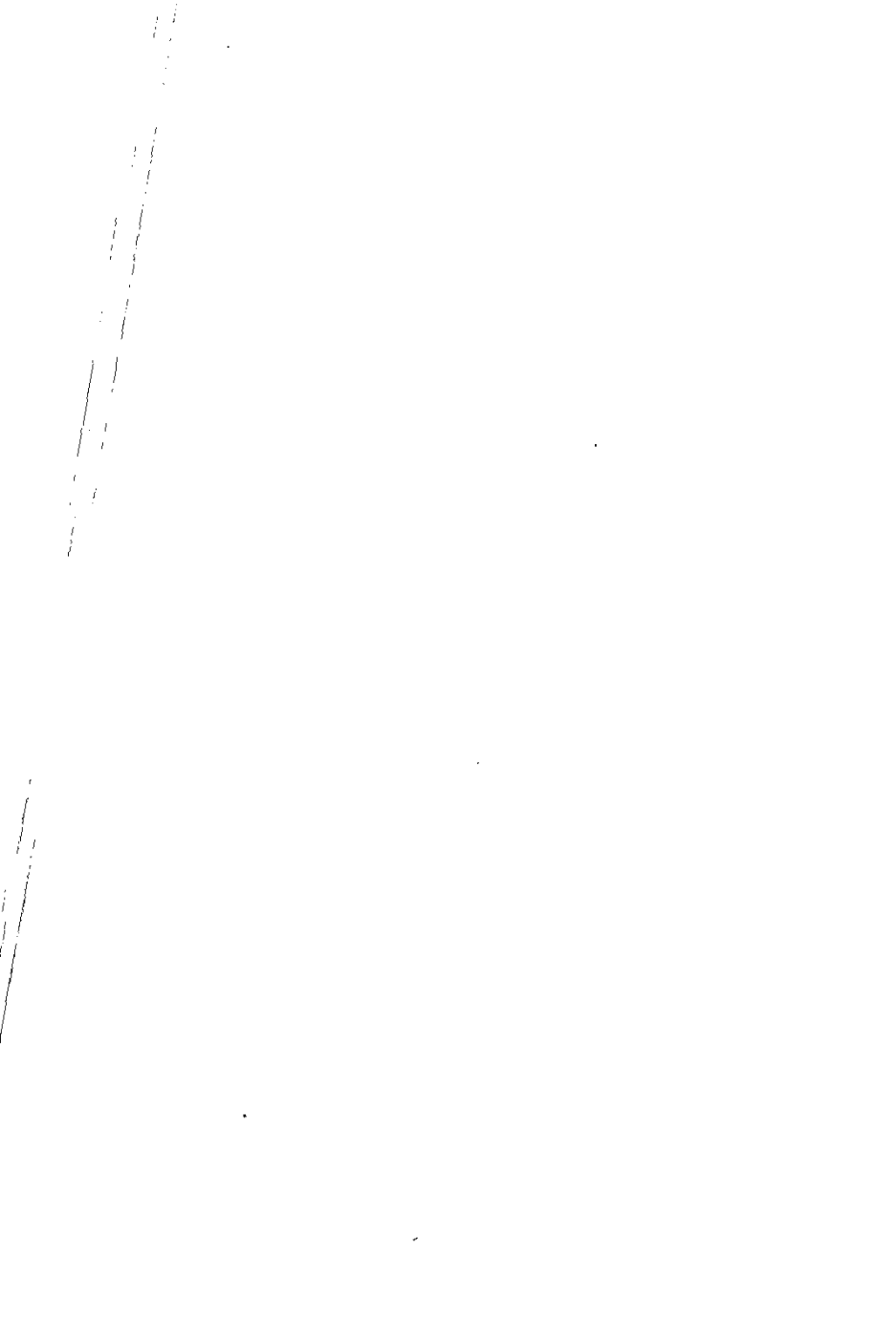
Trivandrum,  
30-9-1985.

N. GEORGE JOHN,  
*Director of*  
*Economics and Statistics.*



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## RESIDENTIAL VITAL RATES IN MUNICIPALITIES

### Introduction

The report contains the spot check results on births and deaths conducted in Municipalities/Corporations in the State for the year 1982 under the Scheme "Improvement of Vital Statistics in Municipalities".

2. The Registration of Births and Deaths Act of 1969 and the Kerala Births and Deaths Registration Rules govern the registration of vital events in the State. Unregistered events are bound to occur. 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.

3. To avoid omission in the registration of vital events, the municipal authorities are exhibiting notices to educate the public about the importance of births and deaths registration, and slides are exhibited in Cinema Theatres. Show cause notices are issued to defaulters and action taken as per provisions of the Births and Deaths Act by the Municipal/Corporation Commissioners.

### Scheme for improvement of vital statistics

4. The spot check scheme was introduced in the Corporations and Municipalities to estimate the correct residential vital rates and to estimate the extent of under registration of vital events.

5. During the year 1982, 3 Corporations, 30 Municipalities and Guruvayoor Township were covered under the Scheme. In the Corporation of Trivandrum, Cochin and Calicut, 18 wards each and the Quilon and Alleppey Municipalities, 50 per cent of the wards (18 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 work by the Statistical staff. The Compiler and Research Assistant assigned for the work visited these selected wards periodically and collected data on vital events from each household.

6. Vital events occurring to normal residents enumerated during the spot check are divided into three categories:

- (a) Events occurring inside the town and registered.
- (b) Events occurring inside the town and not registered.
- (c) Events occurring outside the town registered or unregistered.

7. 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.

