

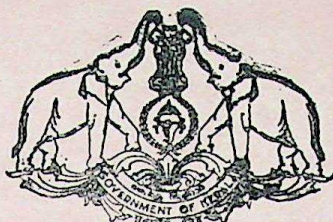
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GOVERNMENT OF KERALA

RESIDENTIAL VITAL RATES
IN
CORPORATIONS & MUNICIPALITIES 1979
(POPULATION STUDIES)

REPORT (V. S.) No. 45 (M. R.)

ISSUED BY

POPULATION DIVISION
(VITAL STATISTICS UNIT)

DIRECTORATE OF ECONOMICS & STATISTICS

1983



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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 1979. 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,
11-11-1983.

K. RAMAVARMA,
Director.

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CONTENTS

	<i>Page</i>
1. Introduction ..	1
2. Measures for improvement of Registration ..	1
3. Scheme for improvement of Vital Statistics in Municipalities and Corporations ..	1
4. Methodology ..	1
5. General Background of the Towns/Cities ..	1
6. Results of spot check ..	2
7. Adjusted and Registered Vital rates for 1979 ..	2
8. Scheme of Sample Registration and its results ..	2
9. Conclusion ..	2

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RESIDENTIAL VITAL RATES IN MUNICIPALITIES—1979

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 1979 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 respects. 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 1979, 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 samples 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—

- (1) Events occurring inside the town and registered.
- (2) Events occurring inside the town but not registered.
- (3) 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 corporations 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

Appendices I to III present a general picture of the Corporation and Municipalities under the scheme. The data on hospitals and dispensaries available in the towns/cities for the year 1979 are given in appendix II. Appendix III—shows the number of burial grounds and cremation grounds in the Corporation, Municipalities.

The details about the area and population per registration unit 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.

6. Results of spot check

Appendix VII provides the details on vital events collected through spot check during the year 1979. 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 is in Trichur (27.32) and that of death is in Trichur (49.30). When compared to the previous year the percentage of under registration of birth and death has increased in some of the towns. The highest percentage of under registration of birth and death in 1978 were 26.90 and 51.03 respectively. The highest percentage of registration of birth recorded in Sherthalai (99.49) and death in Attingal (100.00). Among other towns the lowest percentage of under registration of birth was found in Sherthalai (0.51) and death in Attingal (0). 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 1979

The adjusted residential vital rates and the registered vital rates in 1979 are given in Appendix IX. The adjusted residential birth rate for urban area is 23.95 and the death rate is 5.98 for the year 1979.

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 1978 and 1979 are given below:

	<i>Birth rate</i>		<i>Death rate</i>	
	1978-1979		1978-1979	
Rural	25.3	26.3	7.1	6.9
Urban	24.9	23.9	6.7	6.0
Combined	25.2	25.8	7.0	6.9

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 1979

APPENDIX I

AREA AND POPULATION

<i>Sl. No.</i>	<i>Name of Municipality/Corporation</i>	<i>Date of origin</i>	<i>Area (Sq. Kms.)</i>	<i>Mid year Population</i>	<i>Density of Population</i>
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara	1920	9.99	27300	2732
2.	Trivandrum Corporation	1941	75.00	469600	6261
3.	Attingal	1922	14.78	29200	1975
4.	Quilon	1921	18.48	135500	7332
5.	Kayamkulam	1910	21.78	60100	2759
6.	Mavelikkara	1941	12.65	26400	2086
7.	Alleppey	1920	44.94	167400	3724
8.	Shertallai	1933	16.19	39800	2458
9.	Changanacherry	1914	13.26	51400	4876
10.	Thiruvalla	1920	14.48	28800	1988
11.	Kottayam	1920	15.54	63600	4093
12.	Palai	1949	25.90	21400	826
13.	Vaikom	1916	8.73	20900	2394
14.	Moovattupuzha	1958	13.18	24800	1881
15.	Cochin Corporation	1967	83.52	499900	5985
16.	Alwaye	1920	7.17	25100	3500
17.	Parur	1920	9.02	26000	2882
18.	Perumbavoor	1953	13.61	22900	1682
19.	Irinjalakuda	1936	11.24	25980	2311
20.	Trichur	1921	12.89	75200	5833
21.	Guruvayoor	1962	7.48	17500	2339
22.	Kunnamkulam	1947	6.89	19200	2786
23.	Palghat	1866	26.60	108400	4075
24.	Chittoor-Thathamangalam	1905	14.43	30100	2085
25.	Calicut Corporation	1962	84.20	383700	4557
26.	Badagara	1958	21.34	62400	2924
27.	Tellicherry	1866	16.19	74400	4595
28.	Kasaragod	1966	16.84	41600	2470
29.	Cannanore	1901	10.83	59900	5530
30.	Chalakydy	1970	25.23	41100	1629
31.	Punalur	1973	34.60	42200	1219
32.	Tirur	1973	16.55	39300	2374
33.	Malappuram	1973	33.69	38400	1139
34.	Kodungalloor	1973	17.40	28000	1609

