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Government of Kerala

**REPORT
ON
ANNUAL RESIDENTIAL
VITAL RATES
2000**

Department of Economics & Statistics
Thiruvananthapuram
2003

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Preface

This report presents the adjusted vital rates of births and deaths in the selected Municipalities and Corporations for the year 2000. 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 survey conducted in the selected Municipalities and Corporations. 29 Municipalities and 5 Corporations are covered in the report. The reports from Thrissur Corporation, Punalur Municipality and Tirur have not incorporated due to non availability of the data in time. The vital statistics unit of the Department of Economics and Statistics has prepared the report.

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Director

Thiruvananthapuram,

2/6/2003

RESIDENTIAL VITAL RATES 2000

Introduction

The Civil Registration System was introduced in India under the Births and Deaths Registration Act charted by parliament in 1969. The Act stipulated that every event should be registered in the respective registration units based on place where the events was occurred. As per the existing rule every event should be registered within 21 days from the date of its occurrence. Even though the Act stipulates both fine and punishment, under registration of events is existing to a certain extend.

One of the important classifications in population data is the urban and rural one. In Kerala the number of vital events happened in urban areas is always higher than that in the rural areas. It shows that the rate of urban registration of vital events is always higher than the rural registration rate. It is due to the flow of rural people to urban areas to avail modern medical facilities available in urban areas. Usually the under registration in rural areas is higher than that in urban area especially in the case of deaths. This is because most of the deaths in rural areas were happened in the houses and the rural people are not interested to register their death events due to unawareness about the registration of events hiding of certain deaths due to abortion and suicides etc.

Coverage of the survey

The Scheme , Spot check Survey aims at estimating the adjusted residential vital rates in the selected estimat the extend of under registration of vital events in the selected Municipalities and City Corporations and ascertaining the extend of under registration. The scheme is on the strengthening of Vital Statistics in the selected Municipalities and corporations is implemented in 5 Corporations and 29 Municipalities in the State. The fieldwork of the survey was carried out in all centers during the year under report. For conducting fieldwork of the survey 15 wards are randomly selected from each unit except the Corporations and Guruvayoor Municipality. In Corporations, 18 wards are selected for fieldwork and in Guruvayoor Municipality all wards are selected for the fieldwork. The statistical staff posted in the Municipalities/Corporations would be visited all houses of the selected wards and collecting the required data in the prescribed schedules of the survey.

Objectives of the Survey

1. To estimate the extend of under registration of vital events in the selected Municipalities/Corporations
2. To estimate the residential vital rates of these Municipalities/Corporations
3. To find out the major diseases which lead to cause of death

Limitations of the survey

The most important limitation is the less coverage of the survey. The objective of the survey is to find out the under registration of events. However, the data derived from the survey is partial. For obtaining under registration in urban areas, it should be extended to the reviewing urban areas of the State. A comparative study is not possible under this survey. If this survey is extended to rural areas, a comparative study between urban and rural level of under registration could be made possible. Similarly a State level under registration can be estimated only if this survey is further extended to rural areas of the State and the remaining Municipalities of the State.

Findings of the Survey

Table 1

It presents the projected population of the selected Municipalities and Corporations. It is obvious from the table that the population of all Municipalities/Corporations is showing an increasing trend except Kottayam, Aluva Municipality and Thrissur Corporations. Out of 34 selected centers, the maximum projected population was in Cochin Corporation. While in the case of Municipality it was in Alappuzha. The minimum number of projected population was in Kunnamkulam Municipality.

Table 2

This table shows the number of hospitals and other institutions both in public and private sector existing in these Municipalities/Corporations. As regard to hospitals; it was highest in private sector than Government sector. All centers have at least one public hospital. Among all centers, Thiruvananthapuram Corporation has the maximum number of public hospitals with 20 followed by Cochin Corporation with 15 numbers. In the case of Municipalities it was in Alappuzha having 8 numbers. Considering the bedding capacity in public hospitals it was also maximum in Thiruvananthapuram Corporation with 7037 numbers followed by Kozhikode Corporation with 4045 numbers. The number of private hospitals were maximum in Cochin corporation with 63 followed by Thiruvananthapuram and Kozhikode with 48 and 37 numbers respectively.

In the case of public dispensaries and other institutions it was maximum in Thiruvananthapuram Corporation with 21 numbers followed by Kozhikkode Corporation with 16 numbers. As regards to private dispensaries and other institutions, it was maximum in Alappuzha with 127 numbers followed by Kozhikkode Corporation with 99 numbers.

Number of maternity and child health centers was reported as 13 in both Kollam Corporation and Kozhikkode Corporation each. Out of 34 centers 5 centers have one maternal and child health centers. The same was not reported from any private centers except Thiruvananthapuram Corporation.

Table 3

This table furnish the details regarding the number of registration units, are and population of these selected centers. Based on the area wise classification, Thiruvananthapuram Corporation is the largest among them with 141.47sq.km.

followed by Kochi Corporation with 94.88 sq.km. As regards to Municipalities, it is Alappuzha with 46.77 sq.km. Considering the density of population it was highest in Kochi Corporation with 6504 numbers (per sq.km.) followed by Kollam Corporation with 6378 numbers. While it was lowest in Pala Municipality with 1390 numbers.

