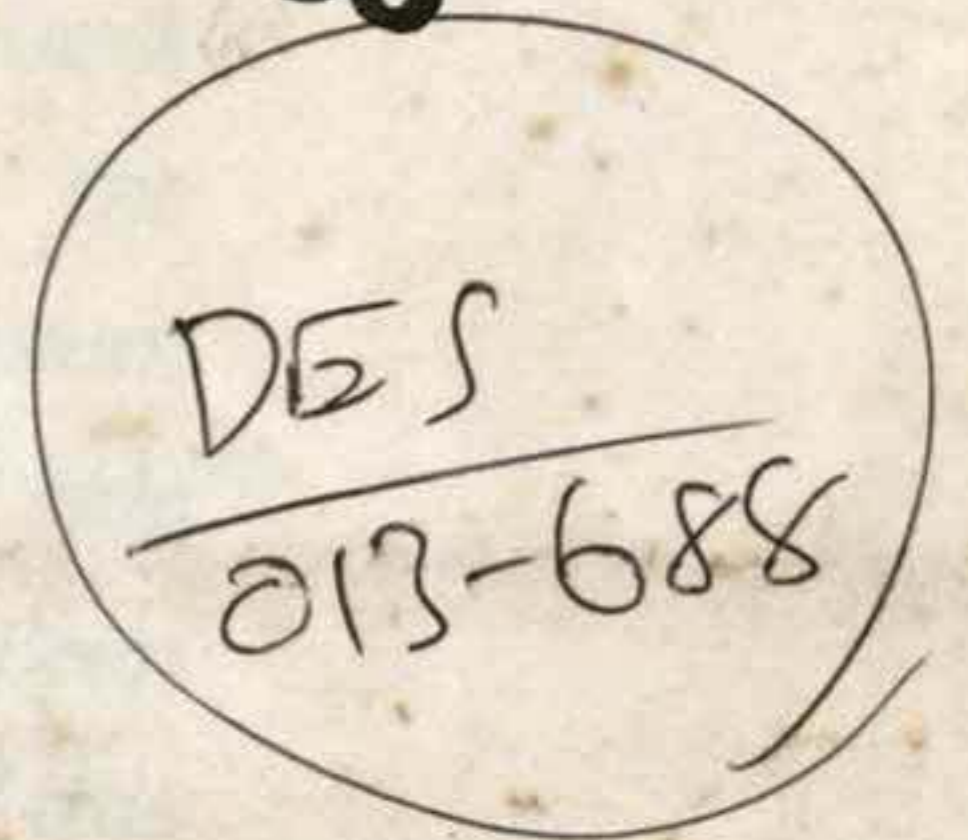


**Residential Vital Rates**  
**in**  
**Corporations & Municipalities 1996**



**Department of Economics & Statistics**  
**Thiruvananthapuram, 1999**







**PREFACE**

*This report presents the adjusted residential rates on births and deaths in 3 Corporations and 31 municipalities of the state for the year 1996. The rates are estimated on the basis of the results of spot check survey conducted in the selected wards of the municipalities and corporations. For the calculation, adjustments are made for under registration and out side events of normal residents. This report has been prepared by the officers and staff of V.S section of this Directorate*

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# Residential Vital Rates 1996

## ◆ Introduction

The registration of vital events had begun in India during the middle of 19<sup>th</sup> century. But there was no unanimity in the registration of births and deaths in the different parts of India. Achieving the unification of vital events in different states in India, In 1969, Govt of India enacted the births and deaths registration act in the parliament and consequently this act was implemented in all most all states for the compulsory registration of the entire births and deaths. Besides, every state in India had framed the births and deaths registration rule based on the act 1969 in accordance with their suitability. Accordingly, Kerala state framed the births and deaths registration rule in 1970 and implemented this system in all Panchayaths, Municipalities and Corporations of, the state. As per this births and deaths registration act of 1969, every vital events should be registered in the respective registration units within the time limit stipulated in the act. The violation of this act is liable for both fine and punishment

Based on the report of registrar general of India, Kerala state has Achieved cent percent in birth registration and 90%in death registration. The short fall in death registration in the state may be due to the under registration of death at younger ages, Suppression of the news of death like suicide, abortion etc. It is expected that the state will be achieving cent percent in death registration in coming years.

## ◆ Scheme for improvement of vital statistics

In modern times the data relating to vital statistics is much significant for implementation of health programs family welfare programs and planning development. The scheme on strengthening of vital statistics in selected municipalities

and corporations of the state was implemented in 1969. As per the births and deaths registration act of 1969, every events should be registered in the respective registration unit where the event occurred. However there exists under registration of vital events to some extent. The primary objective of the survey is to achieve a full fledged level of registration of vital events and to measure the extent of under registration in these municipalities and corporations.

#### ◆ Objectives of the spot check survey.

- To estimate the adjusted residential vital rates of these municipalities and corporations.
- Initiate suitable action for the successful functioning of the civil registration system in the municipalities and corporations.
- Find out the extent of under registration.

#### ◆ Methodology

The survey was carried out in 31 municipalities and three corporations of the state. As per the instructions of the survey, 15 wards were selected from each municipalities/corporations except in Kollam and Alappuzha municipalities. Where the number of ward selected were 18. In Guruvayur municipality all wards were selected for survey. The major items covered in the survey was to ascertain.

- ❖ the events occurred inside the town and registered
- ❖ the events occurred inside the town but not registered
- ❖ the events occurred in side the town both registered and not registered

#### ◆ Calculation of rate of under registration

Spot check survey results are used for the calculation of both under registration and the residential vital rates of the municipalities/corporations. The method used for the calculation of under registration is the number of under registered vital events occurred inside area of the



municipality/corporation divided by the number of total events occurred inside the municipality/corporation area (both registered and not registered events).

