

GOVERNMENT OF KERALA



Residential Vital Rates
In
Municipalities & Corporations
1992

DEPARTMENT OF ECONOMICS & STATISTICS
THIRUVANANTHAPURAM

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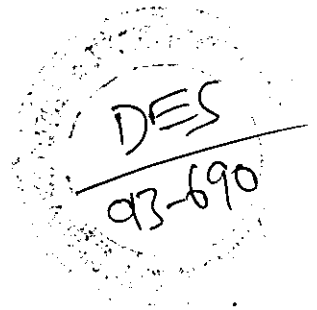
Preface

The residential rates of births and deaths in the selected Municipalities and City Corporations for the year 1992 are presented in this report.. The rates are estimated from the registered births and deaths to the normal residents, after making adjustments for under registration and for events occurring outside the Municipal/Corporation areas, using the results of spot-check conducted in these Municipalities/Corporations. This report has been prepared by the Vital Statistics Unit in the Directorate of Economics & Statistics.

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RESIDENTIAL VITAL RATES IN CORPORATIONS & MUNICIPALITIES 1992

1. INTRODUCTION

The registration of births and deaths in Kerala is done at present in accordance with the provisions contained in the Birth & Death Registration Act 1969 and Rules framed there under. Under this system, all the births and deaths are to be registered at the place of occurrence itself irrespective of whether it occurred to a normal resident or to an outsider. The rural people avail of the better medical facilities available in the urban areas, and as a result, the rate of registration of vital events in urban area is much higher than that in the rural areas.

According to the Birth and Death Registration Act in force in Kerala, the registration of vital events is compulsory. In order to avoid omission in the registration of events, various remedial measures including educational efforts through the mass media are taken by the responsible agencies involved in Civil Registration. Despite its compulsory nature and other steps taken for achieving completeness in registration, under registration still exists in Kerala. The presence of under registration as well as the fact that the registration is de facto created difficulties to get accurate and reliable data on vital events occurred to the normal residents. It was to complement Civil Registration, the spot check survey under the scheme 'Strengthening of Vital Statistics Units in Municipalities and Corporations' for the improvement of vital statistics was introduced. The result of spot check survey for the year 1992 are presented in this report.

2. Scheme for the improvement of Vital Statistics

The scheme spot check survey aims at estimating the adjusted residential Vital rates in the selected Municipalities and City Corporations and ascertaining the extent of under registration.

All the three City Corporations in Kerala, 30 Municipalities and Guruvayoor Township were covered under the scheme during the year under report. In the three city Corporations and in the Municipalities except Kollam and Alappuzha, 15 wards each were selected for the conduct of the survey. In the Municipalities of Kollam and Alappuzha 18 wards each were selected. In Guruvayoor Township, all the 10 wards were covered for the survey. Selection of wards were made by the random sampling method. The Statistical staff engaged in the work visited each household in the selected wards and collected the required data. The vital events to normal residents enumerated through the spot check survey comprise the following :

- .. Events occurring inside the town and registered.
- .. Events occurring inside the town but not registered.
- .. Events occurring outside the town registered and unregistered.

The spot check results are mainly used for the calculation of the extent of under registration and estimation of residential vital rates. For the calculation of under registration, the events occurring to persons coming into the city/town to avail themselves of better medical facilities are excluded. Only events to the normal residents are considered.

For the calculation of residential vital rates, events occurred to outsiders are excluded from the total registered events. The registered events to normal residents are weighted for under registration and further adjusted for events occurring to normal residents outside the town.

3. General findings of the survey

Table I - Gives area, population and density of population of the selected Municipalities and Corporations during the year under report. Density of population was highest in Kollam (7582) followed by Thiruvananthapuram (7070). Density of population of Punalur Municipality was the lowest (1351). The density of population was more than 5000 in six centres viz. Kollam, Thiruvananthapuram, Kollam, Kochi, Thrissur, Kannur and Kozhikode during the year 1992.

Table II - represents the number of hospitals and other medical institutions both in Public and Private sector with bed strength. The Number of public hospitals

were the highest in Thiruvananthapuram Corporation while private hospitals were highest in Kochi Corporation. Total number of beds available in both Public and Private sector in the three city Corporations were as follows.

Thiruvananthapuram	- 8090
Kochi	- 5705
Kozhikode	- 4773

During the year under report the bed population ratio estimated in respect of the three city corporations was comparatively low, which indicates that even in the three city Corporations, the medical facilities now available in public hospitals are inadequate to meet the requirements of the increasing population.

Table III - shows the number of burial grounds, cremation grounds available both in public and private sector and also the number of registration units in each Municipality and Corporation selected for the spot check survey during the year 1992.

Table IV - represents number of registration units with area and population of each registration unit. Number of registration units was the highest in Thiruvananthapuram (15) followed by Kozhikode (14). Area of Kochi Corporation was the largest (94.88 Sq.Km.) followed by Kozhikode (82.68 Sq.Km.) and Thiruvananthapuram (74.93 Sq.Km.). Among Municipalities area was the largest in Alappuzha (46.77 Sq.Km.) while area per registration unit was the largest in Punalur municipality (34.60 Sq.Km).