8. For the calculation of residential rates of a town/city the vital events occurred to outsiders should be excluded from the total registered events. The registered rate to normal residents is weighted for under registration and further adjusted for events occurring outside the town to the normal residents.

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

### **General background of the towns/cities**

10. Table I gives the area and population of the Municipalities and Corporations. Table II presents the number of hospitals and other institutions in these Municipalities/Corporations. Table III presents the number of burial grounds, cremation grounds, wards and civil registration units in these Municipalities/Corporations. Table IV presents the registration units with area and population. The town-wise details of the vital events registered during the year are furnished in Table V. The data on distribution of death according to causes are given in Table VI.

11. Heart failure has claimed the maximum number of deaths in Trivandrum in 1982. The highest number of deaths due to all causes has taken place in Calicut.

12. The details on vital events collected through spot check during the year 1983 are presented in Table VII. Table VIII provides 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 births has been in Punalur (35-48) and of deaths in Trichur (47-79). During 1980 both these rates were highest in Trichur. (36.34 for birth and 47.40 for deaths). In 1981 the highest percentage of under registration of birth was in Cannanore (31.05) and death in Trichur (46.58). 100% of registration of birth and death was recorded in Chittoor-Thathamangalam.

### **Adjusted residential vital rates and Registered vital rates for 1982**

13. The adjusted residential vital rates and the registered vital rates in 1982 are presented in Table IX. The method of calculation of adjusted residential vital rates is also given as appendix.

14. Table X presents the adjusted residential rates from 1978 to 1982. The rates are seen fluctuating with no regularity in pattern. Viewing the situation in the three Corporations, we find that in Trivandrum, the

adjusted residential birth rate rose from 20.51 in 1978 to 23.06 in 1982 with a dip in 1981 to 18.93. Adjusted death rate has been exhibiting a declining trend over these 5 years. In Cochin, the adjusted residential birth rate has dropped from 26.02 in 1978 to 25.81 in 1982. It has reached a peak of 27.04 in 1979. Death rate unfortunately registered a rise from 6.19 in 1978 to 8.35 in 1982. In Calicut, adjusted residential birth rate fell from 38.35 in 1978 to 32.50 in 1982 and death rate fell from 10.85 in 1978 to 8.06 in 1982.

### Scheme for improvement of vital statistics

#### Sample registration scheme:

15. This scheme was introduced in the State in 1965 and covered a randomly selected sample of 150 rural census villages and 80 urban blocks. In each of these blocks a part-time enumerator has been posted who visits all the households in the sample, periodically and collects data on vital events in respect of the members of the households. For rural area the scheme is operated by the Department of Economics and Statistics and for urban areas by the Department of Census Operations, Government of India.

16. The results of the survey for the year 1981 and 1982 are given below:

	<i>Birth rate</i>		<i>Death rate</i>	
	1981	1982	1981	1982
Rural	26.0	26.4	6.7	6.6
Urban	23.5	25.1	5.8	6.6
Combined	25.6	26.2	6.6	6.6

#### Conclusion

17. Despite all the measures for improving registration of vital events being strictly enforced, unregistered events persist. The spot check scheme in Municipalities and Corporations endeavours to widen the coverage and minimise under registration.

## APPENDIX

**Method of calculation of adjusted residential vital rates**

Residential rates can broadly be defined as the rate of occurrence of vital events to the normal residents of an area in a year. 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 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.

I. Percentage of under registration	(No. of events occurred to normal residents inside town but not registered) x 100
	=
	No. of events occurred to normal residents inside the town registered + not registered.
II. Percentage of events occurred outside the town to normal residents	(No. of events occurred to N. R. outside the town registered and not registered) x 100
	=
	Total No. of events enumerated and occurred to N.R. inside the sample.
III. Registered Birth rate/Death rate to N.R.	(Total No. of Birth/Death occurred to N.R.) x 1000
	=
	Mid year Population of the Sample Village
IV. Residential Birth/Death rate to N. R. occurred inside the town (weighted for under registration)	(Registered Birth/Death rate) x 100
	=
	100—Percentage of under registration
V. Final residential Birth/Death rate (weighted for outside events)	(Residential Birth/Death rates to N. R. occurred inside the town) x 100
	=
	100—percentage of events occurred outside the town to N. R.

Table 1—Area and population—1962

<i>Sl. No.</i>	<i>Name of Municipality/ Corporation</i>	<i>Area (Sq.K Ms.)</i>	<i>Mid year popula- tion</i>	<i>Density of popu- lation</i>	<i>Remarks</i>
(1)	(2)	(3)	(4)	(5)	(6)
1	Neyyattinkara	9.99	28600	2862	
2	Trivandrum	75.00	493700	6582	
3	Attingal	14.18	30000	2115	
4	Quilon	18.48	139800	7564	
5	Punalur	34.60	43700	1263	
6	Kayamkulam	21.79	62300	2859	
7	Mavelikara	12.65	26700	2110	
8	Alleppey	46.77	171200	3660	
9	Sherthallai	16.19	41000	2532	
10	Thiruvalla	14.48	29600	2044	
11	Changanacherry	13.26	52400	3951	
12	Kottayam	16.45	65100	3957	
13	Palai	15.93	21800	1369	
14	Vaikom	8.73	21200	2428	
15	Muvattupuzha	13.18	25800	1957	
16	Cochin	94.88	525000	5533	
17	Alwaye	7.18	25400	3537	
18	Parur	9.02	26600	2949	
19	Perumbavoor	13.61	23900	1756	
20	Iringalakuda	11.24	26200	2330	
21	Kodungalloor	17.30	28700	1658	
22	Chalakudy	25.23	42500	1684	
23	Trichur	12.65	79000	6245	
24	Guruvayoor Township	6.49	18100	2788	
25	Kunnamkulam	6.96	19600	2816	
26	Palghat	26.60	113400	4263	
27	Chittoor-Thathamangalam	14.71	30700	2087	
28	Tirur	16.59	42100	2537	
29	Malappuram	33.60	41000	1220	
30	Calicut	82.67	403200	4877	
31	Badagara	21.34	65700	3078	
32	Tellicherry	15.35	76500	4983	
33	Cannanore	11.03	61700	5593	
34	Kasargode	16.68	44400	2661	