For the calculations of residential vital rates, events occurred to out sides are excluded from the total registered events. The registered events, to normal residents are weighed for under registration and further adjusted for events occurring to normal residents out side the town.

#### ◆ **Finding of the survey**

- Table 1 - This table represents the area covered by the registration unit, mid year population and density of population in the municipalities and corporations. Kochi is the largest corporation , both in area and population and in the case of municipality it is Alappuzha, the smallest municipality is Guruvayoor. In terms of area and population Thiruvananthapuram corporation has the highest density and in municipalities Punalur has the lowest density.
- Table (2) Number of hospitals and other institutions  
This table furnish the details regarding the hospitals and other medical institutions outstanding in the municipalities and corporations. As regard to health care Kerala possessed the position of a developed country. Based on the survey results the number of private hospitals are higher than that in the government sector. The survey results shows that all the selected centers are having at least one public and a private hospital. Number of hospitals and bedding capacity is maximum in Thiruvananthapuram corporation with 19 public hospitals and 37 private hospitals and the maximum bedding capacity is 6738 and 1352 in public and private sector respectively. Among municipalities it is maximum in Kannur with 21 and 27 in public and private hospitals. As regard to dispensaries it was maximum in Alappuzha municipality with 127, followed by Vadakara with 97.



However 11 municipality have no public dispensaries. Municipalities of Kayamkulam, Mavelikara, Thiruvalla, Changanassery, Aluva, Irinjalakuda, Kodungalloor, Thalassery and Kasaragod have no maternity and child health centres.

- Table 3 - Details of Cremation and Burial grounds.

This table represents the details regarding the existence of the number of cremation and burial grounds in the Municipalities and Corporations. As a part of our custom prevailing in Kerala and the health conditions, burial grounds and cremation grounds are very essential. However Municipalities of Cherthala, Aluva, Kodungalloor, Chittoor and Kasaragod having no public burial grounds. Generally the number of private burial grounds were higher than that in the public. Maximum number of burial ground was in Cochin Corporation with 8 public and 40 private burial grounds. In Municipalities private burial grounds was maximum in Kollam with 20 and minimum in Attingal, Thiruvalla, Kunnambalam and Chittur with only one burial ground.

Cremation grounds was maximum in Cochin corporation having 5 public and 11 private. Out of the 31 selected municipalities, 19 having no municipal cremation grounds. Municipalities of Kollam, Punalur, Thiruvalla, Pala, Vaikom, Muvattupuzha, Kunnambalam, Thirur and Vadakara have no cremation grounds operated by either municipality or private.

Registration units exist in all municipalities and corporation. Most of these municipalities have only one registration unit while Thiruvananthapuram and Kozhikode corporation have 15 and 14 number of registration divisions respectively.

- Table 4 - Details of Vital events registered.

This table provides an obvious picture of the total number of vital events registered in the municipalities and corporations. During the year under report, the



maximum number of Live Birth registered were in Kozhikode corporation with 39726 followed by Thiruvananthapuram corporation with 36640 events. In municipalities, the maximum number of Live Birth registered were in Thrissur with 15427 events followed by Kollam with 14594. As usual registration of male live births were higher in 27 centres. Out of the total registration of vital events, the events of normal residents were reported maximum in Kozhikode corporation with 28528 followed by Thiruvananthapuram corporation with 20156 events. In municipalities, maximum was reported in Thalassery with 4304 number and Guruvayur municipality reported the minimum with only 48 numbers.

As in the case of live births, still births were also reported maximum in Kozhikode corporation with 483 numbers followed by Thiruvananthapuram with 327 numbers. In municipalities maximum was reported in Thrissur with 267 numbers and minimum number of still birth was reported in Changanassery with 1 numbers. Still births to normal residents were also reported maximum in Kozhikode corporation with 361 numbers followed by Thiruvananthapuram corporation with 148 numbers. Any still birth to normal residents was not reported from Mavelikara, Muvattupuzha, Aluva, Perumbavur, Irinjalakuda, Guruvayur, Kunnankulam, Thirur and Vadakara municipalities.

Infant deaths and other deaths were also reported maximum in Kozhikode with 796 and 9455 numbers respectively. The same were in Thiruvananthapuram corporation with 746 and 8566 numbers respectively. Attingal and Kunnankulam municipalities have only one infant death during the year under report. In municipalities the maximum number of infant death were in Thrissur followed by Palakkad. Out of the 796 infant deaths in Kozhikode corporation 634 events were belonged to the normal residents. Municipalities of Kayamkulam,



Alappuzha, Aluva, North Paravur, Guruvayur, Kunnankulam and Thirur were having no infant deaths to normal residents.

Deaths to normal residents were also reported maximum in Kozhikode corporation and among municipalities Kollam with 7764 and 581 numbers respectively. The deaths to normal residents was lowest in Guruvayur municipality with 56 numbers.

- Table 5 - Details of Cause of Death

The importance of the breakup of cause of death is of much use for implementation of various schemes/projects. Even though cause for number of deaths were available, many are left out due to non-availability of cause of death. The major diseases which lead to death in Kerala are Heart diseases, Cancer, Pulmonary diseases etc. During the year under report maximum number of deaths due to heart diseases was reported from Thiruvananthapuram corporation with 4516 while Kollam municipality topped the list with 986 numbers. Death due to cancer decease was also reported maximum in Thiruvananthapuram corporation with 941 numbers. But a major portion of death was not reported its causes.

- Table 6 - Details of spot check survey result.

This table furnish the results of spot check survey. It reveals mainly two facts, the place of occurrence and status of registration. Maximum live births was registered in Kozhikode corporation with 1891 numbers of which 1696 live births were registered in the corporation and 191 live births were happened outside corporation area. Alappuzha municipality having 1138 live births registered the highest number of which 944 events were registered in the municipal area and 193 birth events were happened in the outside municipal area. But the minimum number of live births enumerated were in Changanassery with only 161 numbers out of which 103



events were registered in the municipality and 58 events in the outside area.