Table V - represents the registered vital events such as Live Births, Still Births, Infant deaths, Other deaths and Maternal Deaths with male and female break up in city Corporations and Municipalities selected for the spot check survey during the year under report. Among the three city Corporations, Live Births to normal residents was maximum in Thiruvananthapuram Corporation (15650) followed by Kozhikode (8745) and Kochi (7091). With regard to Municipalities, Live Births to normal residents was maximum in Thalassery (3268) and minimum in Kunnankulam (63). Still Births and Infant Deaths were the highest in Kozhikode Corporation, Neyyattinkara, Thiruvananthapuram, Alappuzha, Aluva, Perumbavoor, Irinjalakuda, Guruvayoor township and Kannur have not

reported any still births to normal residents during the year under report. No infant deaths to normal residents were reported from Neyyattinkara, Attingal, North Paravur, Irinjalakuda, Guruvayoor Township and Kunnamkulam. Infant death to normal residents was the highest in Kozhikode Corporation (351). In the case of other deaths also Kozhikode Corporation stood first (2700) among corporations and Thalassery (862) among municipalities. Maternal deaths to normal residents were reported only from Kochi Corporation and North Paravur, Palakkad and Vadakara Municipalities.

Table VI - represents death according to causes. Heart diseases seemed to be one major causes of death in all the three city corporations and in most of the municipalities. The diseases such as Cancer, Pulmonary diseases, Respiratory diseases and Dysentery were also among the leading causes of death.

Table VII - results of spot check survey are given in table VIII. It is seen that Live birth to normal residents were maximum in Kozhikode Corporation followed by Kochi. Other deaths to normal residents were maximum in Kochi Corporation.

Table VIII - represents the details of under registration and occurrence of outside events in the City corporations and Municipalities selected for the survey during the year under report. Percentage of under registration of births was highest in Thrissur municipality (12.29%) followed by Kochi Corporation (7.33%). Under registration of death was highest in Chalakudy municipality (23.71%) followed by Kochi Corporation (22.04%). Percentage of under registration of births was nil in 22 centres viz. Neyyattinkara, Thiruvananthapuram, Attingal, Kollam, Kayamkulam, Alappuzha, Cherthala, Thiruvalla, Changanassery, Kottayam, Palai, Vaikom, Moovattupuzha, Aluva, Perumbavoor, Kodungalloor, Chalakudy, Guruvayoor Township, Kunnamkulam, Thrissur, Thalassery and Kasaragod. Percentage of under registration of death was nil in 10 centres viz. Neyyattinkara, Thiruvananthapuram, Attingal, Kollam, Changanassery, Chittoor-Thathamangalam, Thirur, Malappuram, Thalassery and Kasaragod. Percentage of outside registration of birth was highest in Irinjalakuda municipality (84%) followed by Vaikom (77.78%). Percentage of outside registration of death was highest in Cherthala (34.69%) followed by Changanachery (32.26%).

4. Adjusted Residential Vital Rates and Registered Vital Rates 1992

The adjusted residential vital rates and registered vital rates are given in **Table IX**. For estimation of adjusted residential vital rates, the events occurring to outsiders are excluded. The registered birth rate was highest in Thalassery (31.32) and the same was lowest in Irrinjalakuda (2.56). The registered death rate was highest in Thalassery municipality (8.51) and lowest in Perumbavoor (2.45) during the year under report.

Table X - represents the comparison of residential birth and death rates for the last 6 years beginning from 1987. The adjusted residential birth and death rates showed fluctuating trend in almost all the centres.

5. Conclusion

The survey has been successfully completed in all the three city corporations and in all the selected Municipalities during 1992 also. The survey result reveals that under registration of vital events exists at certain level in Kerala and hence cent percent coverage in Civil registration was not achieved during the year under report also. Spot check survey helps to find out the unregistered events and thereby the concerned authorities can take necessary steps to minimise the rate of under registration.

APPENDIX

6. Method of calculation of Adjusted Residential Vital Rates

Residential vital rates can broadly be defined as the rate of occurrence of vital events to the normal residents of an area in an year. The vital events occurring to normal residents enumerated during the spot check are divided into three categories.

- i. Events occurring inside the town 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 to the town/city to avail themselves of better medical facilities are excluded and those of normal residents who are going outside the town are included.

1. Percentage of under registration	-	$\frac{\text{No. of events occurred to normal residents inside the town but not registered} \times 100}{\text{No. of events occurred to normal residents inside the town registered and not registered.}}$
2. Percentage of events occurred outside the town to normal residents	-	$\frac{\text{No. of events occurred to normal residents outside the town registered and unregistered} \times 100}{\text{Total no. of events enumerated and occurred to normal residents inside and outside the town.}}$
3. Registered birth/death rate to normal residents	-	$\frac{\text{Total no. of birth/death occurred to normal residents} \times 1000}{\text{Mid year population of the town.}}$
4. Residential birth/death rate to normal residents occurred inside the town (weighted for under registration)	-	$\frac{\text{Registered birth/death rate} \times 100}{(100 - \text{percentage of under registration})}$
5. Final Residential birth/death rate (weighted for outside events)	-	$\frac{\text{Residential birth/death rate to normal residents occurred inside the town (weighted for under registration)} \times 100}{(100 - \text{percentage of events occurred outside the town to normal residents})}$