APPENDIX III

No. OF BURIAL GROUNDS, CREMATION GROUNDS, WARDS AND CIVIL REGISTRATION UNITS 1979

Sl. No.	Name of Municipality/ Corporation	Burial grounds			Cremation grounds			V.S. Registration	
		Municipality	Private	Total	Municipality	Private	Total	No. of wards	No. of Regn. Division
(1)	(2)	(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.	Kayamkulam	..	14	14	..	3	3	32	1
6.	Mavelikara	1	9	10	..	1	1	20	1
7.	Alleppey	..	10	10	2	3	5	36	6
8.	Shertalai	1	1	2	..	2	2	24	1
9.	Changanacherry	1	6	7	..	1	1	28	1
10.	Thiruvalla	1	1	2	..	..	..	20	1
11.	Kottayam	1	15	16	..	1	1	32	4
12.	Palai	1	4	5	..	..	..	20	1
13.	Vaikom	..	1	1	1	..	1	20	1
14.	Muvattupuzha	1	4	5	..	..	..	20	1
15.	Cochin Corporation	8	40	48	5	11	16	50	17
16.	Alwaye	1	..	1	..	..	..	20	2
17.	Parur	1	7	8	..	7	7	20	1
18.	Perumbavoor	..	8	8	..	1	1	20	1
19.	Irinjalakuda	1	5	6	..	1	1	20	1
20.	Trichur	3	11	14	..	..	..	32	1
21.	Guruvayoor-Township	1	4	5	..	1	1	4	1
22.	Kunnamkulam	1	..	1	..	..	..	16	1
23.	Palghat	4	7	11	1	1	2	32	5
24.	Chittoor-Thathamangalam	..	1	1	3	1	4	20	2
25.	Calicut-Corporation	2	9	11	5	2	7	39	14
26.	Badagara	1	8	9	1	..	1	32	3
27.	Tellicherry	1	19	20	1	4	5	22	4
28.	Kasaragode	..	9	9	2	1	3	24	3
29.	Cannanore	1	11	12	1	..	1	32	4
30.	Chalakydy	2	7	9	..	1	1	24	1
31.	Punalur	1	7	8	..	..	..	24	1
32.	Tirur	1	..	1	..	..	..	24	1
33.	Malappuram	1	10	11	..	1	1	24	1
34.	Kodungalloor	..	..	..	..	..	..	20	1

APPENDIX IV
REGISTRATION UNITS WITH AREA AND POPULATION—1979

<i>Sl. No.</i>	<i>Name of Corporation/ Municipality</i>	<i>No. of Registration Units</i>	<i>Area in Sq. Kms.</i>	<i>Area/Regn. units</i>	<i>Estimated Population</i>	<i>Population/ regn. unit</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Neyyattinkara	1	9.99	9.99	27300	27300
2.	Trivandrum	13	75.00	5.77	469600	36123
3.	Attingal	1	14.78	14.78	29200	29200
4.	Quilon	3	18.48	6.16	135500	45166
5.	Kayamkulam	1	21.78	21.78	60100	60100
6.	Mavelikara	1	12.65	12.65	26400	26400
7.	Alleppey	6	44.94	7.49	167400	27900
8.	Shertalai	1	16.19	16.19	39800	39800
9.	Changanacherry	1	13.26	13.26	51400	51400
10.	Thiruvalla	1	14.48	14.48	28800	28800
11.	Kottayam	4	16.45	4.11	63600	15900
12.	Palai	1	25.90	25.90	21400	21400
13.	Muvattupuzha	1	13.18	13.18	24800	24800
14.	Vaikom	1	8.73	8.73	20900	20900
15.	Cochin	17	83.52	4.91	499900	29405
16.	Alwaye	2	7.17	3.59	25100	12550
17.	Parur	1	9.02	9.02	26000	26000
18.	Perumbavoor	1	13.61	13.61	22900	22900
19.	Irinjalakuda	1	11.24	11.24	26000	26000
20.	Trichur	1	12.89	12.89	75200	75200
21.	Guruvayoor	1	7.48	7.48	17500	17500
22.	Kunnamkulam	1	6.89	6.89	19200	19200
23.	Palghat	5	26.60	5.32	108400	21680
24.	Chittoor-Thathamangalam	2	14.43	7.22	30100	15050
2	Calicut-C	14	84.20	6.01	383700	27407
26.	Badagara	3	21.34	7.11	62400	20800
27.	Tellicherry	4	16.19	4.05	74400	18600
28.	Kasaragode	3	16.84	5.61	41600	13866
29.	Cannanore	4	10.83	2.71	59900	14975
30.	Chalakydy	1	25.23	25.23	41100	41100
31.	Punalur	1	34.60	34.60	42200	42200
32.	Tirur	1	16.55	16.55	39300	39300
33.	Malappuram	1	33.69	33.69	38400	38400
34.	Kodungallur	1	17.40	17.40	28000	28000