Table 4

This table represents the number of burial grounds and cremation grounds outstanding in the selected centres. Regarding the municipal burial grounds, it was maximum in Cochin Corporation with 8 numbers followed by Palakkad and Thiruvananthapuram Corporation with 4 numbers each. Private burial grounds were also outstanding in all centres while the number of private burial grounds were higher than the municipal grounds in almost all centres.

Private cremation grounds are not existing in 12 centres. Kochi Corporation having the maximum number of private burial grounds with 40 numbers followed by Kollam Corporation with 37 Thiruvananthapuram Corporation with 30 numbers each.

Table 5

This table show the total number of vital events registered in the respective Municipality/Corporation and, the number of vital events of the usual residents registered in the registration units. Live births were registered maximum in Kozhikkode Corporation with 41928 numbers of which 23060 events were belonging to the normal residents. Next it was in Thiruvananthapuram Corporation with 39943 numbers. In the case of Municipality it was maximum in Palakkad Municipality with 14083 numbers and the lowest number of live births were registered in Chittoor Municipality with 40 of which the events of normal residents were only 5 numbers.

Regarding stillbirth it was registered maximum in Kozhikode Corporation with 681 numbers of which 266 events belonged to the events of normal residents. Next it was in Thiruvananthapuram corporation with 384 numbers

In the case of infant deaths it was registered highest in Kozhikode corporation with 882 numbers of which the males and females breakup were 486 and 396 numbers respectively. While the number of infant deaths in respect of normal residents was 366.

Next it was in Thiruvananthapuram Corporation with 671 numbers. In respect of Municipalities, it was highest in Alappuzha with 231 numbers and the events of normal residents were 33 numbers Infant deaths was registered lowest in Guruvayoor Municipality and Chittoor Thathamangalm with 2 numbers where Vaikom Municipality has 3 numbers respectively. Infant death was not registered in Chalakkudy and Attingal during the year under report.

The number of deaths registered during the year under report was highest in Thiruvananthapuram Corporation with 9670 of which the events of normal residents were 1684 numbers. Next it was highest in Kozhikode Corporation with 8707 numbers. In the case of Municipalities, it was highest in Alappuzha Municipality with 2628 numbers of which the number of deaths registered to normal residents were 904. Next it was in Palakkad Municipality with 1956 numbers. However the lowest number of deaths were registered in Guruvayoor municipality with 145 numbers and Chittoor with 226 numbers.

Table No.6

The survey results recorded that the major diseases caused to death were Respiratory diseases, cancer, heart failure pulmonary diseases and others. The survey results showed that deaths were registered highest in Thiruvananthapuram Corporation with 9707 per unit of which 2460 deaths were due to heart diseases and 1645 due to cancer and 5295 for other causes. However in Kozhikode Corporation out of 8707 deaths events 594 deaths were due to respiratory disease and 470 for cancer and 8124 for other causes. No cause of death were reported from 8 municipalities viz. Kayamkulam, Mavelikkara, Changanasseri, Irinjalakuda, Kodungallur, Chittoor, Vadakara and Thalassery.

Table No.7

This table presents the results of the spot check survey of these selected units. The data showed that almost all-vital events were registered in the respective registration units.

As regards to the Infant death was enumerated in the municipalities Neyyattinkara, Kollam, Kayamkulam, Alappuzha, Thiruvalla, Chaganessery, Muvattupuzha, North Paravoor, Kodungalloor, Kunnankulam, Palakkad, Malappuram, Kasargode and Kozhikkode Corporations. Whereas all the infants death were either registered or events happened in the outside area except in Changanassery.

In the case of death which occurred in the registration units all enumerated death had been registered in all centres except Changanassery Municipalities. As such, the survey result shows that the number of death occurred inside area were also higher in most of the centres,

Table 8

This table presents the percentage of under registration and the percentage of outside events in the s. Considering the percentage of under registration of births, it was highest in Perumbavoor Municipality with 0.98% and the same was lowest in Palakkad with 0.12%. As regards to the deaths, it was highest in Mavelikkara with 20.83% followed by Kozhikkode with 12.29% whereas it was seen lowest in Thiruvananthapuram with 1.00%.

Considering the percentage of outside events of births it was seen highest in Chittoor Municipality with 83.60%. At the same time it was lowest in Thiruvananthapuram Corporation with 3.75%. In the case of deaths, outside events occurred were highest in Kannur Municipality with 75 % and the same was lowest in Thiruvananthapuram with 2.81%.

Table No.9

This table displays the registered vital rates and Adjusted Residential vital rates in these Municipalities/Corporations.

Considering the registered birth rates, it was highest in Kozhikode Croporation with 51.88% followed by Thalassery Municipality with 42.20%. Next it was in Kottayam with 22.50% At the same time, it was lowest in Kannur Municipality with 0.12% As regards to registered death rates it was highest in Kozhikode Corporation with 9.8 % followed by Malappuram Municipality with 8.32% and the same was lowest in Vadakara Municipality with 0.12%.