**Table I - Annual Residential Vital Rates
Area and Population 1992**

Sl.No	Municipality/Corporation	Area in Sq.Km as per 1991 census	Mid year population	Density of population per Sq.Km.
1	2	3	4	5
1.	Neyyattinkara	9.70	30767	3172
2.	Thiruvananthapuram	74.93	529722	7070
3.	Attingal	14.18	33055	2331
4.	Kollam	18.48	140108	7582
5.	Punalur	34.60	46729	1351
6.	Kayamkulam	21.79	67969	3119
7.	Mavelikara	12.65	28534	2256
8.	Alappuzha	46.77	175306	3748
9.	Cherthala	16.18	43719	2702
10.	Thiruvalla	27.94	55194	1975
11.	Changanacherry	13.50	52510	3890
12.	Kottayam	15.55	62987	4051
13.	Palai	15.93	21925	1376
14.	Vaikom	8.73	21860	2504
15.	Muvattupuzha	13.18	27915	2118
16.	Kochi Corporation	94.88	571817	6027
17.	Aluva	7.18	24707	3441
18.	N.Paravur	9.02	28129	3119
19.	Perumbavoor	13.59	24889	1831
20.	Irinjalakuda	11.24	27683	2463
21.	Kodungallur	17.30	31660	1830
22.	Chalakydy	25.23	45510	1804
23.	Thrissur	12.65	74172	5863
24.	Guruvayoor Township	6.49	20553	3167
25.	Kunnamkulam	6.96	19686	2828
26.	Palakkad	26.60	124992	4699
27.	Chittoor-Thathamangalam	14.71	32273	2194
28.	Thirur	16.59	50739	3058
29.	Malappuram	33.61	51190	1523
30.	Kozhikode Corporation	82.68	423339	5120
31.	Vadakara	21.33	73614	3451
32.	Thalasserry	15.35	104347	4355
33.	Kannur	11.03	65839	5969
34.	Kasaragod	16.68	51141	3066

Table II - Number of Hospitals and other Institutions 1992

Sl. No.	Municipality/ Corporation	Hospitals						Dispensaries & other Institutions						Maternity & Child Health Centre					
		Public		Private		Total		Public		Private		Total		Public		Private		Total	
		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	320	2	35	5	355	2		11		13		2					
2.	Thiruvananthapuram	25	6738	37	1352	62	8090	6		32		38		34					
3.	Attingal	1	60	7	290	8	350	2		15		17		4					
4.	Kollam	6	950	21	1226	27	2176	7		70		77		12					
5.	Punalur	1	144	11	225	12	369			2	24	2	24	4					
6.	Kayamkulam	3	170	14	282	17	452			7		7		2					
7.	Mavelikara	2	267	9	282	11	549			10		10							
8.	Alappuzha	8	1548	5	120	13	1668	2		127		129		6					
9.	Cherthala	3	270	5	469	8	739			22		22		3					
10.	Thiruvalla	3	300	7	650	10	950			10		10							
11.	Changanacherry	2	214	5	243	7	457			28		28		5					
12.	Kottayam	4	415	15	200	19	615	1		54		55		3					
13.	Palai	3	243	9	492	12	735			22		22		13					
14.	Vaikom	2	266	2	25	4	291			39		39		1					
15.	Muvattupuzha	3	186	12	430	15	616	1		30		31		2					
16.	Kochi Corporation	14	1962	59	3743	73	5705	6		74		80		12					
17.	Aluva	2	237	12	577	14	814			28		28							

Table III - Number of Burial Grounds, Cremation Grounds, Wards and Civil Registration Units

Sl. No.	Municipality/ Corporation	Burial Grounds			Cremation Grounds			V.S Registration units	
		Mun/ Corp.	Private	Total	Mun/ Corp.	Private	Total	No. of wards	No. of units
1	2	3	4	5	6	7	8	9	10
1.	Neyyattinkara	1	4	5		3	3	20	1
2.	Thiruvananthapuram	4	27	31	1		1	50	15
3.	Attingal	1	1	2		5	5	20	1
4.	Kollam	2	20	22				36	1
5.	Punalur	1	16	17				28	1
6.	Kayamkulam	1	14	15	1	3	4	32	1
7.	Mavelikara	1	9	10		1	1	20	1
8.	Alappuzha	3	2	5		19	19	36	2
9.	Cherthala	1	5	6		1	1	28	1
10.	Thiruvalla	1	1	2				32	1
11.	Changanacherry	1	12	13		1	1	32	1
12.	Kottayam	1	15	16	1	1	2	32	2
13.	Palai	1	5	6				20	1
14.	Vaikom	1	2	3				20	1
15.	Muvattupuzha	1	8	9				20	1
16.	Kochi Corporation	8	40	48	5	11	16	50	2
17.	Aluva		7	7		3	3	20	1
18.	N.Paravur	1	7	8	1	7	8	20	1
19.	Perumbavoor		8	8		1	1	20	1
20.	Irinjalakuda	1	5	6		1	1	20	1
21.	Kodungallur		2	2				20	1
22.	Chalakydy	2	8	10		1	1	28	1
23.	Thrissur	3	11	14	2	1	3	32	6
24.	Guruvayoor	1	4	5		1	1	10	1
25.	Kunnamkulam	1	1	2				16	1
26.	Palakkad	4	7	11	3	1	4	36	1
27.	Chittoor- Thathamangalam		1	1	3		3	24	1
28.	Thirur	1		1		1	1	28	1
29.	Malappuram	1	10	11		1	1	24	1
30.	Kozhikode Corporation	2	9	11	4	2	6	39	14
31.	Vadakara	1	8	9				32	1
32.	Thalasserry	1	15	16	1	11	12	32	2
33.	Kannur	1	12	13	1		1	32	4
34.	Kasaragod		9	9	2	1	3	28	2