APPENDIX V

VITAL EVENTS REGISTERED DURING THE YEAR — 1979

Sl. No.	Name of Municipality/ Corporation	Number of Live Births												Number of Still Births												No. of Infant Deaths																																																																																																																																																																																																																																																																																																																																																																																																																									
		Total Events				Events to Normal residents				Total Events				Events to Normal residents				Total Events				Events to Normal residents																																																																																																																																																																																																																																																																																																																																																																																																																													
		M	F	T	(3)	M	F	T	(7)	M	F	T	(8)	M	F	T	(9)	M	F	T	(10)	M	F	T	(11)	M	F	T	(12)	M	F	T	(13)	M	F	T	(14)	M	F	T	(15)	M	F	T	(16)	M	F	T	(18)	M	F	T	(19)	M	F	T	(20)																																																																																																																																																																																																																																																																																																																																																																																										
1.	Neyyattinkara	1288	1299	2587	190	181	371	19	8	27	3	1	4	15	19	34	1	4	5	12657	12715	25372	5102	5155	10257	233	192	405	72	67	137	429	334	763	179	114	293	782	741	1523	192	123	255	11	6	17	1	3	4	4	4	3	7	2	3	5	5721	5382	11103	1783	1722	3505	120	125	245	30	18	48	140	110	250	25	23	48	1437*	1314	2765	648	584	1232	29	23	52	15	14	29	11	6	17	10	4	14	1201	1118	2319	217	207	424	14	13	27	2	..	2	157	131	288	72	67	139	3374	3348	6722	1589	1506	3095	22	14	36	5	4	9	86	65	151	29	19	48	975	950	1925	312	336	648	26	13	39	7	2	9	31	19	50	10	3	13	1180	1080	2260	370	362	732	1	..	1	17	10	27	3	4	7	1334	1162	2496	166	151	317	18	14	32	3	4	7	20	17	37	3	1	4	1888	1924	3812	272	269	541	27	21	48	7	3	10	9	12	21	4	9	13	1189	1102	2292	126	116	242	20	16	30	4	1	5	19	14	33	3	1	4	873	898	1771	122	127	249	6	8	14	..	4	4	4	18	13	31	1	1	2	1218	1178	2396	249	203	452	12	12	27	6	4	10	16	18	34	6	4	10	7336	6823	14159	4629	4431	9060	13	107	246	80	56	186	190	161	351	110	93	203	1940	1800	3740	48	62	130	27	15	42	2	2	4	22	30	52	12	8	20	1277	1153	2430	202	172	374	40	41	81	4	4	8	754	681	1435	128	110	238	12	6	18	..	1	1	15	13	28	1	7	8	1055	1010	2065	173	159	332	18	25	43	2	1	3	15	10	25	1	1	2	5953	5655	11608	764	753	1517	132	123	255	1	2	3	154	123	277	5	3	8	57	51	108	31	30	61	1	3	4	1	2	3	1393	1361	2754	118	115	233	37	25	62	2	1	3	24	14	38	5	2	7	3301	2902	6203	1299	1142	2441	109	84	193	53	45	98	175	188	313	69	53	122	612	576	1188	313	282	595	32	17	49	19	7	26	20	12	32	13	3	16