Table 2—Number of hospitals and other institutions

Sl. No.	Name of Municipality/ Corporation	Hospitals				Dispensaries & other Institutions				Maternity and C.H. Centres									
		Public		Private		Total		Public		Private		Total		Public		Private		Total	
		No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.	No.	Bed No.
(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	48	7	233	..	..	7	..	7	..	2	..	..	..	2	..
2	Trivandrum	20	4300	14	600	34	4900	8	..	60	..	68	..	37	..	..	..	37	..
3	Attungal	..	..	7	190	7	190	2	45	8	..	10	45	4	..	..	..	4	..
4	Quilon	6	950	18	900	24	1850	5	..	27	..	32	..	15	..	..	..	15	..
5	Punahur	1	100	8	180	9	280	2	..	3	..	5	..	3	..	..	..	3	..
6	Kayamkulam	2	125	9	210	11	335	..	..	4	..	4	..	4	..	..	..	4	..
7	Mavelikara	2	220	2	140	4	360	..	..	6	56	6	56	1	..	..	..	1	..
8	Alleppey	6	1329	6	94	12	1423	2	..	125	..	127	..	6	..	..	..	6	..
9	Sherattalai	1	126	2	16+	3	290	2	..	..	..	2	..	4	..	..	..	4	..
10	Thiruvalla	2	140	6	445	8	585	..	..	12	..	13	..	1	..	..	..	1	..
11	Changanacherry	2	139	9	196	11	335	..	..	9	..	9	..	4	..	..	..	4	..
12	Kottayam	2	295	15	200	17	495	3	..	53	..	56	..	3	..	..	..	3	..
13	Palai	3	227	6	321	9	548	..	..	13	..	13	..	..	..	..	..	..	..
14	Vaikom	2	260	2	55	4	315	..	..	32	..	32	..	2	20	..	..	2	20



Table 3.—Number of burial grounds, cremation grounds, wards and civil registration units

Sl. No.	Name of Municipality/ Corporation	Burial grounds			Cremation grounds			V.S. Registration Units			
		Municipality		Private	Total		Municipality	Private	Total	No. of wards No. of Registration Division	
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1	Neyyattinkara	1	4	5	..	3	3	20	1		
2	Trivandrum	..	27	27	2	4	6	50	13		
3	Attingal	1	2	3	..	5	5	20	1		
4	Quilon	2	15	17	..	..	..	36	3		
5	Punalur	1	7	8	..	..	..	24	1		
6	Kayamkulam	1	14	15	..	3	3	32	1		
7	Mavelikara	1	9	10	..	1	1	20	1		
8	Alleppey	..	10	10	2	13	15	36	6		
9	Sherattalai	1	1	2	..	2	2	24	1		
10	Thiruvalla	2	..	2	..	..	..	20	1		
11	Changanacherry	1	6	7	..	1	1	28	1		
12	Kottayam	1	15	16	1	1	2	32	4		
13	Palai	1	5	6	..	..	..	20	1		
14	Vaikom	1	1	2	1	..	1	20	1		
15	Muvattupuzha	1	4	5	..	..	..	20	1		



16	Cochin	8	40	48	5	11	16	50	1
17	Alwaye	..	7	7	..	3	3	20	2
18	Farur	1	7	8	1	7	8	20	1
19	Perumbavoor	..	8	8	..	1	1	20	1
20	Irinjakuda	1	5	6	..	1	1	20	1
21	Kodungalloor	..	..	..	..	..	..	20	1
22	Chalakyd	2	7	9	..	1	1	24	1
23	Trichur	3	11	14	2	1	3	32	6
24	Guruvayoor Township	1	4	5	..	1	1	10	1
25	Kunnankulam	1	1	2	..	..	..	16	1
26	Palghat	4	7	11	1	1	2	32	5
27	Chittoor-Thathamangalam	..	1	1	3	1	4	20	2
28	Tirur	1	..	1	..	1	1	24	1
29	Malappuram	1	10	11	..	1	1	24	1
30	Calicut	2	9	11	5	2	7	39	14
31	Badagara	1	8	9	..	..	..	32	3
32	Tellicherry	..	15	15	1	11	12	32	4
33	Cannanore	1	12	13	1	..	1	32	4
34	Kasargode	..	9	9	2	1	3	24	2

Table 4.—Registration Units With Area and Population 1982

Sl. No.	Name of Municipality/ Corporation	No. of Regis- tration units	Area in Sq. Kms.	Area/Registra- tion	Estimated population	Population/Reg- istration Units
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Neyyattinkara	1	9.99	9.99	28600	28600
2	Trivandrum	13	75.00	5.77	493700	37976
3	Atingal	1	14.18	14.18	30000	30000
4	Quilon	3	18.48	6.16	139800	46600
5	Punalur	1	34.60	34.60	48700	48700
6	Kayamkulam	1	21.79	21.79	62300	62300
7	Mavelikara	1	12.65	12.65	26700	26700
8	Alleppey	6	46.77	7.80	171200	28533
9	Shertallai	1	16.19	16.19	41000	41000
10	Thiruvalla	1	14.48	14.48	29600	29600
11	Changanacherry	1	13.26	13.26	52400	52400
12	Kottayam	4	16.45	4.11	65100	16275
13	Palai	1	15.93	15.93	21800	21800
14	Vaikom	1	8.73	8.73	21200	21200
15	Muvattupuzha	1	13.18	13.18	25800	25800
16	Cochin	1	94.88	94.88	525000	525000