Adjusted residential vital rates of Births was reported highest in Kozhikode Corporation with 51.88% followed by Neyyattinkara Municipality with 50.61%. The same was reported lowest in Vadakara Municipality. As regard to the adjusted

Table 1 - Estimated Mid-year Population of Municipalities and Corporations 1993 to 2000 AD (as on 1st July)

Sl. No.	Municipality/ Corporation	1991 Census Population	1993	1994	1995	1996	1997	1998	1999	2000
1	2	3	4	5	6	7	8	9	10	11
1	Neyyattinkara	30419	31030	31296	31564	31834	32107	32282	32659	32939
2	Thiruvananthapuram	524006	534047	538407	542803	547234	551702	556206	560747	565325
3	Attingal	32634	33374	33696	34021	34349	34681	35016	35354	35695
4	Kollam	139852	140301	140494	140687	140881	141075	141269	141463	141658
5	Punalur	46279	47069	47412	47757	48105	48455	48808	49164	49522
6	Kayamkulam	67151	68588	69213	69844	70481	71123	71771	72425	73085
7	Mavelikara	28299	28711	28890	29070	29251	29433	29616	29800	29985
8	Alappuzha	174666	175788	176271	176755	177241	177728	178216	178706	179197
9	Cherhala	43326	44016	44315	44616	44919	45224	45531	45840	46151
10	Thiruvalla	54780	55506	55820	56136	56454	56773	57094	57417	57742
11	Changanacherry	52445	52559	52608	52657	52706	52755	52805	52855	52905
12	Kottayam	63155	62861	62735	62610	62485	62360	62235	62111	61987
13	Palai	21890	21952	21979	22006	22033	22060	22087	22114	22141
14	Vaikom	21788	21931	22002	22073	22144	22215	22287	22359	22431
15	Muvattupuzha	27595	28157	28401	28647	28895	29145	29398	29653	29910
16	Kochi Corporation	564589	577295	582825	588408	594045	599736	605481	611281	617137
17	Aluva	24744	24657	24607	24557	24508	24459	24410	24361	24312

Table 1 - (Contd.)

Sl. No.	Municipality/ Corporation	1991 Census Population	1993	1994	1995	1996	1997	1998	1999	2000
1	2	3	4	5	6	7	8	9	10	11
18	Paravur	27906	28298	28468	28639	28811	28984	29158	29333	29509
19	Perumbavoor	24667	25057	25226	25396	25567	25739	25913	26088	26264
20	Irinjalakuda	27491	27828	27973	28119	28266	28414	28562	28711	28861
21	Kodungallur	31249	31972	32287	32605	32926	33250	33577	33907	34241
22	Chalakudy	45069	45844	46180	46519	46860	47204	47550	47899	48250
23	Thrissur	74604	73850	73529	73210	72892	72575	72260	71946	71634
24	Guruvayoor	20216	20809	21069	21332	21598	21868	22141	22417	22697
25	Kunnankulam	19657	19708	19730	19752	19774	19796	19818	19840	19862
26	Palakkad	123289	126283	127588	128906	130238	131584	132944	134318	135706
27	Chittoor- Thathamangalam	32048	32448	32619	32791	32964	33138	33313	33489	33665
28	Thirur	49453	51724	52728	53752	54795	55859	56943	58048	59175
29	Malappuram	49692	52341	53518	54721	55951	57209	58495	59810	61155
30	Kozhikode Corpo.	419831	425987	428652	431334	434033	436748	439480	442229	444996
31	Vadakara	72434	74511	75418	76337	77267	78208	79161	80125	81101
32	Thalassery	103579	78559	78807	79056	79356	79556	79808	80060	80313
33	Kannur	65238	66293	66750	67210	67674	68141	68611	69084	69561
34	Kasaragod	50126	51915	52700	53497	54306	55128	55962	56809	57688

Table 2 - Number of Hospitals and other Institutions 2000

Sl. No.	Municipality/ Corporation	Hospitals						Dispensaries & other Institutions						Maternity & Child Health Center					
		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	6	42	9	362	1	-	-	-	1	-	2	-	-	-	2	-
2	Thiruvananthapuram	20	7037	48	2200	68	9237	21	-	57	-	78	-	34	-	4	-	37	-
3	Attingal	2	84	8	420	10	504	4	-	21	-	25	-	3	-	-	-	3	-
4	Kollam	9	1485	28	1824	37	3209	11	-	92	-	103	-	13	-	-	-	13	-
5	Punalur																		
6	Kayamkulam	3	170	12	266	15	436	-	-	8	-	8	-	-	-	-	-	-	-
7	Mavelikkara	2	267	7	315	9	582	-	-	10	-	10	-	-	-	-	-	-	-
8	Alappuzha	8	1548	5	320	13	1668	3	-	127	-	130	-	6	-	-	-	6	-
9	Cherthala	3	286	5	425	8	711	-	-	34	-	34	-	4	-	-	-	4	-
10	Thiruvalla	3	300	6	1800	9	2100	-	-	14	-	14	-	-	-	-	-	4	-
11	Changanacherry	2	214	31	305	33	519	-	-	28	-	28	-	4	-	-	-	-	-
12	Kottayam	4	426	11	472	15	898	-	-	-	-	-	-	-	-	-	-	4	-
13	Palai	3	194	9	540	12	734	-	-	-	-	-	-	-	-	-	-	-	-
14	Vaikom	2	298	1	10	3	308	1	10	26	-	26	-	1	-	-	-	1	-
15	Muvattupuzha	3	298	10	437	13	787	1	-	-	-	1	10	1	-	-	-	1	-
16	Kochi Corporation	15	1973	63	3844	78	5817	6	-	78	-	84	-	12	-	-	-	12	-
17	Aluva	2	237	10	675	12	912	-	-	34	-	34	-	-	-	-	-	-	-