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
25.	Calicut	9818	9670	19488	4108	4043	8151	326	360	686	58	53	111	614	594	1208	161	166	327
26.	Badagara	3218	3055	6273	732	682	1414	22	19	41	4	2	6	72	49	121	20	9	29
27.	Tellicherry	3396	3103	6499	798	809	1607	59	59	118	6	3	9	83	73	156	19	13	32
28.	Kasargode	1811	1686	3497	584	506	1090	78	56	134	12	11	23	41	24	65	23	17	40
29.	Cannanore	1499	1557	3056	361	997	1858	13	11	24	5	6	11	27	29	56	8	7	15
30.	Chalakudy	1253	1138	2391	248	210	458	30	24	54	3	3	6	16	19	35	2	5	7
31.	Punalur	1195	1410	2605	403	484	887	22	25	47	9	6	15	17	7	24	7	3	10
32.	Tirur	1514	1449	2963	450	410	860	43	27	70	..	..	..	53	44	97	12	4	16
33.	Malappuram	798	731	1529	398	365	763	6	12	18	..	1	1	28	16	44	9	7	16
34.	Kondungallur	1333	1249	2582	396	261	657	56	15	71	5	1	6	8	14	22	3	1	4

APPENDIX—V (Contd.)

Sl. No.	Name of Municipality/ Corporation	Number of other deaths						Number of maternal deaths									
		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)	(21)	(22)	(23)	(24)	(25)	(25)	(25)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	
1	Neyyattinkara	113	67	180	60	32	92	..	..	..	..	..	..	..	..	..	..
2.	Trivandrum	2907	1753	4660	1063	653	1720	..	..	..	..	..	..	..	..	..	30
3.	Attingal	51	70	121	47	61	108	..	..	..	..	..	..	..	..	..	..
4.	Quilon	886	613	1499	317	232	549	..	..	..	..	..	..	..	..	..	..
5.	Kayamkulam	132	115	247	114	38	202	..	..	..	..	..	..	..	..	..	..
6.	Mavelikara	157	131	288	72	67	139	..	..	..	..	..	..	..	..	..	..
7.	Alleppey	978	658	1636	512	384	896	..	..	..	..	..	..	..	..	..	..
8.	Sherthallai	220	158	378	118	99	217	..	..	..	..	..	..	..	..	..	..
9.	Changanacherry	115	88	203	87	75	162	..	..	..	..	..	..	..	..	..	..
10.	Thiruvalla	202	141	343	66	60	126	..	..	..	..	..	..	..	..	..	..
11.	Kottayam	266	157	423	98	73	171	..	..	..	..	..	..	..	..	..	..
12.	Palai	120	79	199	42	38	80	..	..	..	..	..	..	..	..	..	..
13.	Vaikom	98	104	212	38	35	73	..	..	..	..	..	..	..	..	..	..
14.	Moovattupuzha	118	86	204	59	41	100	..	..	..	..	..	..	..	..	..	..
15.	Cochin	2026	1265	3291	1320	890	2210	..	..	..	..	..	..	..	..	..	..
16.	Alwaye	165	142	307	7	3	10	..	..	..	..	..	..	..	..	..	..
17.	Parur	142	117	259	65	64	129	..	..	..	..	..	..	..	..	..	..
18.	Perumbavoor	72	34	106	39	25	64	..	..	..	..	..	..	..	..	..	..
19.	Iringalakuda	114	79	193	48	44	92	..	..	..	..	..	..	..	..	..	..
20.	Trichur	1086	590	1676	92	54	146	..	..	..	..	..	..	..	..	..	..
21.	Guruvayoor	53	43	96	38	36	74	..	..	..	..	..	..	..	..	..	..
22.	Kunnankulam	113	86	199	52	59	111	..	..	..	..	..	..	..	..	..	..
23.	Palghat	836	482	1318	348	228	576	..	..	..	..	..	..	..	..	..	..
24.	Chittoor- Thathamangalam	192	149	341	141	113	254	..	..	..	..	..	..	..	..	..	..