17	Always	2	7.18	3.59	25400	12700
18	Farur	1	9.02	9.02	26600	26600
19	Perumbavoor	1	13.61	13.61	23900	23900
20	Irinjalakuda	1	11.24	11.24	26200	26200
21	Kodungalloor	1	17.30	17.30	28700	28700
22	Chalakudy	1	25.23	25.23	42500	42500
23	Trichur	6	12.65	2.11	79000	19166
24	Guruvayoor Township	1	6.49	6.49	18100	18100
25	Kunnamkulam	1	6.96	6.96	19600	19600
26	Palghat	5	26.60	5.32	113400	22680
27	Chittur-Thathamangalam	2	14.71	7.36	30700	15350
28	Tirur	1	16.59	16.59	42100	42100
29	Malappraam	1	33.60	33.60	41000	41000
30	Calicut	14	82.67	5.91	403200	28800
31	Badagara	3	21.34	7.11	65700	21900
32	Tellicherry	4	15.35	3.84	76500	19125
33	Cannanore	4	11.03	2.76	61700	15425
34	Kasargode	2	16.68	8.34	44400	22200

Table 5.—Vital events registered during the year 1982

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	1456	1367	2823	151	125	276	22	17	39	..	..	..
2.	Trivandrum	13522	12856	26378	4500	4285	8785	140	140	280	46	45	91
3.	Attingal	838	806	1644	162	153	315	10	8	18	2	3	5
4.	Quilon	6287	5783	12070	1316	1234	2550	84	77	161	10	12	22
5.	Punalur	1425	1392	2817	387	371	758	27	14	41	7	3	10
6.	Kayamkulam	1711	1579	3290	547	567	1114	15	5	20	5	3	8
7.	Mavelikkara	1470	1382	2852	196	183	379	1	1	2	..	..	..
8.	Alleppey	3572	3465	7037	1683	1606	3289	16	9	25	9	6	15
9.	Shrtallai	1324	1074	2398	334	259	593	15	10	25	3	2	5
10.	Thiruvalla	1536	1414	2950	175	167	342	10	14	24	2	1	3
11.	Changanacherry	1191	1199	2390	348	303	651	5	5	10	3	2	5
12.	Kottayam	2124	2140	4264	370	339	709	25	22	47	9	9	18
13.	Palai	1436	1349	2785	96	79	175	16	9	25	..	1	1
14.	Vaikom	974	1038	2012	87	96	183	11	15	26	2	1	3

TABLE 5—(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
(1)	(2)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1.	Neyyattinkara	28	22	50	3	4	7	144	86	230	54	38	92	..	..
2.	Trivandrum	586	469	1055	198	156	354	3130	1771	4901	1048	592	1635	22	16
3.	Attingal	3	4	7	1	1	2	73	41	114	53	20	73	..	..
4.	Quilon	159	120	279	22	18	40	921	536	1457	237	160	397	..	..
5.	Punalur	14	28	42	10	19	29	108	146	254	61	88	149	4	1
6.	Kayamkulam	3	3	6	3	1	4	152	104	256	124	91	215	..	..
7.	Mavelikara	28	19	47	5	4	9	168	116	284	83	63	146	..	..
8.	Alleppey	108	77	185	25	22	47	996	556	1552	513	234	747	..	..
9.	Sherthallai	26	18	44	6	3	9	247	175	422	118	93	211	..	..
10.	Thiruvalla	23	20	43	2	..	2	233	146	379	79	67	146	..	..
11.	Changanacherry	7	7	14	2	3	5	140	65	205	101	55	156	1	1
12.	Kottayam	9	17	26	7	8	15	263	159	422	133	101	234	1	1
13.	Palai	17	11	28	2	1	3	118	73	191	39	18	57	..	..
14.	Vaikom	17	12	29	4	2	6	76	81	157	29	37	66	..	..

TABLE 5—(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
15.	Muvattupuzha	1219	1373	2392	169	184	353	15	11	26	4	3	7
16.	Cochin	7994	7370	15364	4671	4370	9041	104	124	228	69	67	137
17.	Alwaye	2115	1966	4081	188	177	365	22	19	41	1	..	1
18.	Parur	1596	1436	3032	148	166	314	23	24	47	4	1	5
19.	Perumbavoor	1233	1266	2499	136	174	310	15	11	26	2	2	4
20.	Irinjalakuda	1213	1151	2364	149	138	287	20	15	35	..	..	..
21.	Kodungalloor	1766	1521	3287	374	286	660	21	17	38	3	4	7
22.	Chalakudy	1295	1211	2506	217	175	392	12	14	26	1	2	3
23.	Trichur	6474	6650	13124	578	596	1174	89	53	142	9	5	14
24.	Guruvayoor Township	29	27	56	18	23	41	..	..	..	..	..	..
25.	Kunnamkulam	1524	1429	2953	97	78	175	23	22	45	—	1	1
26.	Palghat	3335	3305	6640	1080	1121	2201	121	79	200	28	19	47
27.	Chittoor— Thathamangalam	666	601	1267	314	267	581	8	16	24	1	8	9
28.	Tirur	1438	2137	3575	396	366	762	26	28	54	1	1	2
29.	Malappuram	953	919	1872	405	383	788	16	12	28	1	1	2
30.	Calicut	..	..	20988	..	..	10217	..	..	634	..	..	124
31.	Badagara	3554	3322	6876	647	653	1300	29	30	59	6	2	8
32.	Tellicherry	3285	2906	6191	750	664	1414	41	25	66	..	..	..
33.	Cannanore	1505	1560	3065	407	439	846	..	..	..	..	..	..
34.	Kasargode.	2231	2168	4399	682	638	1320	64	47	111	15	9	24

TABLE 5—(Concl'd.)