Table 2 (Contd...)

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
18	Paravur	3	200	8	453	11	653	2	-	33	-	35	-	2	-	-	-	2	-
19	Perumbavoor	2	231	6	463	8	694	1	-	24	-	25	-	6	-	-	-	6	-
20	Irinjalakuda	2	236	5	124	7	360	3	-	5	-	8	-	-	-	-	-	-	-
21	Kodungallur	2	201	5	410	7	611	-	-	28	-	28	-	-	-	-	-	-	-
22	Chalakudy	1	144	9	571	10	715	2	-	25	-	27	-	3	-	-	-	3	-
23	Thrissur																		
24	Guruvayur	1	30	6	204	7	234	-	-	-	-	-	-	1	-	-	-	1	-
25	Kunnankulam	1	124	5	565	6	689	4	-	-	-	4	-	2	-	-	-	2	-
26	Palakkad	4	739	17	511	21	1250	4	-	12	-	16	-	4	-	-	-	4	-
27	Chittoor- Thathamangalam	2	128	2	16	4	144	1	-	-	-	1	-	-	-	-	-	-	-
28	Thirur																		
29	Malappuram	4	187	5	486	9	673	1	-	27	-	28	-	-	-	-	-	-	-
30	Kozhikode Corpor.	9	4045	37	1857	46	5902	16	-	99	-	115	-	13	-	-	-	13	-
31	Vadakara	2	240	14	440	16	680	1	-	97	-	98	-	1	-	-	-	1	-
32	Thalassery	2	556	23	831	25	1387	3	-	14	-	17	-	-	-	-	-	-	-
33	Kannur	2	125	29	580	31	705	1	16	-	-	1	16	1	5	-	-	1	5
34	Kasaragod	2	225	9	494	11	719	1	-	21	-	22	-	-	-	-	-	-	-

Table 3 - Registration units with Area and Population 2000

Sl. No	Municipality/ Corporation	No. of Reg. units	Area in Sq.km	Area per Reg. units	Mid year population	Population per Reg. units	Density per Sq.Km.
1	2	5	6	7	8	9	10
1	Neyyattinkara	1	9.99	9.99	32659	32659	3269
2	Thiruvananthapuram	20	141.47	7.07	741116	37056	5239
3	Attingal	1	14.78	14.78	35695	35695	2415
4	Kollam	1	57.28	57.28	365311	365311	6378
5	Punalur						
6	Kayamkulam	1	21.78	21.78	73085	73085	3356
7	Mavelikara	1	12.65	12.65	29985	29985	2370
8	Alappuzha	2	46.77	23.39	179197	89599	3831
9	Cherthala	1	16.18	16.18	46151	46151	2852
10	Thiruvalla	1	27.52	27.52	57742	57742	2098
11	Changanacherry	1	13.50	13.50	52905	52905	3919
12	Kottayam	2	16.44	18.22	66841	33421	4063
13	Palai	1	15.94	15.94	22141	22141	1390
14	Vaikom	1	8.73	8.73	22637	22637	2593
15	Muvattupuzha	1	13.18	13.18	29910	29910	2269
16	Kochi Corporation	2	94.88	47.44	617137	308519	6504
17	Aluva	1	7.18	7.18	24312	24312	3386

Table 3 (Contd...)

Sl.No	Municipality/ Corporation	No.of Reg. units	Area in Sq.km	Area per Reg. Units	Mid year population	Population per Reg. units	Density per Sq.Km.
		5	6	7	8	9	10
1	2						
18	Paravur	1	9.02	9.02	29509	29509	3272
19	Perumbavoor	1	13.61	13.61	26254	26254	1930
20	Irinjalakuda	1	11.24	11.24	28861	28861	2568
21	Kodungallur	1	17.40	17.40	34241	34241	1967
22	Chalakudy	1	25.23	25.23	48251	48251	1912
23	Thrissur	6	12.89	12.89			
24	Guruvayoor	1	7.48	7.48	22697	22697	3036
25	Kunnamkulam	1	34.18	34.18	51585	51585	1509
26	Palakkad	1	26.60	26.60	135706	135706	5102
27	Chittoor-Thathamangalam	1	14.71	14.71	33665	33665	2289
28	Thirur	1	16.55	16.55			
29	Malappuram	1	33.79	33.79	61155	61155	1815
30	Kozhikode Corp.	14	84.20	6.01	444496	31750	5279
31	Vadakara	1	21.34	21.34	81101	81101	3800
32	Thalassery	2	23.98	11.94	99670	49835	4156
33	Kannur	1	11.03	11.03	69561	69561	6306
34	Kasaragod	1	16.69	16.69	57688	57688	3456