Infant death was reported only in 14 out of 34 centers. Among 14 centers Kozhikode corporation registered the maximum having 11 numbers and the entire events was registered. Next to Kozhikode was Alappuzha having 10 numbers followed by Kollam with 6 events. Remarkable feature in this aspect is the nil report of infant death from Thiruvananthapuram corporation during the year.

Maximum number of death were in Kozhikode corporation with 462 numbers. Out of the total death events, 389 were registered in corporation area and 18 events were occurred in the outside area. In municipalities, it was in Alappuzha with 396 numbers followed by Kollam with 229 events. Out of the total 396 death events in Alappuzha 382 events were registered and 14 deaths occurred in the outside area and in the case of Kollam municipality, 189 events were registered and 40 events occurred in the outside area.

- Table 7 - Details regarding under registration and outside events.

This table represent the percentage of under registration and outside events of births and death in the municipalities and corporations. Out of the total selected centers, only 8 centers having under registration in birth events viz Punalur, Alappuzha, Thiruvalla, Cochi, Thrissur, Palakkad, Kozhicode and Vadakara. Under registration was reported highest in Thrissur Municipality with 7.58% followed by Vadakara with 2.37% Other centers having under registration below 1%.

As regards to the death events, 11 centers had no under registration. In corporations, it was highest in cochin and among municipalities, it was highest in



Chalakkudy with 17.88% and 25.23% respectively. Guruvayoor Municipality having 16.42% under registration in death events. Out of the 34 centers, 6 centers having more than 10% of under registration in death events, viz Mavelikkara, Chalakkudy, Guruvayoor, Thalassery municipalities and Cochin and Kozhikode Corporations.

Percentage of out-side events of both birth and deaths to normal residents of these municipalities and corporations revealed that, it was highest in Kunnankulam Municipality with 79.63% followed by Guruvayoor Municipality with 73.18%. The lowest of the same was reported in Tirur Municipality with 6.39%. In respect of death events, it was highest in Vadakara Municipality with 34.22% followed by Neyyattinkara Municipality with 32.99%. Thiruvananthapuram Corporation and Tirur Municipality having no outside death events during the year under report.

- Table 8 - Registered Vital rates and Adjusted residential vital rates.

This table shows the registered birth rates of the normal resident as per the register kept in the registration unit. The highest birth rate was 65.89 as reported from Kozhikode Corporation followed by Thalassery Municipality with 54.24%. In the case of registered death rate, it was also highest in Kozhikode with 22.09% and among municipalities, it was highest in Thalassery with 7.94%. The lowest registered death rate was reported from Tirur Municipality with 1.76%. Adjusted residential vital rate of both Births and Deaths were also highest in Kozhikode and lowest in Tirur Municipality.

- Table No 9 Birth rate and death rate.  
The table shows the birth rate and death rate of municipality/corporation since 1990 based on the result of spot check survey.



## ◆ Conclusion

The survey has been conducted in all the selected municipalities and corporations. The data collected through the survey provide an over all picture of municipalities and corporations and the functioning of civil registration system therein. If this survey was extended to the remaining municipalities of the state, this data will cover the entire urban area of Kerala so as to assess the working of Civil Registration System in urban area where the most of the births and death events are occurring.

# 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	-	$\frac{\text{No. of events occurred to normal residents inside the town but not registered} \times 100}{\text{No. of events occurred to normal residents inside the town registered and not registered.}}$
2. Percentage of events occurred outside the town to normal residents	-	$\frac{\text{No. of events occurred to normal residents outside the town registered and unregistered} \times 100}{\text{Total no. of events enumerated and occurred to normal residents inside and outside and outside the town.}}$
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)	-	$\frac{\text{Residential birth/death rate to normal residents occurred inside the town (weighted for under registration)} \times 100}{(100 - \text{percentage of events occurred outside the town to normal residents})}$



**Table I**

Area, Population &amp; Density

Sl.No.	Municipality/Corporation	No.of Resi.Units	Area in Sq.Km	Area per Reg.units	Estimated Population	Population den. Reg units	Density/Sq. Km
1	2	3	4	5	6	7	8
1.	Neyyattinkara	1	9.99	9.99	31834	31834	3186
2.	Thiruvananthapuram	15	75.11	5.006	547234	36482	7286
3.	Attingal	1	14.775	14.775	34347	34347	2325
4.	Kollam	1	18.48	18.48	140881	140881	7623
5.	Punalur	1	34.60	34.60	48105	48105	1390
6.	Kayamkulam	1	21.78	21.78	70481	70481	3236
7.	Mavelikara	1	12.65	12.65	29251	29251	2312
8.	Alappuzha	2	46.77	23.38	177241	88620	3790
9.	Cherthala	1	16.188	16.188	44919	44919	2775
10.	Thiruvalla	1	27.52	27.52	56454	56454	2051
11.	Changanacherry	1	13.5	13.5	52706	52706	3904
12.	Kottayam	2	16.446	8.223	62485	31243	3799
13.	Palai	1	15.935	15.935	22033	22033	1383
14.	Vaikom	1	8.73	8.73	22144	22144	2537
15.	Muvattupuzha	1	13.18	13.18	28895	28895	2192
16.	Kochi Corporation	2	94.88	47.44	594045	297022	6201
17.	Aluva	1	7.18	7.18	24508	24508	3413

Table 1 - Area, Population & Density (contd....)