(1)	(2)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
15.	Muvattupuzha	26	32	58	6	5	11	89	96	185	24	25	49	..	..
16.	Cochin	233	171	404	133	99	232	2177	1217	3494	1424	840	2264	..	..
17.	Alwaye	34	22	57	2	2	4	206	106	312	44	27	71	..	..
18.	Parur	18	17	35	4	4	8	159	96	255	50	46	96	..	..
19.	Perumbavoor	17	13	30	6	3	9	124	61	185	62	25	87	..	..
20.	Irinjalakuda	19	18	37	1	..	1	123	97	220	63	43	106	..	..
21.	Kodungalloor	38	32	70	4	7	11	172	88	260	103	62	165	..	..
22.	Chalakudy	25	9	34	8	..	8	143	77	220	74	56	130	8	2
23.	Trichur	134	124	258	21	34	55	1236	835	2071	195	121	316	..	..
24.	Giuruvayoor Township	1	..	1	1	..	1	60	46	106	41	41	82	..	..
25.	Kunnankulam	24	16	40	1	..	1	123	83	206	45	48	93	..	..
26.	Palghat	134	106	240	35	34	69	745	496	1241	298	254	552	13	3
27.	Chittoor-Thathamangalam	26	22	48	8	9	17	208	166	374	133	110	243	..	..
28.	Tirur	58	40	98	6	4	10	214	163	377	80	76	156	..	..
29.	Malappuram	22	18	40	8	3	11	100	79	179	82	67	149	..	..
30.	Calicut	..	..	930	..	..	306	..	..	5250	..	..	2052	..	..
31.	Badagara	43	51	94	12	5	17	229	144	373	130	92	222	..	..
32.	Tellicherry	53	45	98	53	34	87	313	282	595	246	169	415	2	2
33.	Cannanore	8	10	18	3	6	9	188	240	428	69	135	204	..	..
34.	Kasaragod	70	40	10	16	13	29	196	170	966	82	70	152	..	..

Table 6—Deaths According to Cause, 1962

Sl. No.	Name of Municipality/ Corporation	Cause of Death														Total		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		(15)	(16)
1.	Neyyattinkara	..	..	..	5	56	19	..	..	..	..	..	..	..	..	..	200	280
2.	Trivandrum	..	..	..	..	140	..	..	152	..	..	370	1680	..	..	..	3636	5978
3.	Attingal	..	..	..	..	6	1	..	..	..	..	..	32	..	..	..	82	121
4.	Quilon	..	..	..	30	..	5	3	2	7	..	149	52	1488	1736	..	..	..
5.	Punalur	..	..	..	3	..	10	..	..	1	..	..	..	..	15	271	300	..
6.	Kayamkulam	..	..	..	9	38	..	..	..	..	..	..	58	4	153	262	..	..
7.	Mavelikkara	..	..	..	3	..	4	..	..	2	..	..	67	11	244	331	..	..
8.	Alleppey	..	..	..	20	17	101	..	..	4	..	..	..	124	1471	1737	..	..
9.	Shertalfai	..	..	..	10	..	12	..	..	..	..	..	..	42	402	466	..	..
10.	Thiruvalla	..	..	..	..	..	..	..	..	..	..	..	..	6	416	422	..	..
11.	Changanacherry	..	..	..	10	23	13	..	..	..	..	..	..	11	163	220	..	..
12.	Kottayam	..	..	..	16	..	..	6	..	..	1	..	..	34	392	449	..	..
13.	Palai	..	..	..	..	..	..	..	..	..	..	..	..	34	185	219	..	..
14.	Vaikom	..	..	..	2	..	4	..	1	..	1	..	..	3	170	186	..	..
15.	Muvattupuzha	..	..	..	2	..	9	..	..	..	3	8	2	219	243	..	..	..



16. Cochin	..	..	41	131	8	11	2	..	20	..	..	3685	3898
17. Alwaye	..	..	1	..	..	..	..	..	..	..	19	349	369
18. Parur	..	..	..	..	2	1	..	..	..	99	..	188	290
19. Perumbavoor	..	..	..	..	..	..	..	..	..	..	6	209	215
20. Irinjalakuda	..	..	..	..	6	..	..	..	..	..	..	251	257
21. Kodungalloor	..	..	..	..	..	..	..	..	..	..	15	215	330
22. Chalakkudy	..	..	..	..	..	..	..	..	..	24	3	235	262
23. Trichur	..	..	7	..	4	9	3	..	..	320	219	1767	2329
24. Gurusvayoor Township	..	..	1	17	..	..	..	..	..	19	..	70	107
25. Kunnankulam	..	..	1	..	..	..	..	..	..	..	16	229	246
26. Palghat	..	..	44	..	..	2	3	2	..	..	38	1405	1494
27. Chittoor-Thathamangalam	..	..	8	..	15	..	..	..	..	..	14	385	422
28. Tirur	..	..	6	..	8	..	..	..	25	..	79	357	475
29. Malappuram	..	..	4	..	..	..	..	..	4	..	38	173	219
30. Calicut	..	..	143	..	..	24	5	17	..	..	220	5771	6180
31. Badagara	..	..	2	..	..	..	..	..	5	..	53	406	466
32. Tellicherry	..	..	6	..	10	..	..	..	..	..	60	619	695
33. Cannanore	..	..	34	..	11	..	..	..	..	..	30	371	446
34. Kasargod	..	..	12	..	35	..	..	..	..	..	126	303	476