Table 4 - Number of Burial Grounds, Cremation Grounds and Civil Registration Units

Sl. No	Municipality/ Corporation	Burial Grounds			Cremation Grounds			Total no. of 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	37	1
2	Thiruvananthapuram	4	30	34	1	0	1	81	20
3	Attingal	1	1	2	-	5	5	24	1
4	Kollam	2	37	39	2	1	3	50	1
5	Punalur								
6	Kayamkulam	1	14	15	1	2	3	38	1
7	Mavelikara	1	9	10	-	1	1	23	1
8	Alappuzha	3	2	5	-	19	19	36	2
9	Cherthala	-	5	5	1	4	5	28	1
10	Thiruvalla	2	-	2	-	-	-	32	1
11	Changanacherry	1	12	13	-	1	1	32	1
12	Kottayam	1	15	16	1	1	2	37	2
13	Palai	1	6	7	-	-	-	20	1
14	Vaikom	-	1	1	1	1	2	20	1
15	Muvattupuzha	1	8	9	-	-	-	20	1
16	Kochi Corporation	8	40	48	5	11	16	66	2
17	Aluva	-	7	7	-	3	3	21	1
18	N.Paravur	1	7	8	1	7	8	23	1
19	Perumbavoor	1	8	9	-	1	1	21	1
20	Irinjalakuda	1	5	6	-	1	1	22	1
21	Kodungallur	-	2	2	1	1	2	24	1
22	Chalakydy	2	8	10	-	1	1	28	1
23	Thrissur								
24	Guruvayoor	1	4	5	1	1	2	15	1
25	Kunnamkulam	2	11	13	-	-	-	31	1
26	Palakkad	4	7	11	3	1	4	50	1
27	Chittoor- Thathamangalam	3	-	3	-	-	-	24	1
28	Thirur								
29	Malappuram	1	10	11	-	1	1	24	1
30	Kozhikode Corpor.	2	9	11	4	2	6	39	14
31	Vadakara	1	8	9	-	-	-	40	1
32	Thalasserry	1	15	16	1	11	12	50	2
33	Kannur	1	13	14	1	-	1	32	1
34	Kasaragod	-	12	12	2	1	3	32	1

Table 5 - Vital events registered during the year 2000

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	8	9	10	11	12	13	14	
1	Neyyattinkara	944	926	1870	192	200	392	0	0	0	0	0	
2	Thiruvananthapuram	19986	19957	39943	-	-	-	198	186	384	-	-	
3	Attingal	584	608	1192	81	99	180	-	-	-	-	-	
4	Kollam	8089	7691	15780	3146	2863	6009	19	13	32	8	3	
5	Punalur												
6	Kayamkulam	2280	2184	4464	417	386	803	5	3	8	-	-	
7	Mavelikara	2017	1839	3856	194	186	380	8	10	18	1	1	
8	Alappuzha	6260	5900	12160	1377	1308	2685	79	66	145	13	13	
9	Cherthala	2141	2015	4156	154	149	303	9	11	20	-	-	
10	Thiruvalla	1990	1801	3791	149	145	294	11	9	20	-	-	
11	Changanacherry	1286	1269	2555	289	278	567	3	1	4	1	1	
12	Kottayam	1955	1804	3759	782	722	1504	9	7	16	3	2	
13	Palai	1445	1288	2733	95	86	181	9	6	15	2	3	
14	Vaikom	518	529	1047	68	71	139	1	1	2	-	-	
15	Muvattupuzha	1461	1029	2590	168	139	307	5	2	7	1	1	
16	Kochi Corporation	10843	9585	20428	5207	4808	10015	89	77	166	34	31	
17	Aluva	2432	2396	4828	68	56	124	14	10	24	-	-	

Table 5 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	Paravur	2129	1970	4099	141	62	203	5	6	11	-	-	-
19	Perumbavoor	1316	1148	2524	104	56	160	5	7	12	-	-	-
20	Irinjalakuda	1114	969	2083	88	61	149	5	4	9	-	-	-
21	Kodungallur	2499	2587	5086	129	119	248	6	4	10	-	-	-
22	Chalakudy	1958	1800	3858	253	207	460	-	-	-	-	-	-
23	Thrissur	Not available											
24	Guruvayoor	240	205	445	14	12	26	-	-	-	-	-	-
25	Kunnankulam	1841	1831	3672	211	222	433	11	7	18	-	3	3
26	Palakkad	6774	7309	14083	1354	1389	2743	43	45	88	10	33	43
27	Chittoor-Thathamangalam	23	17	40	3	2	5	-	-	-	-	-	-
28	Thirur	Not available											
29	Malappuram	3402	3489	6891	324	297	621	30	48	78	-	-	-
30	Kozhikode Corporation	21510	20418	41928	12906	10154	23060	365	316	681	158	108	266
31	Vadakara	1942	2103	4045	224	178	402	11	13	24	-	-	-
32	Thalassery	6353	5957	12310	2224	1982	4206	50	45	95	3	6	9
33	Kannur	2828	2821	5649	323	307	630	17	15	32	1	-	1
34	Kasaragod	4413	4118	8531	429	397	826	63	56	119	3	4	7

Table 5 - Contd.