Sl.No.	Municipality/Corporation	No. of Resi. Units	Area in Sq.Km	Area per Reg. units	Estimated Population	Population den. Reg. units	Density/Sq. Km
1	2	3	4	5	6	7	8
18.	Paravur	1	9.02	9.02	28811	28811	3194
19.	Perumbavoor	1	13.605	13.605	25567	25567	1879
20.	Irinjalakuda	1	11.24	11.24	28266	28266	2515
21.	Kodungallur	1	17.24	17.24	32926	32926	1892
22.	Chalakkudy	1	25.23	25.23	46860	46860	1857
23.	Thrissur	1	12.89	12.89	72892	72892	5655
24.	Guruvayoor	1	7.476	7.476	21598	21598	2889
25.	Kunnamkulam	1	6.89	6.89	19774	19774	2870
26.	Palakkad	1	26.60	26.60	130238	130238	4896
27.	Chittoor-	1	14.71	14.71	32964	32964	2241
	Thathamangalam						
28.	Thirur	1	16.55	16.55	54795	54795	3311
29.	Malappuram	1	33.69	33.69	55951	55951	1661
30.	Kozhikode Corpo.	14	84.2	6.01	434033	31002	5155
31.	Vadakara	1	21.34	21.34	77267	77267	3621
32.	Thalasserry	1	15.35	15.35	79356	79356	5170
33.	Kannur	1	11.03	11.03	67674	67674	6135
34.	Kasaragod	1	16.69	16.69	54306	54306	3254



**Table 2**

*Number of Hospitals and other Medical Institutions 1996*

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	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		11		12		2				2			
2.	Thiruvananthapuram	19	6738	37	1352	56	8090	6		32		38		34				34			
3.	Attingal	1	60	8	380	9	440	4		16		20		3				3			
4.	Kollam	6	950	21	1281	27	2231	7		71		78		12				12			
5.	Punalur	1	144	11	225	12	369	1				23		4				4			
6.	Kayamkulam	3	170	12	266	17	436			8		8									
7.	Mavelikara	2	267	7	315	9	582			10		10									
8.	Alappuzha	8	1548	5	120	13	1668	2		127		129		6				6			
9.	Cherthala	3	284	5	346	8	630			32		32		4				4			
10.	Thiruvalla	3	300	6	540	9	840			14		14									
11.	Changanacherry	2	214	31	305	33	519			28		28						4			
12.	Kottayam	4	497	11	409	15	906	1		55		56		3				3			
13.	Palai	3	203	9	644	12	843			22		22		1				1			
14.	Vaikom	2	304	2	18	4	322			40		40		1				1			
15.	Muvattupuzha	3	376	10	386	13	762	1		34		35		2				2			
16.	Kochi Corporation	15	1973	63	3844	78	5817	6		78		84		12				12			
17.	Aluva	2	237	10	675	12	912			32		32									

Table 2 - Number of Hospitals and other Institutions 1996 (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	No.	Beds
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
18.	Paravur	2	185	8	379	10	564	3		33		36		2							
19.	Perumbavoor	2	246	8	525	10	771	1		23		24		6							
20.	Irrinjalakuda	2	236	5	124	7	360	3		5		8									
21.	Kodungallur	2	241	5	330	7	571			28		28									
22.	Chalakudy	1	144	9	430	10	574	2		25		27		3							
23.	Thrissur	5	1398	14	893	19	2291	1		13		14		4							
24.	Guruvayur	1	30	1	23	2	53			5	178	5	178	1	1						1
25.	Kunnankulam	1	124	3	200	4	324	2				2		1							
26.	Palakkad	4	789	16	441	20	1230	2		12		14		3							
27.	Chittoor-	2	128	2	28	4	156	1		12		13		1							
	Thathamangalam																				
28.	Thirur		184		250	6	434					28		2							
29.	Malappuram	4	257	5	326	9	983	1		27		6		1							
30.	Kozhikode Corpor.	9	3735	29	1151	36	4886	14	70	87	67	101	137								
31.	Vadakara	2	240	12	410	14	650	1		97		98		1							
32.	Thalassery	2	555	17	477	19	1032	2		14		16									
33.	Kannur	1	125	27	510	29	635	1		16		17		1							
34.	Kasaragod	2	223	9	492	11	715	1		21		22			5						5



**Table 3***Number of Burial Grounds, Cremation Grounds and Civil Registration Units 1 996*

Sl. No.	Municipality/ Corporation	Burial Grounds			Cremation Grounds			Total no. of Registration units	
		Mun/ Corp.	Priv-ate	Total	Mun/ Corp.	Priv-ate	Total	No.of wards	No.of units
1	2	3	4	5	6	7	8	9	10
1.	Neyyattinkara	1	4	5		3	3	24	1
2.	Thiruvananthapuram	4	27	31	1	-	1	50	15
3.	Attingal	1	1	2		5	5	24	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		5	5	1	4	5	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	1	8	9		1	1	20	1
20.	Irrinjalakuda	1	5	6		1	1	20	1
21.	Kodungallur		2	2	1	1	2	24	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	2	20	1
25.	Kunnamkulam	1	1	2				16	1
26.	Palakkad	4	7	11	3	1	4	32	1
27.	Chittoor- Thathamangalam		1	1	3		3	24	1
28.	Thirur	2		2				28	1
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				32	1
32.	Thalasserry	1	15	16	1	11	12	32	2
33.	Kannur	1	13	14	1		1	32	1
34.	Kasaragod		12	12	2	1	3	32	2