**Table 7—Results of spot check**

Sl. No.	Name of Municipality/Corporation	No. of wards selected for spot check	Total No. of households	No. of H. Hs. visited	No. of events to normal residents detected													
					Live Births				Infant deaths				Other deaths					
					Enume-rated	Regis-tered	Occurred outside the town	Enume-rated	Regis-tered	Enume-rated	Regis-tered	Occurred outside the town	Enume-rated	Regis-tered	Enume-rated	Regis-tered	Occurred outside the town	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)					
1.	Neyyattinkara	15	5322	5322	334	155	138	9	3	1	96	53	13					
2.	Trivandrum	15	30512	30512	2063	1896	36	173	163	..	703	643	7					
3.	Attingal	15	6156	6156	240	140	100	2	2	..	66	55	11					
4.	Quilon	18	11625	11625	972	804	122	9	3	4	209	192	38					
5.	Punalur	15	4335	4335	368	299	58	8	8	..	102	81	13					
6.	Kayamkulam	15	4796	4796	491	276	169	3	1	..	120	71	24					
7.	Mavelikara	15	3774	3774	261	157	97	5	5	..	121	106	8					
8.	Alleppey	18	12777	12777	1900	1114	160	13	12	..	379	324	21					
9.	Shertallai	15	6577	6577	349	192	155	3	3	..	123	107	12					
10.	Thiruvalla	15	4548	4548	251	175	54	1	1	..	77	63	9					
11.	Changanacherry	15	6327	6327	283	153	118	3	2	..	74	42	9					
12.	Kottayam	15	6734	6734	164	98	66	2	2	..	54	41	11					
13.	Palai	15	2052	2052	191	95	96	4	4	..	81	58	22					
14.	Vaikom	15	3571	3571	236	125	108	5	5	..	53	40	8					

15. Muvattupuzha	15	3354	3354	163	140	23	..	..	..	32	24	6
16. Cochin	18	22769	22769	2215	1478	358	29	9	1	598	948	22
17. Alwaye	15	3078	3078	170	86	82	2	2	..	37	22	14
18. Parur	15	4980	4980	339	227	105	4	3	1	98	73	16
19. Perumbavoor	15	3221	3221	272	159	102	3	1	..	58	38	6
20. Irinjalakuda	15	4172	4172	287	140	146	1	..	1	114	82	22
21. Kodungalloor	15	3704	3704	257	136	106	..	..	..	77	42	33
22. Chalakkudy	15	4025	4156	363	202	156	2	1	1	103	60	18
23. Trichur	15	7217	6166	440	267	94	3	1	..	145	70	12
24. Guruvayoor Township	10	2950	2950	289	41	46	..	..	..	99	82	14
25. Kunnankulam	15	3549	3549	360	158	200	0	1	7	113	82	18
26. Palghat	15	7575	7575	710	546	161	21	21	..	186	172	10
27. Chittoor- Thathamangalam	15	3983	3983	150	145	5	5	5	..	117	116	1
28. Tirur	15	3663	3663	790	625	142	5	4	..	102	97	3
29. Malappuram	15	3989	3989	668	436	150	1	..	..	88	68	10
30. Calicut	11	10275	10275	880	686	80	..	..	..	153	111	5
31. Badagara	15	4283	4283	608	475	129	..	..	..	135	97	27
32. Tellicherry	15	4823	4823	619	557	39	17	16	1	196	185	3
33. Cannanore	15	6154	6154	333	144	139	..	..	..	108	41	40
34. Kasargode	15	7118	7118	303	277	9	..	..	..	132	125	2

Table 8—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	20.92	38.46	41.32	13.33
2.	Trivandrum	6.46	7.25	17.45	7.99
3.	Attingal	Nil	Nil	4.17	16.18
4.	Quilon	4.82	23.30	12.55	19.27
5.	Punalur	35.48	8.25	15.76	11.82
6.	Kayamkulam	14.29	27.27	34.42	19.51
7.	Mavelikara	4.27	5.93	37.16	6.35
8.	Alleppey	2.28	9.43	12.31	5.96
9.	Sbertalhai	1.03	3.51	44.41	9.52
10.	Thiruvalla	11.17	7.25	21.51	11.54
11.	Changanacherry	7.27	35.29	41.70	11.69
12.	Kottayam	Nil	4.44	40.24	19.64
13.	Palai	Nil	1.59	50.26	25.88
14.	Vaikom	2.34	10.00	45.76	13.79
15.	Muvattupuzha	Nil	7.69	14.11	16.75
16.	Cochin	20.41	40.89	16.16	8.67

17. Always	Nil	25.00	48.24	35.5
18. Parur	2.99	10.59	30.97	16.67
19. Perumbavoor	6.47	27.78	37.50	11.48
20. Irinjalakuda	0.71	10.87	50.87	20.00
21. Kodungalloor	8.72	4.55	45.02	42.86
22. Chalakudy	1.46	31.40	43.53	18.10
23. Trichur	22.83	47.79	21.36	8.11
24. Guruvayoor Township	4.65	3.53	85.12	28.57
25. Kunnankulam	1.25	13.54	55.56	20.6
26. Palghat	0.55	2.03	22.68	4.83
27. Chittoor-Thathamangalam	Nil	Nil	3.33	0.82
28. Tirur	3.55	2.88	17.97	2.80
29. Malappuram	15.83	13.92	22.46	11.24
30. Calicut	14.25	25.00	9.09	3.27
31. Badagara	1.04	10.19	21.22	20.00
32. Tellicherry	3.97	3.83	6.30	1.88
33. Cannanore	25.77	39.71	41.74	37.04
34. Kasargode	5.78	3.85	2.97	1.52