Table IV - Registration units with Area and Population 1992

Sl.No.	Municipality/ Corporation	No.of Reg. units	Area in Sq.km	Area per Reg. units	Mid year population	Population per Reg. units
1	2	3	4	5	6	7
1.	Neyyattinkara	1	9.70	9.70	30767	30767
2.	Thiruvananthapuram	15	74.93	5.00	529722	35315
3.	Attingal	1	14.18	14.18	33055	33055
4.	Kollam	1	18.48	18.48	140108	140108
5.	Punalur	1	34.60	34.60	46729	46729
6.	Kayamkulam	1	21.79	21.79	67969	67969
7.	Mavelikara	1	12.65	12.65	28534	28534
8.	Alappuzha	2	46.77	23.39	175306	87653
9.	Cherthala	1	16.18	16.18	43719	43719
10.	Thiruvalla	1	27.94	27.94	55194	55194
11.	Changanacherry	1	13.50	13.50	52510	52510
12.	Kottayam	2	15.55	7.78	62987	31494
13.	Palai	1	15.93	15.93	21925	21925
14.	Vaikom	1	8.73	8.73	21860	21860
15.	Muvattupuzha	1	13.18	13.18	27915	27915
16.	Kochi Corporation	2	94.88	47.44	571817	285909
17.	Aluva	1	7.18	7.18	24707	24707
18.	N.Paravur	1	9.02	9.02	28219	28129
19.	Perumbavoor	1	13.59	13.59	24889	24889
20.	Irinjalakuda	1	11.24	11.24	27683	27683
21.	Kodungallur	1	17.30	17.30	31660	31660
22.	Chalakydy	1	25.23	25.23	45510	45510
23.	Thrissur	6	12.65	2.11	74172	12362
24.	Guruvayoor	1	6.49	6.49	20553	20553
25.	Kunnamkulam	1	6.96	6.96	19686	19686
26.	Palakkad	1	26.60	26.60	124992	124992
27.	Chittoor- Thathamangalam	1	14.71	14.71	32273	32273
28.	Thirur	1	16.59	16.59	50739	50739
29.	Malappuram	1	33.61	33.61	51190	51190
30.	Kozhikode Corporation	14	82.68	5.91	423339	30239
31.	Vadakara	1	21.33	21.33	73614	73614
32.	Thalasserry	2	15.53	7.68	104347	52174
33.	Kannur	4	11.03	2.76	65839	16460
34.	Kasaragod	2	16.68	8.34	51141	25571

Table V - Vital events registered during the year 1992

Sl.No	Municipality/ Corporation	Live Births						Still Births					
		Total Events			Events to normal residents			Total Events			Events to normal residents		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Neyyattinkara	1792	1765	3557	161	125	286	1	1	2			
2.	Thiruvananthapuram	15314	15082	30396	7840	7840	15650	63	80	143			
3.	Attingal	584	593	1177	80	88	168	1	6	7			
4.	Kollam	7032	6490	13522	1226	1108	2334	26	20	46	6		6
5.	Punalur	1559	1504	3063	324	298	622	13	13	26	2	4	6
6.	Kayamkulam	1515	1460	2975	385	394	779	6	5	11	1	2	3
7.	Mavelikara	1798	1658	3456	156	131	287	10	7	17	1	1	2
8.	Alappuzha	4306	4179	8485	1098	1014	2112	30	32	62			
9.	Cherthala	1213	1042	2255	140	132	272	5	4	9	1	1	2
10.	Thiruvalla	2660	2511	5171	276	255	531	13	10	23	3	1	4
11.	Changanacherry	1170	1223	2393	296	342	638		3	3		25	2
12.	Kottayam	1749	1750	3499	196	194	390	15	12	27	2	2	4
13.	Palai	1256	1262	2518	122	101	223	11	13	24		1	1
14.	Vaikom	336	321	657	39	36	75	1	3	4		1	1
15.	Muvattupuzha	1776	1351	3127	156	108	264	3	5	8		1	1
16.	Kochi Corporation	8838	8391	17229	3616	3475	7091	70	83	153	22	26	48
17.	Aluva	2240	2236	4476	76	91	167	6	14	20			

Table V - Vital events registered during the year 1992 (Contd.....)

Sl.No	Municipality/ Corporation	Live Births						Still Births					
		Total Events			Events to normal residents			Total Events			Events to normal residents		
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
18.	N.Paravur	1242	1144	2386	162	151	313	14	14	28	1	1	2
19.	Perumbavoor	1396	1325	2721	70	68	138	10	8	18			
20.	Irinjalakuda	262	520	1082	36	35	71	2	6	8			
21.	Kodungallur	1847	1782	3629	190	143	333	1	2	3	1	1	2
22.	Chalakudy	1652	1553	3205	243	138	381	12	8	20	2	2	4
23.	Thrissur	6335	6710	13045	502	539	1041	82	105	187	3	3	6
24.	Guruvayoor	495	472	967	48	35	83	2	7	9			
25.	Kunnamkulam	1107	21013	2120	38	25	63	8	4	12	1		1
26.	Palakkad	4504	4270	8774	924	766	1690	34	26	60	8	5	13
27.	Chittoor- Thathamangalam	885	850	1735	212	217	429	12	5	17	4	1	5
28.	Thirur	2886	2744	5630	213	219	432	8	5	13	1	2	3
29.	Malappuram	1686	1624	3310	368	326	694	16	7	23	4	3	7
30.	Kozhikode Corporation	13828	13725	27553	4163	4582	8745	286	275	561	70	88	158
31.	Vadakara	3494	3160	6654	500	456	956	5	15	20	2	2	4
32.	Thalassery	5215	5099	10314	1817	1451	3268	248	24	72	29	19	44
33.	Kannur	2317	2256	4573	345	314	659	6	6	12			
34.	Kasaragod	2192	3734	5926	460	620	1080	44	63	107	11	5	16

Table V - Vital events registered during the year 1992 (Contd....)