Sl.No	Municipality/ Corporation	Infant Death						Other Deaths						Total Death					
		Total Events			Events to normal residents			Total Events			Events to normal residents			Total Events			Events to normal residents		
		Male	Female	Total	Male	Female	Total	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	29	30	31	32
1	Neyyattinkara	3	2	5	1	1	2	237	166	403	102	80	182	240	168	408	103	81	184
2	Thiruvananthapuram	345	326	671	-	-	-	4551	4448	8999	772	912	1684	4896	4774	9670	772	912	1684
3	Atingal	-	-	-	-	-	43	1809	1081	2890	1032	661	1693	1867	1157	3024	1054	682	1736
4	Kollam	58	76	134	22	21	43	1809	1081	2890	1032	661	1693	1867	1157	3024	1054	682	1736
5	Punalur	-	-	-	-	-	-	118	86	204	56	49	105	118	86	204	56	49	105
6	Kayamkulam	5	4	9	1	2	3	201	156	357	143	112	255	206	160	366	144	114	258
7	Mavelikara	14	5	19	2	0	2	331	191	522	93	64	157	345	197	542	95	65	160
8	Alappuzha	138	93	231	20	13	33	1419	978	2397	492	379	871	1557	1071	2628	512	392	904
9	Cherthala	7	10	17	-	-	-	306	240	546	94	82	176	313	250	563	94	82	176
10	Thiruvalla	13	16	29	6	4	10	437	392	829	83	77	160	450	408	858	89	81	170
11	Changana-cherry	7	4	11	2	1	3	149	124	273	97	76	173	156	128	284	99	77	176
12	Kottayam	4	3	7	2	1	3	298	263	561	142	121	263	302	266	568	144	122	266
13	Palai	4	6	10	1	2	3	207	162	369	85	49	134	211	168	379	86	51	137
14	Vaikom	1	2	3	-	-	-	178	101	279	51	53	104	179	103	282	51	53	104
15	Muvattupuzha	5	6	11	2	2	4	188	141	329	68	53	121	193	147	340	70	55	125
16	Kochi Corporation	191	176	367	66	51	117	-	-	-	-	-	-	-	-	-	-	-	-
17	Aluva	6	2	8	4	2	6	257	139	396	27	16	43	263	141	404	31	18	49

Table 5 (Contd....)

Sl.No	Municipality/ Corporation	Infant Death										Other Deaths						Total Death							
		Total Events			Events to normal residents			Total Events			Events to normal residents			Total Events			Events to normal residents			Total Events			Events to normal residents		
		Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total
1	2	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32						
18	Paravur	9	9	18	-	1	1	294	267	561	43	32	75	308	282	590	43	33	76						
19	Perumbavoor	6	1	7	-	-	-	205	128	333	48	42	90	211	229	340	48	42	90						
20	Irinjalakuda	9	6	15	1	1	2	142	107	249	79	66	145	151	113	264	80	67	147						
21	Kodungallur	12	8	20	2	-	2	273	166	439	61	42	103	285	174	459	63	42	105						
22	Chalakudy	-	-	-	-	-	-	234	184	418	103	95	198	234	184	418	103	95	198						
23	Thrissur																								
24	Guruvayoor	2	-	2	-	-	-	84	59	143	25	25	50	86	59	145	25	25	50						
25	Kunnamkulam	15	10	25	2	-	2	144	113	257	85	85	170	159	123	282	87	85	172						
26	Palakkad	111	70	181	109	55	164	1043	732	1775	340	282	622	1154	802	1956	449	337	786						
27	Chittoor- Thathamangalam	1	1	2	-	-	-	127	97	224	101	71	172	128	98	226	101	71	172						
28	Thirur																								
29	Malappuram	4	2	6	4	2	6	319	190	509	319	190	509	324	192	516	323	192	515						
30	Kozhikode Corporation.	486	396	882	202	164	366	4974	2851	7825	1904	1269	3173	5460	3247	8707	2106	1433	3539						
31	Vadakara	12	10	22	-	-	-	394	336	730	48	38	86	406	346	752	48	38	86						
32	Thalassery	52	45	97	4	6	10	1094	716	1810	341	305	646	1146	761	1907	345	311	656						
33	Kannur	41	43	84	6	9	15	384	325	709	140	98	238	425	368	793	146	107	253						
34	Kasaragod	26	22	48	7	6	13	265	253	518	176	194	370	291	275	566	183	200	383						