Table 9—Registered vital rates and adjusted residential rates 1982

Sl. No.	Name of Municipality Corporation	Registered vital rates		Adjusted Residential Vital Rates	
		Births (3)	Deaths (4)	Births (5)	Deaths (6)
1.	Neyyattinkara	9.65	3.46	20.79	6.48
2.	Trivandrum	17.81	4.03	23.06	4.73
3.	Attingal	10.50	2.50	10.96	2.98
4.	Quilon	18.24	3.13	21.90	5.05
5.	Punalur	17.35	4.07	31.92	5.04
6.	Kayamkulam	17.88	3.52	31.81	6.04
7.	Mavelikara	14.19	5.81	23.58	6.60
8.	Alleppey	19.21	4.64	22.42	5.41
9.	Sherattai	14.46	5.37	26.28	6.16
10.	Thiruvalla	11.55	5.00	16.56	6.09
11.	Chenganacherry	12.42	3.07	22.97	5.37
12.	Kottayam	10.89	3.82	18.22	4.98
13.	Palai	8.03	2.75	16.14	3.76
14.	Vaikom	8.63	3.40	16.30	4.38
15.	Muvattupuzha	13.68	2.33	15.93	3.10
16.	Cochin	17.2	4.75	25.81	8.35

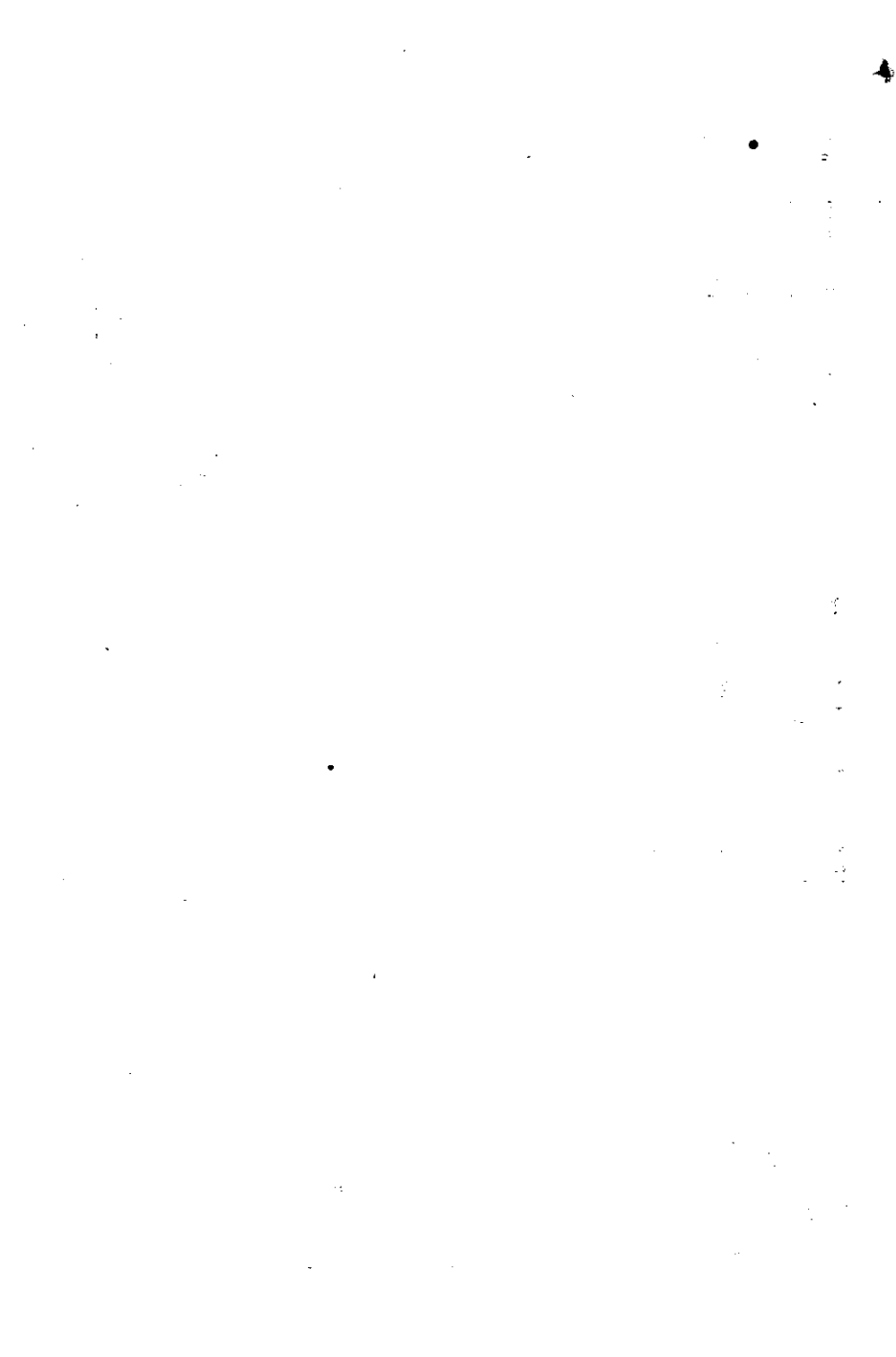
17.	Alwaye	14.37	2.95	27.76	6.13
18.	Parur	11.80	3.91	17.62	5.24
19.	Perumbavoor	12.97	4.02	22.19	6.29
20.	Irinjalakuda	11.03	4.08	22.61	5.73
21.	Kodungalloor	23.00	6.13	45.83	11.24
22.	Chalakudy	9.22	3.25	16.58	5.79
23.	Trichur	14.86	4.70	24.49	9.79
24.	Guruvayoor Township	2.27	4.59	15.99	6.66
25.	Kunnankulam	8.93	4.80	20.34	7.00
26.	Palghat	19.41	5.48	25.25	5.87
27.	Chittoor—Thathamangalam	18.93	8.47	19.58	8.54
28.	Tirur	18.10	3.94	22.88	4.18
29.	Malappuram	19.22	3.90	29.44	5.10
30.	Calicut	25.34	5.85	32.50	8.06
31.	Badagara	19.79	3.64	25.39	5.06
32.	Tellicherry	18.48	6.56	20.53	6.95
33.	Cannanore	13.71	3.45	31.70	9.09
34.	Kasargode	29.73	4.08	32.52	4.31
	State	..	..	25.16	6.47