Sl.No	Municipality/ Corporation	Infant Death						Other Deaths						Maternal Deaths	
		Total Events			Events to normal residents			Total Events			Events to normal residents			Total	Events to normal residents
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total		
1	2	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1.	Neyyattinkara	7	9	16				159	111	270	37	21	58		
2.	Thiruvananthapuram	351	230	581	122	64	186	3730	3107	6837	1105	780	1885		
3.	Attingal		2	2				87	63	150	58	46	104		
4.	Kollam	120	71	191	30	14	44	1135	650	1785	316	231	547		
5.	Punalur	10	11	21	8	7	15	214	133	347	116	871	187		
6.	Kayamkulam	5	3	8	1	2	3	195	138	333	131	116	247		
7.	Mavelikara	8	11	19	1	2	3	225	157	382	90	90	180		
8.	Alappuzha	97	85	182	16	8	24	1069	778	1847	396	348	744		
9.	Cherthala	24	20	44	1	2	3	300	206	506	86	67	153		
10.	Thiruvalla	33	30	63	6	1	7	449	285	734	141	110	251		
11.	Changanacherry	7	4	11	1	3	4	162	126	288	86	106	192		
12.	Kottayam	2	2	4	1	1	2	362	231	593	154	109	263		
13.	Palai	19	6	25	1		1	221	92	313	65	31	96		
14.	Vaikom	3	3	6		2	2	144	93	237	49	48	97		
15.	Muvattupuzha	16	6	22	2	1	3	169	93	262	64	36	100		
16.	Kochi Corporation	175	118	293	49	36	85	2957	1774	4731	1517	1015	2532	1	1
17.	Aluva	13	16	29	1	1	2	239	126	365	57	30	87		

Table V - Vital events registered during the year 1992 (Contd....)

Sl.No	Municipality/ Corporation	Infant Death						Other Deaths						Maternal Deaths	
		Total Events			Events to normal residents			Total Events			Events to normal residents			Total	Events to normal residents
		Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total		
1	2	15	16	17	18	19	20	21	22	23	24	25	26	27	28
18.	N.Paravur	6	5	11				225	153	378	79	75	154	1	1
19.	Perumbavoor	14	14	28	1	1	2	206	127	333	30	29	59		
20.	Irinjalakuda	9	5	14				145	76	221	85	48	133		
21.	Kodungallur	19	4	23	3		3	220	144	364	109	83	192		
22.	Chalakudy	10	13	23	1	1	2	264	109	373	133	70	203		
23.	Thrissur	166	142	308	4	3	7	1114	975	2089	205	92	297		
24.	Guruvayoor	7	5	12				145	103	248	67	60	127		
25.	Kunnamkulam	15	15	30				153	117	270	45	58	103		
26.	Palakkad	101	62	163	11	10	21	976	587	1563	401	279	680	4	1
27.	Chittoor- Thathamangalam	9	9	18	2		2	157	127	284	111	92	203		
28.	Thirur	29	25	54		2	2	233	152	385	96	62	158		
29.	Malappuram	19	17	36		1	1	188	141	329	96	74	170		
30.	Kozhikode Corporation	577	433	1010	202	149	351	4226	2594	6820	1552	1148	2700		
31.	Vadakara	22	16	38	3	5	8	271	213	484	150	130	280	2	1
32.	Thalassery	26	17	43	16	10	26	718	610	1328	447	415	862		
33.	Kannur	28	28	56	5	1	6	352	241	593	150	121	271		
34.	Kasaragod	24	43	67	5	2	7	298	172	470	121	73	194		

Table VI - Deaths according to causes 1992

Sl. No.	Municipality/ Corporation	Plague	T.B	Cholera	Dysentery & Diarohea	Respiratory Diseases	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteritics	Heart Failure	Pulmonary Diseases	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Neyyattinkara				2	8		2		5				269	286
2.	Thiruvananthapuram		64		232					402		2870		3850	7418
3.	Attingal		1		1	23	2			9		34	1	81	152
4.	Kollam				1		1			16	5	440	88	1425	1976
5.	Punalur				1		2	1	6	11			27	299	347
6.	Kayamkulam		3		3	32	5			16		95	4	184	341
7.	Mavelikara				2	52				21		139		187	401
8.	Alappuzha			4				4	2	56			31	1932	2029
9.	Cherthala								3	11			49	487	550
10.	Thiruvalla				7		6			18			44	722	797
11.	Changanacherry		10		6	31	18		1	16			17	200	299
12.	Kottayam						1			10			29	557	597
13.	Palai					52				16		53	10	76	207
14.	Vaikom									10		69	45	119	243
15.	Muvattupuzha						4			17		60		203	284
16.	Kochi Corpora.		83				1	4		90	10	1009		3828	5025
17.	Aluva				15					27		19	38	295	394

Table VI - Deaths according to cause 1992 (Contd...)