**Table 4**

*Vital events registered during the year 1996*

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	1745	1323	3068	189	208	397						
2	Thiruvananthapuram	18854	17786	36640	10040	10116	20156	169	158	327	65	83	148
3	Attingal	964	869	1833	116	109	225	5	4	9	1		1
4	Kollam	7529	7068	14594	1204	1078	2282	20	26	46		3	3
5	Punalur	1684	1787	3471	422	406	828	5	3	8	1		1
6	Kayamkulam	1761	1624	3385	448	429	877	2	3	5		1	1
7	Mavelikara	2082	1905	3987	161	130	291	6	9	15			
8	Alappuzha	5792	5392	11184	1026	871	1897	62	52	114			
9	Cherthala	1304	1208	2512	138	116	254	4	4	8		1	1
10	Thiruvalla	2754	2636	5390	256	246	502	7	9	16			
11	Changanacherry	1562	1438	3000	341	327	668	1		1			
12	Kottayam	1951	1797	3748	226	192	418	14	16	30	1	5	6
13	Palai	1475	1484	2959	88	96	184	23	16	39	1		1
14	Vaikom	817	785	1602	79	70	149	3	3	6			
15	Muvattupuzha	2004	1674	3678	122	95	217	3	5	8			
16	Kochi Corporation	9863	9404	19267	3840	3651	7491	66	47	113	26	18	44
17	Aluva	2919	2802	5721	89	86	175	15	13	28			



Table 4 - Vital events registered during the year 1996 (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	2088	1891	3979	141	135	276	15	6	21	2	1	
19	Perumbavoor	1240	1260	2500	113	110	223	6	6	12			
20	Irinjalakuda	1048	946	1994	52	62	114	7	2	9			
21	Kodungallur	2595	2582	5177	179	178	357	2	5	7			
22	Chalakudy	2037	1868	3905	216	194	410	2	4	6	1		
23	Thrissur	7512	7915	15427	483	507	990	130	137	267	5	6	
24	Guruvayoor	467	470	937	27	21	48	1	2	3			
25	Kunnamkulam	1020	983	2003	44	30	74	6	10	16			
26	Palakkad	6496	5947	12943	1057	905	1962	34	26	60	8	6	
27	Chittoor- Thathamangalam	759	727	1486	89	69	158	5	3	8	1		1
28	Thirur	3757	4074	7828	280	304	584	3	3	6			
29	Malappuram	2971	2925	5896	468	437	905	8	11	19	2	2	4
30	Kozhikode Corpora	19478	20248	39726	13811	14717	28528	266	217	483	203	158	361
31	Vadakara	3257	3208	6465	337	211	548	12	13	25			
32	Thalasserry	5852	5272	11124	2318	1986	4304	42	38	80	9	7	16
33	Kannur	2352	2273	4625	438	408	846	8	5	13	1	2	3
34	Kasaragod	3715	3615	7330	499	492	991	56	62	118	3	4	7

Table 4 - Vital events registered during the year 1996 (Contd....)

Sl.No	Municipality/ Corporation	Infant Death						Other Deaths					
		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	15	16	17	18	19	20	21	22	23	24	25	26
1	Neyyattinkara	3		3				195	129	324	67	56	123
2	Thiruvananthapuram	354	389	743	112	106	218	4337	4229	8566	1615	1397	3012
3	Attingal	1		1	1		1	94	67	161	69	51	120
4	Kollam	87	62	149	17	9	26	1230	755	1985	366	215	581
5	Punalur	12	8	20	2	3	5	254	132	386	94	74	168
6	Kayamkulam	4	2	6				209	168	377	140	123	263
7	Mavelikara	15	12	27	4	1	5	304	186	490	91	73	164
8	Alappuzha	101	75	176				1210	1101	2311	241	91	332
9	Cherthala	9	5	14		1	1	277	199	476	107	89	196
10	Thiruvalla	45	36	81	4	4	8	562	435	997	147	100	247
11	Changanacherry	6	1	7	4		4	133	132	265	102	101	203
12	Kottayam	3	8	11	1		1	368	266	634	160	144	304
13	Palai	16	8	24	2	1	3	216	136	352	80	37	117
14	Vaikom	2	6	8		1	1	150	74	224	83	61	144
15	Muvattupuzha	11	4	15	1	1	2	199	123	322	73	46	119
16	Kochi Corporation	192	132	324	58	40	98	3557	2018	5575	1779	1179	2958
17	Aluva	18	7	25				316	166	482	53	43	96



Table 4 - Vital events registered during the year 1996 (Contd....)

Sl.No	Municipality/ Corporation	Infant Death						Other Deaths Excluding ID					
		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	15	16	17	18	19	20	21	22	23	24	25	26
18	Paravur	16	12	28				263	174	437	70	53	123
19	Perumbavoor	12	15	27	1		1	213	108	321	39	25	64
20	Irinjalakuda	4	4	8		1	1	152	97	249	90	59	149
21	Kodungallur	12	12	24	3	2	5	271	141	412	105	54	159
22	Chalakudy	23	11	34	5		5	256	125	381	130	74	204
23	Thrissur	224	186	410	4	3	7	1220	1135	2355	179	124	303
24	Guruvayoor	2	6	8				96	58	154	26	30	56
25	Kunnamkulam	1		1				163	100	263	59	51	110
26	Palakkad	108	71	178	15	11	26	939	563	1502	314	216	530
27	Chittoor-	5	3	8	1		1	144	104	248	111	77	188
	Thathamangalam												
28	Thirur	21	23	44				245	261	506	87	94	181
29	Malappuram	27	14	41	5	3	8	202	137	339	79	62	141
30	Kozhikode Corpora.	414	382	796	322	312	634	5635	3820	9455	4627	3137	7764
31	Vadakara	23	14	37	2	4	6	354	266	620	179	123	302
32	Thalasserry	48	36	84	7	15	22	871	506	1377	334	266	600
33	Kannur	26	19	45	3	1	4	322	253	575	148	124	272
34	Kasaragod	35	25	60	7	6	13	303	141	444	130	73	203

Table 4 - Vital events registered during the year 1996 (Contd....)