Table 6 - Deaths according to causes 2000

Sl. No	Municipality/ Corporation	T.B	Plague	Cholera	Small Pox	Dysentery & Diarrhea	Respiratory Diseases	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteritis	Heart Failure	Pulmonar Diseases	Others	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1.	Neyyattinkara	-	-	-	-	-	32	-	-	-	15	-	-	-	361	408	
2.	Thiruvananthapuram	296				11	2460				1645				5295	9707	
3.	Attingal										13		86	1	104	204	
4.	Kollam	43					671								2310	3024	
5.	Punalur														366	366	
6.	Kayamkulam														542	542	
7.	Mavelikara													49	2471	2628	
8.	Alappuzha					3		9	10	3	83			78	271	563	
9.	Cherthala	3					193	6			12		23		818	858	
10.	Thiruvalla							3			14				284	284	
11.	Changanacherry														42	496	568
12.	Kottayam					23						7			24	379	
13.	Palai						72	12			21		32		218	282	
14.	Vaikom	11				1					9		23		238	282	
15.	Muvattupuzha						187								95	282	
16.	Kochi Corpora.	77		2			12		3		514		689			404	
17.	Aluva										32		93	22	257	404	

Table 6 (Contd....)

Sl. No	Municipality/ Corporation	T.B	Plague	Cholera	Small Pox	Dysentery & Diarrhoe	Respiratory Diseases	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteritis	Heart Failure	Pulmonar Diseases	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	Paravur						212		1		31				347	590
19	Perumbavoor						133				73			26	108	340
20	Irinjalakuda														264	264
21	Kodungallur														459	459
22	Chalakudy						105				11		38	32	232	418
23	Thrissur															
24	Guruvayoor						67	5			5		4		64	145
25	Kunnankulam										18		15		249	282
26	Palakkad														1956	1956
27	Chittoor- Thathamangalam														226	226
28	Thirur															
29	Malappuram														515	515
30	Kozhikode Corpo.					9	594	7			470		199	94	8124	8707
31	Vadakara														752	752
32	Thalassery														1902	1907
33	Kannur						45				28				720	753
34	Kasaragod	32				11					62			17	444	566

Table 7 - Results of Spot Check 2000

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			
					Enume rated	Regis- tered	N.R	ccurre outside	Enume rated	Regis- tered	N.R	ccurre outside	Enume rated	Regis- tered	N.R	ccurre outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara	15	8040	7132	367	87	-	280	2	1	-	1	99	73	-	26
2.	Thiruvananthapuram															
3.	Atingal	15	5534	5534	205	93	-	112	-	-	-	-	59	37	-	22
4.	Kollam	15	23156	18990	1107	938	-	169	4	3	-	1	357	312	-	45
5.	Punalur	15														
6.	Kayamkulam	15	6504	5870	434	294	-	140	3	2	-	1	118	70	22	26
7.	Mavelikara	15	4243	4243	245	131	-	114	-	-	-	-	119	76	20	23
8.	Alappuzha	18	18966	18966	1101	954	-	147	7	7	-	-	474	438	8	28
9.	Cherthala	15	6950	5125	126	126	-	32	-	-	-	-	71	63	-	8
10.	Thiruvalla	15	6414	6414	138	106	-	32	3	3	-	-	77	54	-	23
11.	Changana-cherry	15	6414	6414	267	112	-	155	1	-	-	1	88	60	1	27
12.	Kottayam	15	5149	5149	214	125	-	89	-	-	-	-	84	70	-	14
13.	Palai	15	5614	3496	18	7	-	11	-	-	-	-	1	1	-	-
14.	Vaikom	15	5512	3790	194	38	-	156	-	-	-	-	89	64	-	25
15.	Muvattupuzha	15	5512	5512	262	136	2	123	1	1	-	1	97	70	2	25
16.	Kochi Corporation	15	28990	21090	785	708	-	77	-	-	-	-	342	337	-	5
17.	Aluva	15	3839	3839	211	76	-	135	-	-	-	-	51	30	-	21

Table 7 (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					
					Enume rated	Regi- stered	N.R	occurred outside	Enume rated	Regi- stered	N.R	occurred outside	Enume rated	Regis- tered	N.R	ocurre outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	Paravur	15	4668	4668	203	89	-	114	1	1	-	-	75	67	-	8
19.	Perumbavoor	15	4249	4249	249	101	1	147	1	-	-	1	81	47	4	30
20.	Irinjalakuda	15	7271	4481	176	56	-	120	-	-	-	-	83	64	-	19
21.	Kodungalur	15	4627	4627	248	174	-	74	2	1	-	1	103	83	4	16
22.	Chalakudy	15	7337	5596	258	165	-	93	-	-	-	-	228	106	5	117
23.	Thrissur	15														
24.	Guruvayoor	15	3139	3139	150	26	-	124	-	-	-	-	71	50	5	16
25.	Kunnankulam	15	8103	5628	288	172	-	116	1	1	-	-	142	100	-	42
26.	Palakkad	15	8830	8634	860	786	1	73	9	9	-	-	210	171	8	31
27.	Chittoor- Thathamangalam	15	4253	4253	189	31	-	158	-	-	-	-	124	99	1	24
28.	Thirur	15														
29.	Malappuram	15	6407	6206	621	522	-	99	2	2	-	-	118	113	-	5
30.	Kozhikode Corpo.	15	22236	17763	1367	1247	-	120	5	4	-	1	380	314	44	22
31.	Vadakara	15	4496	4496	187	412	-	225	-	-	-	-	86	70	1	15
32.	Thalassery	15	5795	5308	487	770	-	369	-	-	-	-	140	124	2	14
33.	Kannur	15	4213	3011	127	45	-	82	-	-	-	-	44	11	-	33
34.	Kasaragod	15	4403	4310	182	165	-	17	5	4	-	1	63	57	-	6