(1)	(2)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)
25.	Calicut	2835	1878	4713	1073	950	2023	..	61	61	..	7	7
26.	Badagara	234	231	465	138	162	300	..	..	..	..	..	..
27.	Tellicherry	452	331	783	205	169	374	..	7	7	..	1	1
28.	Kasargode	276	198	474	111	75	186	..	..	..	..	..	..
29.	Cannanore	225	243	468	180	221	401	..	..	..	..	..	..
30.	Chalakydy	164	89	253	77	48	125	..	5	5	..	1	1
31.	Punalur	152	73	225	102	59	161	..	..	..	..	..	..
32.	Tirur	257	196	453	93	87	180	..	4	4	..	..	..
33.	Malappuram	83	81	164	71	70	141	..	2	2	..	..	..
34.	Kodungalloor	169	112	281	69	59	128	..	..	..	..	..	..

APPENDIX VII
RESULTS OF SPOT CHECK—1979

Sl. No.	Name of Municipality/ Corporation	No. of wards selected for spot check	Total No. of households	No. of households visited	Number of events to normal residents detected								
					Live Births			Infant Deaths			Other deaths		
					Enumerated	Registered	Occurred outside the Municipality	Enumerated	Registered	Occurred outside the Municipality	Enumerated	Registered	Occurred outside the Municipality
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	Neyyattinkara	15	4590	3704	417	198	167	15	13	9	97	61	23
2.	Trivandrum	18	35019	34959	2137	1974	3	129	117	12	648	599	..
3.	Attingal	15	3974	3974	183	109	68	4	4	..	86	60	26
4.	Quilon	18	12710	12710	632	534	68	38	26	4	110	83	12
5.	Kayamkulam	15	4450	4450	586	334	187	11	3	2	115	57	36
6.	Mavelikara	15	3624	3624	249	164	81	1	1	..	114	96	6
7.	Alleppey	18	14029	14029	1550	1283	187	23	16	1	493	386	19
8.	Shertallay	15	6531	6531	316	195	120	2	2	..	111	97	12
9.	Changanacherry	15	6050	6050	437	251	163	1	1	..	94	42	28
10.	Thiruvallā	15	3530	3530	252	194	45	1	1	..	102	77	22
11.	Kottayam	15	8264	8264	294	163	129	..	..	..	86	64	16
12.	Palai	15	3225	3225	222	139	81	..	..	..	87	47	35
13.	Vaikom	15	4036	4036	258	176	77	5	2	3	64	52	9
14.	Muvattupuzha	15	2767	2767	179	176	..	5	3	..	51	46	8
15.	Cochin	18	29806	29806	3089	2071	610	23	15	2	777	508	33
16.	Alwaye	15	3249	3249	159	93	64	..	..	..	31	19	11
17.	Parur	15	4561	4561	391	256	108	..	..	..	102	74	11
18.	Perumbavoor	15	2958	2958	272	129	138	1	1	..	46	35	9
19.	Irinjalakuda	15	3317	3317	329	166	154	2	..	..	92	64	17
20.	Trichur	15	5491	5491	465	274	88	..	..	..	155	72	13
21.	Guruvayoor	4	2838	2838	311	61	247	9	3	3	93	74	17
22.	Kunnamkulam	15	3663	3663	369	166	196	15	3	10	130	97	19
23.	Palghat	15	9730	7420	722	569	149	19	15	4	264	226	33
24.	Chittur-Thathamangalam	15	3874	3874	185	164	19	6	6	..	108	102	1
25.	Calicut	18	19741	19741	1852	1530	128	..	..	..	685	586	26
26.	Badagara	15	4308	4308	581	455	117	..	..	..	151	118	11
27.	Tellicherry	15	7183	7183	832	741	51	12	12	..	265	236	11
28.	Kasargode	15	5520	5520	442	386	40	22	10	1	125	111	10
29.	Cannanore	15	3692	3692	274	210	40	..	..	..	105	85	17
30.	Chalakydy	15	4352	4352	445	230	193	6	1	2	99	49	12
31.	Punalur	15	4503	4503	384	342	31	2	1	..	75	72	..
32.	Tirur	15	3271	3271	625	570	21	10	10	..	106	96	1
33.	Malappuram	15	3606	3606	627	381	152	7	1	1	67	42	8
34.	Kodungallur	15	3742	3743	272	149	106	..	..	..	77	50	14