Sl. No.	Municipality/ Corporation	Maternal Death			Total Death						
		Total Events		Events to Normal Residents		Total Events		Events to Normal Residents			
		Female	Total	Female	Total	Male	Female	Male	Total		
1	2	27	28	29	30	31	32	33	34	35	36
1	Neyyattinkara					198	129	327	67	56	123
2	Thiruvananthapuram					4691	4618	9309	1727	1503	3230
3	Attingal					95	67	162	70	51	121
4	Kollam					1317	817	2134	383	224	607
5	Punalur					266	140	406	96	77	173
6	Kayamkulam					213	170	383	140	123	263
7	Mavelikara					319	198	517	95	74	169
8	Alappuzha					1311	1176	2487	241	91	332
9	Cherthala					286	204	490	107	90	197
10	Thiruvalla					607	471	1078	151	104	255
11	Changanacherry					139	133	272	106	101	207
12	Kottayam					371	274	645	161	144	305
13	Palai					232	144	376	82	38	120
14	Vaikom					152	80	376	82	62	145
15	Muvattupuzha					210	127	337	74	47	126
16	Kochi Corporation					3749	2150	5899	1837	1219	3059
17	Aluva	1	1	1	1	334	174	508	53	44	97



Table 4 - Vital events registered during the year 1996 (Contd....)

Sl. No.	Municipality/ Corporation	Maternal Death			Total Death						
		Total Events		Events to Normal Residents		Total Events		Events to Normal Residents			
		Female	Total	Female	Total	Male	Female	Male	Total		
1	2	27	28	29	30	31	32	33	34	35	36
18	Paravur					279	186	465	70	53	123
19	Perumbavoor					225	123	348	40	25	65
20	Irrinjalakuda					156	101	257	90	60	150
21	Kodungallur					283	153	436	108	56	164
22	Chalakudy					279	136	415	135	74	209
23	Thrissur					1444	1321	2765	183	127	310
24	Guruvayoor					98	64	162	26	30	56
25	Kunnamkulam					164	100	264	59	51	110
26	Palakkad					1047	634	1681	329	227	556
27	Chittoor- Thathamangalam					149	107	256	112	77	189
28	Thirur					267	284	551	84	65	149
29	Malappuram					229	151	380	87	94	181
30	Kozhikode Corpora.					6049	4202	10251	4949	3449	8398
31	Vadakara					377	280	657	181	127	308
32	Thalassery					919	542	1461	341	281	622
33	Kannur					348	272	620	151	125	276
34	Kasaragod					338	166	504	137	79	216

**Table 5**

Deaths according to causes 1996

Sl. No.	Municipality/ Corporation	Plague	Cholera	Haemo. Fever	Dysentery & Diarrhea	Small Pox	Gastric Enteries	Respira. disease	Rabies	Diarrhea	Cancer	Heart Failure	Poisoning	Accident	T.B	Hydropho bia
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara	-	-	-	-	-	-	38	-	-	3	-	-	-	-	-
2.	Thiruvananthapuram	-	-	-	285-	-	-	-	-	-	941	4516	-	-	18	-
3.	Attingal	-	-	-	-	-	-	-	-	-	11	59	-	-	2	-
4.	Kollam	-	-	-	-	-	-	-	1	-	18	986	-	-	-	2
5.	Punalur	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	Kayamkulam	-	-	-	-	-	-	48	-	-	21	100	11	10	4	-
7.	Mavelikara	-	-	3	-	-	1	160	-	-	10	87	-	-	-	-
8.	Alappuzha	-	2	-	-	2	-	-	1	-	12	-	-	-	-	-
9.	Cherthala	-	-	-	-	-	2	-	-	-	9	97	-	-	-	-
10.	Thiruvalla	-	-	-	-	-	-	35	-	-	18	-	-	-	-	-
11.	Changanacherry	-	-	-	-	-	-	-	-	-	9	-	-	-	11	-
12.	Kottayam	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-
13.	Palai	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	Vaikom	-	-	-	-	-	-	-	-	-	11	69	-	-	-	-
15.	Muvattupuzha	-	-	-	-	-	-	-	-	-	-	138	-	-	-	-
16.	Kochi Corpora.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	Aluva	-	-	-	-	-	-	-	-	-	30	29	-	-	-	-



Table 5 - Deaths according to causes 1996 (contd...)

Sl. No.	Municipality/ Corporation	Tetanus	Pneumonia	Fever	Goiter	Pulmonary disease	Enteric Fever	Diabetics	rheumatism	paralysis	Brain tumor	malaria	Asthma	Others
		18	19	20	21	22	23	24	25	26	27	28	29	30
1.	Neyyattinkara	-	-	-	-	-	-	-	-	-	-	-	-	286
2.	Thiruvananthapuram	4	58	-	12	-	-	-	-	-	-	-	-	3475
3.	Attingal	-	-	-	-	-	3	2	8	-	-	-	25	51
4.	Kollam	-	-	-	-	35	1	-	-	-	-	-	-	1091
5.	Punalur	-	-	-	-	102	2	-	-	-	-	-	-	272
6.	Kayamkulam	-	1	-	-	1	1	-	26	-	-	-	55	105
7.	Mavelikara	-	2	-	-	43	-	-	10	-	-	-	-	201
8.	Alappuzha	32	-	-	-	46	24	-	-	-	-	-	-	2368
9.	Cherthala	-	-	8	-	91	2	-	-	-	-	-	-	281
10.	Thiruvalla	-	-	4	-	16	-	-	-	-	-	-	-	1040
11.	Changanacherry	-	-	11	-	7	-	-	-	-	-	-	-	205
12.	Kottayam	-	-	-	-	31	-	-	-	-	-	-	-	592
13.	Palai	-	-	-	-	-	-	-	-	-	-	-	-	-
14.	Vaikom	-	-	-	-	-	4	6	-	-	-	-	-	142
15.	Muvattupuzha	-	-	-	-	-	-	-	-	-	-	-	-	199
16.	Kochi Corpora.	-	-	-	-	-	-	-	-	-	-	-	-	-
17.	Aluva	-	-	-	-	8	-	-	-	-	-	-	-	441

Table 5 - Deaths according to causes 1996 (contd...)