Sl. No.	Municipality/ Corporation	Plague	T.B	Cholera	Dysentery & Diarohea	Respi ratory Disea ses	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteri- tics	Heart Failure	Pulmi- nory Disea- ses	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
18.	N.Paravur									13		158		219	390
19.	Perumbavoor									20				341	361
20.	Irinjalakuda						3			9			6	217	235
21.	Kodungallur									9			37	341	387
22.	Chalakudy		3		1	40	1			14		61	10	266	396
23.	Thrissur				7					132		291		1967	2397
24.	Guruvayoor					144	3			3		29		81	260
25.	Kunnamkulam						6			3		21		270	300
26.	Palakkad				12					49		521		1148	1730
27.	Chittoor- Thathamangalam									14			4	284	302
28.	Thirur			5			12			23		30	34	335	439
29.	Malappuram				6					8			48	303	365
30.	Kozhikode Corpo.				59		73		23	386		1059	523	5707	7830
31.	Vadakara						1			24			9	490	524
32.	Thalasserry				27		30			211			117	986	1371
33.	Kannur						5			10		47		587	649
34.	Kasaragod				11		3			14			25	484	537

Table VII - Results of Spot Check 1992

Sl. No.	Municipality/ Corporation	No. of wards selected	Total no. of House holds	No. of House holds visited	No. of events detected to normal residents											
					Live Births				Infant Deaths				Other deaths			
					Enumerated	Registered	Not Registered	occurred outside	Enumerated	Registered	Not Registered	occurred outside	Enumerated	Registered	Not Registered	occurred outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara	15	6907	6907	253	132		121					89	67		22
2.	Thiruvananthapuram	15	31594	26939	583	583							197	197		
3.	Attingal	15	5416	5416	249	85		164					76	63		13
4.	Kollam	18	14410	14410	773	679		94	9	9			201	176		25
5.	Punalur	15	6157	6132	235	151	1	83					78	58		20
6.	Kayamkulam	15	5390	5390	301	201		100					81	78	1	2
7.	Mavelikara	15	4465	4465	244	153	1	90					147	120	13	14
8.	Alappuzha	18	16198	16198	1008	863		145	6	4		2	378	356	4	18
9.	Cherthala	15	6793	6793	181	106		75					98	59	5	34
10.	Thiruvalla	15	5733	5733	287	187		100	2	2			65	60	2	3
11.	Changanacherry	15	7197	7197	255	143		112					93	63		30
12.	Kottayam	15	5442	5442	236	133		103	1			1	119	82	1	36
13.	Palai	15	3916	2720	168	97		71					97	75	2	20
14.	Vaikom	15	4344	3257	189	42		147					84	69	5	10
15.	Muvattupuzha	15	4159	4159	278	179		99	2	1	1		83	67	3	13
16.	Kochi Corporation	15	28462	28462	1790	1277	101	412	3	1	1	1	630	467	132	31
17.	Aluva	15	3465	3465	161	75		86					67	55	2	10

Table VII - Results of Spot Check 1992 (Contd....)

Sl. No.	Municipality/ Corporation	No. of wards selected	Total no. of House holds	No. of House holds visited	No. of events detected to normal residents											
					Live Births			Infant Deaths			Other deaths					
					Enumerated	Registered	Not Registered	Enumerated	Registered	Not Registered	Enumerated	Registered	Not Registered	Enumerated	Registered	Not Registered
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	N.Paravur	15	4273	4273	235	106	1	128					115	94	9	12
19.	Perumbavoor	15	3655	3655	175	92		83					50	34	2	14
20.	Irinjalakuda	15	6036	3916	250	39	1	210	1			1	113	71	8	34
21.	Kodungallur	15	4465	4465	248	159		89					109	74	23	12
22.	Chalakudy	15	4797	4537	307	166		141					167	117	32	18
23.	Thrissur	15	6315	6315	458	357	50	51	5	5			179	127	21	31
24.	Guruvayoor	10	3665	3665	265	83		182	1				116	95	7	14
25.	Kunnamkulam	15	3810	3810	218	58	160						291	257	5	29
26.	Palakkad	15	9080	9080	694	469	1	224	7	6	1		99	93		6
27.	Chittoor-	15	3668	3668	230	106	3	121								
	Thathamangalam							6					85	84		1
28.	Thirur	15	3877	3877	265	259							106	94		12
29.	Malappuram	15	4719	4719	622	375	4	243	2	1		1	534	446	71	17
30.	Kozhikode Corpo.	15	27845	19187	1954	1737	19	198	12	10	1		123	78	7	38
31.	Vadakara	15	4887	4887	311	174	4	133					122	102		20
32.	Thalassery	15	6711	6711	396	370		26					126	87	1	38
33.	Kannur	15	8816	3945	355	246	1	108	3	2		1	446	446		
34.	Kasaragod	15	6321	6261	362	345		17	68	68						