Table 10—Adjusted residential vital rates from 1978 to 1982

Sl. No.	Name of Municipality/ Corporation	Birth Rate						Death Rates					
		1978 (3)	1979 (4)	1980 (5)	1981 (6)	1982 (7)	1978 (8)	1979 (9)	1980 (10)	1981 (11)	1982 (12)		
1	Neyyattinkara	15.38	28.62	27.98	39.23	20.79	5.65	6.22	6.55	7.04	6.48		
2	Trivandrum	20.51	23.64	20.15	18.93	23.06	5.51	4.71	4.62	4.08	2.73		
3	Attingal	20.86	14.66	17.40	13.27	10.96	4.50	5.55	3.59	3.44	2.98		
4	Quilon	18.32	30.61	18.71	20.94	21.90	5.77	5.99	7.74	5.77	5.05		
5	Punalur	26.14	23.60	28.96	27.77	31.92	5.81	4.27	4.10	4.89	5.04		
6	Kayamkulam	38.76	35.97	32.78	31.56	31.81	7.98	7.55	5.82	7.03	6.04		
7	Mavelikara	23.40	24.38	25.83	25.24	23.58	7.04	12.48	7.54	6.41	6.60		
8	Alleppey	22.69	22.33	14.75	24.77	22.42	6.27	7.24	4.40	5.56	5.41		
9	Shertalai	28.05	26.37	27.69	25.18	26.28	6.08	6.25	6.02	5.97	6.16		
10	Thiruvalla	16.32	14.30	15.60	17.34	16.56	5.65	5.91	5.90	5.88	6.09		
11	Changanacherry	27.90	24.78	28.61	27.39	22.97	5.53	7.44	5.67	8.11	5.37		
12	Kottayam	18.56	15.34	21.19	20.71	18.22	3.42	3.92	4.35	5.34	4.98		
13	Palai	19.65	18.06	16.84	18.04	16.14	4.39	7.57	5.95	5.57	3.76		
14	Vaikom	18.90	17.33	17.53	17.49	16.30	6.08	4.59	5.01	4.06	4.38		
15	Muvattupuzha	31.67	25.38	22.01	25.04	15.93	5.02	5.79	5.56	7.92	3.10		
16	Cochin	25.02	27.04	24.32	25.86	25.81	6.19	7.40	7.21	7.98	8.35		



17	Alwaye	28.41	18.85	14.83	7.04	27.76	4.12	3.95	5.61	2.39	4.79
18	Parur	28.53	21.97	20.39	20.46	17.62	6.13	6.84	5.44	5.00	5.24
19	Perumbavoor	28.59	21.90	22.03	23.27	22.19	4.29	4.09	5.71	5.00	6.29
20	Irinjalakuda	30.68	25.32	41.95	25.89	22.61	10.58	5.32	6.08	5.91	5.73
21	Kodungalloor	30.68	42.79	43.19	40.01	45.83	9.39	7.24	4.54	8.76	11.24
22	Chalakudy	18.66	21.56	19.25	18.49	16.58	4.40	6.81	5.95	5.67	5.79
23	Trichur	17.87	34.23	30.38	25.20	24.49	6.98	6.43	8.24	8.65	9.79
24	Guruvayoor Township	21.97	17.78	15.58	12.45	15.99	6.00	5.83	6.90	5.66	6.66
25	Kunnamkulam	20.31	26.98	22.33	21.18	20.34	8.01	8.91	8.93	7.64	7.00
26	Palghat	25.48	32.38	24.53	10.20	25.25	7.92	7.53	6.04	2.87	5.87
27	Chittoor Thathamangalam	17.21	22.30	26.92	19.49	19.58	7.85	9.46	9.51	6.92	8.54
28	Tirur	30.15	24.00	19.48	21.54	22.88	6.45	5.46	4.45	4.12	4.18
29	Malappuram	31.94	32.70	35.03	29.61	29.44	9.08	7.55	7.20	6.01	5.10
30	Calicut	38.35	25.74	30.80	27.37	32.50	10.85	7.18	6.64	7.00	8.06
31	Badagara	18.57	29.59	27.39	27.23	25.39	5.80	6.74	5.87	5.16	5.05
32	Tellicherry	12.67	24.26	3.03	7.68	20.53	4.14	6.15	4.66	3.85	6.95
33	Cannanore	30.16	40.43	42.31	32.64	31.70	6.67	8.58	10.76	8.96	9.09
34	Kasargode	31.86	30.01	29.20	35.80	32.52	8.36	6.59	6.72	3.96	4.31



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