Sl. No.	Municipality/ Corporation	Plague	Cholera	Haemo. Fever	Dysentery & Diarrhea	Small Pox	Gastric Entireties	Respira disease	Rabies	Diarrhea	Cancer	Heart Failure	Poisoning	Accident	T.B	Hydropho bia
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	Paravur	-	-	-	-	-	-	-	-	-	3	78	-	-	-	-
19.	Perumbavoor	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-
20.	Irrinjaiakuda	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-
21.	Kodungallur	-	-	-	-	-	-	-	-	-	16	81	-	-	-	-
22.	Chalakudy	-	-	-	-	-	-	51	-	-	2	14	-	9	-	-
23.	Thrissur	-	-	-	10	-	-	-	87	-	176	409	-	-	-	-
24.	Guruvayoor	-	-	-	-	-	-	51	-	-	7	14	-	4	5	-
25.	Kunnamkulam	-	-	-	-	-	-	-	-	-	3	7	-	-	-	-
26.	Palakkad	-	-	-	18	-	-	-	-	-	67	406	64	45	-	-
27.	Chittoor-Thatha mangalam	-	-	-	-	-	-	-	-	-	7	62	-	-	-	-
28.	Thirur	-	-	-	6	-	-	-	-	-	34	121	-	16	-	-
29.	Malappuram	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-
30.	Kozhikode Corpora.	-	-	-	22	3	-	-	-	-	683	-	-	568	-	1
31.	Vadakara	-	-	-	-	-	-	-	-	-	7	216	-	-	-	-
32.	Thalasserry	-	-	-	-	-	-	-	-	30	400	-	-	-	-	-
33.	Kannur	-	-	-	1	-	-	-	-	-	17	48	-	-	-	-
34.	Kasaragod	-	-	-	1	-	-	-	-	-	8	-	-	-	12	-



Table 5 - Deaths according to causes 1996 (contd...)

Sl. No.	Municipality/ Corporation	Tetanus	Pneumonia	Fever	Golter	Pulmonary disease	Enteric Fever	Diabetics	rheumatism	paralysis	Brain tumor	Malaria	Asthma	Others
		18	19	20	21	22	23	24	25	26	27	28	29	29
1	2													
18.	Paravur	-	-	-	-	-	-	-	-	-	-	-	-	384
19.	Perumbavoor	-	-	-	-	17	-	-	-	-	-	-	-	317
20.	Irinjalakuda	-	-	-	-	4	-	-	-	-	-	-	-	235
21.	Kodungallur	-	-	-	-	-	-	-	-	-	-	-	-	339
22.	Chalakydy	-	1	-	-	1	-	-	-	-	-	-	-	337
23.	Thrissur	-	-	-	-	-	-	-	-	-	-	-	-	2083
24.	Guruvayoor	-	4	-	-	-	-	1	5	-	-	-	17	54
25.	Kunnamkulam					20	3							266
26.	Palakkad	-	-	-	-	178	10	-	-	-	-	-	-	893
27.	Chittoor- Thathamangalam	-	-	-	-	15	-	-	-	19	-	-	-	145
28.	Thirur	-	-	-	-	4	59	-	-	-	2	-	-	313
29.	Malappuram	-	-	-	-	4	2	1	-	-	-	-	-	368
30.	Kozhikode Corpora.	-	47	-	-	480	104	-	-	-	-	-	-	8343
31.	Vadakara	-	-	-	-	-	-	-	-	-	-	-	-	434
32.	Thalasserry	-	-	-	-	186	28	-	-	-	-	-	-	817
33.	Kannur	-	-	-	-	-	5	-	-	-	-	-	-	549
34.	Kasaragod	-	-	-	-	17	-	-	2	-	-	3	-14	461

**Table 6**

Results of Spot Check 1996

Sl. No.	Municipality/ Corporation	No. of wards select	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	occurred outside	Enume rated	Regis-tered	N.R	occurred outside	Enume rated	Regis-tered	N.R	occurred outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara	15	5833	5833	253	79		174					97	62	3	32
2.	Thiruvananthapuram	16	33875	28462	307	305		2					104	104		
3.	Attingal	15	6338	6338	314	183		131					99	86		13
4.	Kollam	18	12658	12658	755	659		96	6	5		1	229	189		40
5.	Punalur	15	6977	6977	252	174	1	77					83	68	1	15
6.	Kayamkulam	15	5284	5284	313	230		83					91	87		4
7.	Mavelikara	15	4583	4583	250	146		104					146	116	5	15
8.	Alappuzha	18	16860	16860	1138	944	1	193	11	10		1	396	382	14	7
9.	Cherthala	15	6713	4897	255	130		125					101	98	3	27
10.	Thiruvalla	15	5824	5824	211	133	1	77	3	2			49	45	1	3
11.	Changanacherry	15	6939	4567	161	103		58					80	48		32
12.	Kottayam	15	5720	5720	332	146		186					140	102	6	32
13.	Palai	15	4648	2904	194	106		88					77	56	1	20
14.	Vaikom	15	4671	3580	81	81		156					84	79	5	30
15.	Muvattupuzha	15	4408	4408	276	135		141					87	64	4	19
16.	Kocni Corporation	15	28435	28435	1741	1369	56	316	5	2		3	587	464	101	22
17.	Aluva	15	3795	3795	166	87		79	1			1	68	51	2	15