Table VIII - Under Registration and Occurance of Outside events

Sl. No.	Municipality/ Corporation	% of under registration		% of outside registration	
		Births	Deaths	Births	Deaths
1	2	3	4	5	6
1.	Neyyattinkara			47.83	24.72
2.	Thiruvananthapuram				
3.	Attingal			65.86	17.11
4.	Kollam			12.16	11.90
5.	Punalur	0.66	1.69	35.47	25.64
6.	Kayamkulam		1.26	33.22	2.47
7.	Mavelikara	0.64	9.77	36.89	9.52
8.	Alappuzha		1.10	14.38	5.21
9.	Cherthala		7.81	41.44	34.69
10.	Thiruvalla		3.13	34.84	4.48
11.	Changanacherry			43.92	32.26
12.	Kottayam		1.20	43.64	30.83
13.	Palai		2.60	42.26	20.62
14.	Vaikom		6.76	77.78	11.90
15.	Muvattupuzha		4.29	35.61	15.66
16.	Kochi Corporation	7.33	22.04	23.02	4.92
17.	Aluva		3.51	53.41	14.92
18.	N.Paravur	0.93	8.74	54.47	10.43
19.	Perumbavoor		5.56	47.43	28.00
20.	Irinjalakuda	2.50	10.13	84.00	30.09
21.	Kodungallur		10.23	35.89	5.38
22.	Chalakydy		23.71	45.93	11.01
23.	Thrissur	12.29	20.78	11.13	10.46
24.	Guruvayoor		14.19	68.68	17.78
25.	Kunnamkulam		6.86	73.39	12.07
26.	Palakkad	0.21	2.23	32.28	9.73
27.	Chittoor- Thathamangalam	2.75		52.61	6.06
28.	Thirur			2.26	1.18
29.	Malappuram	1.06		39.07	12.04
30.	Kozhikode Corpo.	1.08	13.73	10.13	3.18
31.	Vadakara	2.25	8.23	42.76	30.89
32.	Thalasserry			6.57	16.39
33.	Kannur	0.40	1.11	30.42	30.23
34.	Kasaragod			4.92	

Table IX - Registered Vital Rates and Adjusted Residential Vital rates 1992

Sl. No.	Municipality/ Corporation	Registered vital rates		Adjusted residential vital rates	
		Births	Deaths	Births	Deaths
1	2	3	4	5	6
1.	Neyyattinkara	9.30	2.70	17.83	2.51
2.	Thiruvananthapuram	29.54	3.91	27.32	3.62
3.	Attingal	5.08	3.15	14.88	3.80
4.	Kollam	16.66	4.22	18.97	4.79
5.	Punalur	13.31	4.00	20.77	5.47
6.	Kayamkulam	11.46	3.68	17.16	3.82
7.	Mavelikara	10.06	6.41	16.03	7.80
8.	Alappuzha	12.05	4.38	14.07	4.67
9.	Cherthala	6.22	3.57	10.62	5.92
10.	Thiruvalla	9.62	4.67	14.76	5.05
11.	Changanacherry	12.15	3.73	21.67	5.51
12.	Kottayam	6.19	4.21	10.98	6.16
13.	Palai	10.17	4.42	17.61	5.72
14.	Vaikom	3.43	4.53	15.44	5.52
15.	Muvattupuzha	9.46	3.69	14.69	4.58
16.	Kochi Corporation	12.40	4.43	17.38	5.97
17.	Aluva	6.76	3.60	14.51	4.38
18.	N.Paravur	11.13	5.47	24.66	6.69
19.	Perumbavoor	5.54	2.45	10.54	3.60
20.	Irrinjalakuda	2.56	4.80	16.44	7.64
21.	Kodungallur	10.52	6.16	16.41	7.25
22.	Chalakydy	8.37	4.50	15.48	6.63
23.	Thrissur	14.03	4.10	18.00	5.78
24.	Guruvayoor	7.04	6.18	12.90	8.76
25.	Kunnamkulam	3.20	5.23	12.03	6.39
26.	Palakkad	13.52	5.62	20.01	6.37
27.	Chittoor- Thathamangalam	13.29	6.35	28.85	6.76
28.	Thirur	8.51	3.15	8.73	3.19
29.	Malappuram	13.56	3.34	22.50	3.80
30.	Kozhikode Corpo.	20.66	7.21	23.24	8.63
31.	Vadakara	12.99	3.93	23.34	6.19
32.	Thalasserry	31.32	8.51	33.20	10.18
33.	Kannur	10.01	4.21	14.44	6.11
34.	Kasaragod	21.12	3.93	22.16	3.93