Table 8 - Under Registration and Occurrence 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	-	-	76.29	26.73
2	Thiruvananthapuram	-	1.00	3.75	2.81
3	Attingal	-	-	54.63	37.29
4	Kollam	-	-	15.27	12.74
5	Punalur	-	-	32.26	22.03
6	Kayamkulam	-	-	46.53	19.32
7	Mavelikara	-	20.83	13.35	5.91
8	Alappuzha	-	1.79	20.20	11.20
9	Cherthala	-	-	23.00	28.00
10	Thiruvalla	-	-	58.05	30.68
11	Changanacherry	-	1.60	41.58	16.66
12	Kottayam	-	-	48.28	36.40
13	Palai	-	3.50	80.41	28.09
14	Vaikom	-	-	46.32	27.00
15	Muvattupuzha	-	2.04	77.00	5.00
16	Kochi Corporation	-	-	63.98	41.18
17	Aluva	-	-	56.10	10.50
18	N.Paravur	-	-	59.03	37.80
19	Perumbavoor	0.98	7.84	68.19	22.89
20	Irinjalakuda	-	-	29.84	16.19
21	Kodungallur	-	4.55	36.04	3.91
22	Chalakydy	-	-	-	-
23	Thrissur	-	-	82.67	22.54
24	Guruvayoor	-	9.09	40.28	29.58
25	Kunnamkulam	-	-	8.49	14.15
26	Palakkad	0.12	3.96	83.60	19.35
27	Chittoor- Thathamangalam	-	-	-	-
28	Thirur	-	-	15.94	4.49
29	Malappuram	-	-	8.78	5.79
30	Kozhikode Corp.	-	12.29	54.61	17.44
31	Vadakara	-	1.41	79.00	10.00
32	Thalasserry	-	1.60	64.57	75.00
33	Kannur	-	-	9.34	9.52
34	Kasaragod	-	-	-	-

Table 9 - Registered Vital Rates and Adjusted Residential Vital rates 2000

Sl. No.	Municipality/ Corporation	Registered vital rates		Adjusted residential vital rates	
		Births	Deaths	Births	Deaths
1	2	3	4	5	6
1	Neyyattinkara	12.00	5.63	50.61	7.68
2	Thiruvananthapuram	3.75	2.81	-	17.35
3	Attingal	5.04	2.94	11.11	4.66
4	Kollam	16.45	4.75	19.41	5.41
5	Punalur				
6	Kayamkulam	11.00	4.64	16.24	6.00
7	Mavelikara	12.74	6.74	23.83	8.35
8	Alappuzha	15.13	5.13	17.46	5.46
9	Cherthala	6.56	3.81	8.22	4.29
10	Thiruvalla	5.00	3.00	6.00	4.00
11	Changanacherry	10.72	3.33	25.55	4.81
12	Kottayam	22.5	3.98	38.51	47.76
13	Palai	8.20	6.42	16.16	10.01
14	Vaikom	1.68	2.83	6.36	2.53
15	Muvattupuzha	10.26	4.26	19.12	5.83
16	Kochi Corporation	9.80	1.46	16.22	4.93
17	Aluva	5.10	2.02	14.16	3.43
18	Paravur	0.68	0.25	1.54	0.27
19	Perumbavoor	7.30	3.72	17.81	5.62
20	Irrinjalakuda	5.16	5.09	16.22	6.60
21	Kodungallur	7.24	3.52	10.32	4.20
22	Chalakkudy	9.55	4.13	14.93	4.29
23	Thrissur				
24	Guruvayoor	1.15	2.42	6.64	3.12
25	Kunnamkulam	8.40	3.30	14.05	4.70
26	Palakkad	20.55	6.03	22.45	7.02
27	Chittoor- Thathamangalam	0.15	5.10	0.93	6.92
28	Thirur				
29	Malappuram	10.17	8.32	12.09	8.01
30	Kozhikode Corp.	51.88	9.08	56.87	8.45
31	Vadakara	0.50	0.12	0.50	0.10
32	Thalasserry	42.2	6.70	45.80	70.40
33	Kannur	0.12	0.91	22.92	3.64
34	Kasaragod	14.32	6.41	15.79	7.08

APPENDIX

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 in order to calculate 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 to be included.

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

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