APPENDIX VIII

UNDER REGISTRATION AND OCCURRENCE OF OUTSIDE EVENTS—1979

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	20.80	20.00	40.05	28.57
2.	Trivandrum	7.50	7.56	0.14	7.56
3.	Attingal	5.22	Nil	37.16	30.23
4.	Quilon	5.32	17.42	10.76	10.81
5.	Kayamkulam	16.29	31.82	31.91	30.16
6.	Mavelikara	2.38	11.01	32.53	5.22
7.	Alleppey	5.87	18.95	12.06	3.88
8.	Shertalai	0.51	2.00	37.97	5.66
9.	Changanacherry	8.39	37.31	37.30	29.47
10.	Thiruvalla	6.28	3.57	17.86	20.75
11.	Kottayam	1.21	8.57	43.88	18.60
12.	Palai	1.42	9.62	36.49	42.53
13.	Vaikom	2.76	5.26	29.84	17.39
14.	Moovattupuzha	1.68	12.50	26.94	12.50
15.	Cochin	16.46	31.72	19.75	4.25
16.	Alwaye	2.11	5.00	40.25	35.48
17.	Parur	9.54	18.68	27.62	10.78
18.	Perumbavoor	3.73	5.26	50.74	19.15
19.	Irinjalakuda	5.14	16.88	46.81	18.09
20.	Trichur	27.32	49.30	18.92	8.39
21.	Guruvayoor	4.69	6.10	79.42	19.61
22.	Kunnamkulam	4.05	13.79	53.12	20.00
23.	Palghat	0.70	2.16	20.64	12.50
24.	Chittoor-Thathamangalam	1.20	4.42	10.27	0.88
25.	Calicut	11.25	11.08	6.91	3.80
26.	Badagara	4.09	15.71	20.14	7.28
27.	Tellicherry	5.12	7.09	6.13	4.15
28.	Kasargode	3.98	11.03	9.05	7.48
29.	Cannanore	10.26	3.41	14.60	16.19
30.	Chalakydy	8.73	45.05	43.37	13.33
31.	Punalur	3.12	5.19	8.07	5.19
32.	Tirur	5.63	7.83	3.36	0.86
33.	Malappuram	19.79	33.85	24.24	18.16
34.	Kodungallur	10.24	20.63	38.97	18.12

APPENDIX IX

REGISTERED VITAL RATES AND ADJUSTED RESIDENTIAL RATES—FOR 1979

St. No.	Name of Municipality/ Corporation	Registered Vital rates.		Adjusted Residential Vital Rates	
		Birth	Death	Birth	Death
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara	13.59	3.55	28.62	6.22
2.	Trivandrum	21.84	4.35	23.64	4.71
3.	Attingal	8.73	3.87	14.66	5.55
4.	Quilon	25.87	4.41	30.61	5.99
5.	Kayamkulam	20.50	3.59	35.97	7.55
6.	Mavelikara	16.06	10.53	24.38	12.48
7.	Alleppey	18.49	5.64	22.33	7.24
8.	Sherthalai	16.28	5.78	26.37	6.25
9.	Changanacherry	14.24	3.29	24.78	7.44
10.	Thiruvalla	11.01	4.51	14.30	5.91
11.	Kottayam	8.51	2.92	15.34	3.92
12.	Palai	11.31	3.93	18.06	7.57
13.	Vaikom	11.91	3.59	17.33	4.59
14.	Moovattupuzha	18.28	4.44	25.38	5.79
15.	Cochin	18.13	4.84	27.04	7.40
16.	Alwaye	15.18	3.20	18.85	3.95
17.	Parur	14.38	4.96	21.97	6.84
18.	Perumbavoor	10.39	3.14	21.90	4.09
19.	Irinjalakuda	12.78	3.62	25.32	5.32
20.	Trichur	20.17	5.06	34.23	5.43
21.	Guruvayur	13.49	4.40	17.78	5.83
22.	Kunnamkulam	12.14	6.15	26.98	8.91
23.	Palghat	25.52	6.45	32.38	7.53
24.	Chittoor-Thathamangalam	19.77	8.97	22.30	9.46
25.	Calicut	21.24	6.14	25.71	7.18
26.	Badagara	22.66	5.27	29.59	6.74
27.	Tellicherry	21.60	5.47	24.26	6.15
28.	Kasargode	26.20	5.43	30.01	6.59
29.	Cannanore	31.02	6.94	40.43	8.58
30.	Chalakudy	11.14	3.24	21.56	6.81
31.	Punalur	21.02	4.05	23.60	4.27
32.	Tirur	21.88	4.99	28.00	5.46
33.	Malappuram	19.87	4.09	32.70	7.55
34.	Kodungalur	23.46	4.71	42.79	7.24
	State Urban			23.95	5.98