Table X - Adjusted Residential Vital Rates from 1987 to 1992

Sl. No.	Municipality/ Corporation	Birth rate										Death Rate												
		1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20					
1.	Neyyattinkara	31.55	40.85	39.49	31.48	21.74	17.83	5.84	6.15	4.73	5.05	4.03	2.51	27.05	27.49	28.73	30.98	27.74	27.32	3.79	3.80	4.02	3.88	3.62
2.	Thiruvananthapuram	11.42	24.21	24.40	35.11	21.26	14.88	5.16	4.13	4.45	4.28	4.37	3.80	22.59	21.65	22.71	21.42	20.74	18.97	4.25	5.19	6.05	8.18	4.79
3.	Attingal	20.55	21.15	22.48	14.57	20.83	20.77	4.92	4.51	4.32	4.22	5.91	5.47	25.02	19.66	18.63	11.78	18.36	17.16	6.01	5.12	4.10	4.35	3.82
4.	Kollam	25.00	22.54	21.87	11.85	17.37	16.03	6.18	7.59	7.42	5.64	6.04	7.80	16.60	17.58	17.36	17.84	13.78	14.07	6.11	5.27	5.06	2.23	4.67
5.	Punalur	22.15	19.81	18.97	10.02	17.61	10.62	7.72	7.95	8.12	5.73	6.63	5.92	21.51	25.38	22.28	13.07	16.12	14.76	9.64	5.49	4.89	5.86	5.05
6.	Kayamkulam	15.76	17.50	17.93	21.05	15.93	21.67	4.62	5.22	4.98	4.51	4.95	5.51	22.47	19.26	20.19	18.86	13.57	10.98	4.61	5.57	5.16	6.16	6.16
7.	Mavelikara	10.40	11.39	13.04	11.84	10.53	17.61	3.55	3.20	4.49	3.50	6.32	5.72	26.48	13.94	15.31	27.36	18.86	15.44	5.86	4.68	5.34	7.20	5.52
8.	Alappuzha	22.85	20.09	20.78	15.32	14.47	14.69	3.85	3.28	3.57	4.32	4.27	4.58	20.25	18.79	17.60	16.96	16.99	17.38	6.79	6.15	5.69	6.98	5.97
9.	Cherthala	15.82	18.41	18.36	17.16	13.75	14.51	4.43	3.32	5.47	6.16	3.66	4.38	16.60	17.58	17.36	17.84	13.78	14.07	6.11	5.27	5.06	2.23	4.67
10.	Thiruvalla	22.15	19.81	18.97	10.02	17.61	10.62	7.72	7.95	8.12	5.73	6.63	5.92	21.51	25.38	22.28	13.07	16.12	14.76	9.64	5.49	4.89	5.86	5.05
11.	Changanacherry	15.76	17.50	17.93	21.05	15.93	21.67	4.62	5.22	4.98	4.51	4.95	5.51	22.47	19.26	20.19	18.86	13.57	10.98	4.61	5.57	5.16	6.16	6.16
12.	Kottayam	10.40	11.39	13.04	11.84	10.53	17.61	3.55	3.20	4.49	3.50	6.32	5.72	26.48	13.94	15.31	27.36	18.86	15.44	5.86	4.68	5.34	7.20	5.52
13.	Palai	22.85	20.09	20.78	15.32	14.47	14.69	3.85	3.28	3.57	4.32	4.27	4.58	20.25	18.79	17.60	16.96	16.99	17.38	6.79	6.15	5.69	6.98	5.97
14.	Vaikom	20.25	18.79	17.60	16.96	16.99	17.38	6.79	6.01	6.15	5.69	6.98	5.97	15.82	18.41	18.36	17.16	13.75	14.51	4.43	5.47	6.16	3.66	4.38
15.	Muvattupuzha	15.82	18.41	18.36	17.16	13.75	14.51	4.43	3.32	5.47	6.16	3.66	4.38	16.60	17.58	17.36	17.84	13.78	14.07	6.11	5.27	5.06	2.23	4.67
16.	Kochi Corporation	22.15	19.81	18.97	10.02	17.61	10.62	7.72	7.95	8.12	5.73	6.63	5.92	21.51	25.38	22.28	13.07	16.12	14.76	9.64	5.49	4.89	5.86	5.05
17.	Aluva	15.76	17.50	17.93	21.05	15.93	21.67	4.62	5.22	4.98	4.51	4.95	5.51	22.47	19.26	20.19	18.86	13.57	10.98	4.61	5.57	5.16	6.16	6.16

Table X - Adjusted Residential Vital Rates from 1987 to 1992 (Contd....)

Sl. No.	Municipality/ Corporation	Birth rate						Death Rate					
		1987	1988	1989	1990	1991	1992	1987	1988	1989	1990	1991	1992
1	2	3	4	5	6	7	8	9	10	11	12	13	14
18.	N.Paravur	17.06	16.89	14.92	16.65	16.77	24.66	8.70	7.36	8.05	7.66	8.95	6.69
19.	Perumbavoor	19.82	21.66	20.63	12.55	11.08	10.54	5.12	5.09	4.60	3.40	3.60	3.60
20.	Irinjalakuda	27.46	17.94	17.91	17.22	20.61	16.44	7.65	8.50	6.56	5.49	6.78	7.64
21.	Kodungallur	18.71	21.52	21.39	15.82	17.43	16.41	7.32	6.62	6.70	7.13	7.68	7.25
22.	Chalakudy	16.44	18.49	19.75	15.01	14.01	15.48	6.00	4.60	5.75	6.90	6.35	6.63
23.	Thrissur	24.03	26.00	26.74	16.55	16.11	18.00	4.85	5.43	4.75	5.22	5.56	5.78
24.	Guruvayoor	14.81	11.64	13.44	11.96	11.61	12.90	6.13	7.04	6.21	7.31	6.45	8.76
25.	Kunnamkulam	13.18	13.75	13.88	14.56	16.78	12.03	6.62	6.54	6.57	7.13	6.37	6.39
26.	Palakkad	27.37	25.76	25.57	20.25	19.08	20.01	6.21	5.94	5.94	5.52	5.90	6.37
27.	Chittoor-	31.85	30.09	30.23	37.38	28.65	28.85	6.95	7.97	5.77	9.52	9.02	6.76
	Thathamangalam												
28.	Thirur	11.79	11.06	12.40	8.16	9.04	8.73	2.81	3.43	3.44	2.95	2.69	3.19
29.	Malappuram	21.63	18.40	16.69	20.40	20.37	22.50	3.89	3.05	2.57	3.13	3.60	3.80
30.	Kozhikode Corpo.	22.22	29.37	29.25	29.74	21.70	23.24	8.23	8.57	8.43	11.30	7.54	8.63
31.	Vadakara	21.68	22.98	21.07	20.89	21.31	23.34	6.39	6.38	6.79	6.19	5.44	6.19
32.	Thalasserry	44.80	49.40	49.06	42.13	35.43	33.20	3.57	3.99	4.05	9.73	9.89	10.18
33.	Kannur	22.98	28.25	28.23	18.81	14.80	14.44	10.75	9.47	5.51	4.20	4.47	6.11
34.	Kasaragod	45.95	25.11	24.07	26.22	26.56	22.16	4.22	3.79	3.74	3.89	3.10	3.93

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