Table 6 - Results of Spot Check 1996 (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	Regis- tered	N.R	occurred outside	Enume rated	Regis- tered	N.R	occurred outside	Enume rated	Regis- tered	N.R	occurred outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	Paravur	15	4413	4413	218	107		111					98	71	6	21
19.	Perumbavoor	15	3841	3841	211	119		92					57	35		22
20.	Irinjalakuda	15	5699	4153	187	39		148	2			2	89	67		22
21.	Kodungallur	15	4057	4057	191	122		69	1			1	91	76	5	10
22.	Chalakydy	15	4589	4944	300	170		130					130	80	27	23
23.	Thrissur	15	6080	6080	290	183	15	92					163	130	10	23
24.	Guruvayoor	15	2964	2964	179	48		131					93	56	11	26
25.	Kunnamkulam	15	3976	3976	216	44		172					107	81	7	19
26.	Palakkad	15	8703	8703	908	762	1	145	5	5			185	149	11	25
27.	Chittoor- Thathamangalam	15	3320	3320	157	78		79	1	1			75	67	1	7
28.	Thirur	15	4969	4969	507	302		205	1	1			83	81		2
29.	Malappuram	15	4343	4343	313	293		20					97	97		
30.	Kozhikode Corp	15	34065	21676	1891	1600	4	191	11	11			462	369	55	16
31.	Vadakara	11	5350	5350	341	206	5	130	2	1		1	133	79	7	47
32.	Thalasserry	12	6450	6450	362	345		17					108	94	14	
33.	Kannur	15	5095	4171	382	260		122	2	2			145	104	3	38
34.	Kasaragod	15	7636	3988	356	319		37					98	74		24



**Table 7**

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		4.62	68.77	32.99
2.	Thiruvananthapuram			65	
3.	Attingal			41.72	13.13
4.	Kollam			12.72	17.45
5.	Punalur	0.571	5.55	30.68	18.07
6.	Kayamkulam			26.52	4.40
7.	Mavelikara		11.45	41.6	10.27
8.	Alappuzha	0.11	3.54	20.44	1.76
9.	Cherthala		2.97	49.02	21.09
10.	Thiruvalla	0.75	2.97	36.49	7.69
11.	Changanacherry			36.04	40
12.	Kottayam		5.4	56.02	23.24
13.	Palai		1.75	45.36	12.98
14.	Vaikom		5.95	65.82	26.32
15.	Muvattupuzha		5.88	51.087	21.839
16.	Kochi Corporation	3.93	17.88		
17.	Aluva		3.77	47.59	21.74
18.	N.Paravur		7.79	50.91	29.58
19.	Perumbavoor			43.60	38.6
20.	Irinjalakuda			79.14	24.71
21.	Kodungallur		6.17	36.12	11.95
22.	Chalakydy		25.23	43.33	17.69
23.	Thrissur	7.58	7.14	31.72	14.11
24.	Guruvayoor		16.42	73.18	27.96
25.	Kunnamkulam		7.95	79.629	17.757
26.	Palakkad	0.13	6.88	15.97	13.15
27.	Chittoor- Thathamangalam		1.47	50.31	9.21
28.	Thirur			40.43	2.38
29.	Malappuram			6.39	
30.	Kozhikode Corpo.	0.24	12.39	10.1	3.9
31.	Vadakara	2.371	8.94	40	34.22
32.	Thalasserry		12.96	4.69	12.96
33.	Kannur		2.80	31.94	25.85
34.	Kasaragod			10.39	24.49

**Table 8**

Registered Vital Rates and Adjusted Residential Vital rates 1996

Sl. No.	Municipality/ Corporation	Registered vital rates		Adjusted residential vital rates	
		Births	Deaths	Births	Deaths
1	2	3	4	5	6
1.	Neyyattinkara	12.47	3.86	39.93	6.04
2.	Thiruvananthapuram	36.83	5.9	36.83	5.9
3.	Attingal	6.49	3.49	6.49	3.49
4.	Kollam	16.2	4.31	16.2	4.31
5.	Punalur	17.123	3.49	17.22	3.69
6.	Kayamkulam	12.44	3.73	12.44	3.73
7.	Mavelikara	9.947	5.777	9.947	6.524
8.	Alappuzha	6.47	1.87	8.13	1.72
9.	Cherthala	2.894	2.182	2.894	2.249
10.	Thiruvalla	8.89	4.52	8.93	4.61
11.	Changanacherry	12.67	3.93	19.8	6.55
12.	Kottayam	6.69	4.88	6.69	5.16
13.	Palai	8.351	5.31		
14.	Vaikom	3.66	3.57	3.66	3.8
15.	Muvattupuzha	8.133	4.118	8.133	4.326
16.	Kochi Corporation				
17.	Aluva	7.14	3.96	7.14	4.11
18.	Paravur	9.58	4.27	9.58	4.63
19.	Perumbavoor	8.72	2.54	8.72	2.54
20.	Irrinjalakuda	4.03	5.31	4.03	5.31
21.	Kodungallur	10.84	4.98	10.84	5.31
22.	Chalakydy	8.75	4.46	8.75	5.96
23.	Thrissur	13.58	4.25	14.69	4.58
24.	Guruvayoor	2.22	2.59	2.22	3.10
25.	Kunnamkulam	3.742	5.562	3.742	6.042
26.	Palakkad	15.06	6.95	8.13	7.46
27.	Chittoor- Thathamangalam	4.79	5.73	4.79	5.81
28.	Thirur	16.25	2.66	16.25	2.66
29.	Malappuram	5.71	1.76	5.71	1.76
30.	Kozhikode Corpo.	65.79	22.09	65.89	22.09
31.	Vadakara	7.56	4.25	7.67	4.46
32.	Thalasserry	54.24	7.84	54.24	7.84
33.	Kannur	12.5	4.07	12.5	4.18
34.	Kasaragod	18.25	3.98	18.25	3.98





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