APPENDIX X

ADJUSTED RESIDENTIAL VITAL RATES FROM 1975-79

Sl. No.	Municipality/ Corporation	Birth Rate					Death Rate				
		1975	1976	1977	1978	1979	1975	1976	1977	1978	1979
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Neyyattinkara	62.55	46.21	32.89	15.38	28.62	10.6	6.88	7.20	5.65	6.22
2	Trivandrum	25.14	23.76	24.10	20.51	23.64	5.46	5.54	4.36	5.51	4.71
3	Attingal	26.40	22.30	21.81	20.86	14.66	4.12	4.90	5.00	4.50	5.55
4	Quilon	27.06	25.50	27.46	18.32	30.61	6.69	6.10	6.77	5.77	5.99
5	Kayamkulam	34.78	31.72	32.05	38.76	35.97	9.04	7.45	6.32	7.98	7.55
6	Mavelikara	24.39	24.10	24.46	23.40	24.38	7.20	8.10	9.72	7.04	12.48
7	Alleppey	23.76	25.50	26.87	22.69	22.33	6.46	7.40	9.05	6.27	7.24
8	Shertalai	25.29	30.86	27.45	28.05	26.37	7.43	8.91	7.00	6.08	6.25
9	Changanacherry	29.41	30.24	28.95	27.90	24.78	6.71	6.18	6.12	5.53	7.44
10	Thiruvalla	21.17	22.30	16.02	16.32	14.30	6.97	5.70	5.91	5.65	5.91
11	Kottayam	10.65	11.80	18.09	18.56	15.34	3.62	6.50	6.50	3.42	3.92
12	Palai	18.05	18.00	15.92	19.65	18.06	3.44	4.14	4.61	4.39	7.57
13	Vaikom	30.05	28.89	24.21	18.90	17.33	6.88	6.04	6.50	6.08	4.59
14	Moovattupuzha	24.98	25.50	19.70	31.67	25.38	6.62	6.70	3.15	5.02	5.79
15	Cochin	26.61	28.13	29.25	26.02	27.04	7.78	5.97	6.89	6.19	7.40
16	Alwaye	42.08	24.77	20.08	28.41	18.55	6.56	3.93	3.16	4.12	3.95
17	Parur	25.10	30.36	28.44	28.53	21.97	6.55	4.52	6.51	6.13	6.84
18	Perumbavoor	23.13	25.19	27.65	28.59	21.90	3.02	5.20	4.70	4.29	4.09
19	Irinjalakuda	18.52	23.50	21.07	30.68	25.52	11.47	4.90	6.10	10.58	5.32
20	Trichur	21.10	19.30	22.46	17.87	34.23	6.30	5.00	6.49	6.98	6.43
21	Guruvayur	21.28	15.46	20.97	21.97	17.78	5.97	5.85	6.46	6.00	5.83
22	Kunnamkulam	22.00	22.04	21.18	20.31	26.98	6.50	6.75	7.72	8.01	8.91
23	Palghat	41.48	27.36	22.27	25.48	32.38	15.07	6.34	7.08	7.92	7.53
24	Kozhikode	32.14	36.00	31.00	17.21	22.30	10.45	11.58	14.17	7.85	9.46
25	Chittur-Thathamangalam	33.62	31.68	36.21	38.35	25.71	9.95	8.23	9.81	10.85	7.18
26	Badagara	23.15	30.46	30.46	18.57	29.59	5.94	5.16	7.73	5.80	6.74
27	Tellicherry	NA	17.57	15.03	12.67	24.26	NA	3.96	4.61	4.14	6.15
28	Cannanore	NR	32.30	27.13	31.68	30.01	NR	9.60	8.35	8.36	6.59
29	Kasargode	42.16	39.91	36.20	30.16	40.43	8.59	7.43	7.70	6.67	8.58
30	Chalakudy	..	..	20.33	18.66	21.56	..	..	5.58	4.40	6.81
31	Punalur	..	..	..	26.14	23.60	..	..	..	5.81	4.27
32	Tirur	..	..	..	30.15	24.00	..	..	..	6.45	5.46
33	Malappuram	..	..	..	31.94	32.70	..	..	..	9.08	7.55
34	Kodungallur	30.08	42.79	9.39	7.24

Memorandum

TO : THE DIRECTOR, BUREAU OF AGRICULTURE

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