



**Government of Kerala**

**RESIDENTIAL VITAL RATES**

in  
Corporations & Municipalities

**Annual Report  
1995**

**Department of Economics & Statistics  
Thiruvananthapuram  
1998**

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**Government of Kerala**



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ANNUAL REPORT 1957

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Department of Economics & Statistics

Thiruvananthapuram

1958



## PREFACE

*This report presents the residential vital rates of births and deaths in the selected Municipalities/Corporations for the year 1995.*

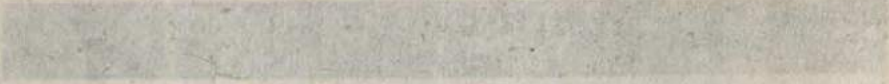
*The rates are estimated from the registered births and deaths to the normal residents after making adjustments for under registration and for events occurring outside the Municipal/Corporation areas, using the result of spot check survey conducted in the selected Municipalities/Corporations.*

*This report is prepared by the Vital Statistics division of the Directorate of Economics & Statistics Department.*

Thiruvananthapuram  
22/04/1998

U. Tomas Sleeba  
Director of Economics & Statistics





The first part of the report is devoted to a general  
 description of the work done during the year.  
 The second part contains a detailed account of the  
 various experiments conducted during the year.  
 The third part is devoted to a discussion of the  
 results obtained and to a comparison of these  
 results with those obtained by other workers.  
 The fourth part contains a summary of the work  
 done during the year and a list of references.  
 The fifth part contains a list of the names of the  
 persons who have assisted in the work.

H. J. Cantow  
 Director of Research & Development

1954  
 1955



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# RESIDENTIAL VITAL RATES 1995

## 1. Introduction

Civil Registration system is the primary source of population data. For the efficient functioning of Civil Registration System, the Government of India had implemented the Births and Deaths Registration Act in 1969. Accordingly this Act is being enacted in all the States and Union Territories of India for netting all the events occurred in the respective registration units. As per this Act, all the events occurred should be registered in the concerned registration unit. The Act stipulates both punishment and fine to the responsible person for negligence in registration. Notwithstanding certain level of under registration of events also occurring in almost all registration units in the state. This would create problem for arriving at the actual change in population.

Urban and rural is the first level classification in population. Usually the urban population is enhancing regularly due to the reasons like rapid industrialization, vast development in trade and commerce.

At National level in the division of urban population, Kerala stood third viz. The medium and low ie, the urban population of Kerala is in the range between 15 % to 20 % of total population. While analyzing the birth rate, death rate and expectation of life etc. both urban and rural figures are approximately same. The Rural-Urban birth rates, death rates and expectancy of life from 1985-95 is given below.

### Birth rate

Rural /Urban	1985	1990	1992	1993	1994	1995
Rural	23.1	19.6	17.6	17.5	17.3	18.1
Urban	24.1	19.8	18.3	17.3	18.0	17.7

### Death Rate

Rural /Urban	1985	1990	1992	1993	1994	1995
Rural	6.5	6.0	6.3	6.0	5.9	6.0
Urban	6.6	6.1	6.5	5.8	6.4	6.0

### Expectation of Life for 1985-95

Rural /Urban	Male	Female
Rural	68.7	73.9
Urban	68.8	74.8

Source : S.R.S Analytical Studies Report Vol. Of 1996



Generally the Registration of Vital events are always very high in urban areas, than in the rural areas. This is due to the accommodation of more rural people in the urban areas for availing modern medical facilities installed in urban areas. As per the existing Registration Act the events are registered where it occurred and not as per the place of residence of the people. Accordingly under registration would be very high in urban areas due to the occurrence of large number of events in the towns, Municipalities and Corporation areas where medical facilities are more compared to rural areas.

The scheme of residential vital rates are implemented in the selected municipalities/Corporations for the following objectives.

- I. To estimate the under registration of vital events in the respective Municipalities/Corporations.
- II. To estimate the residential vital rates of Municipalities/ Corporations.
- III. To find out the major causes of death occurred therein.

## **2. Coverage of the Survey**

At present the spot check survey is covered in 30 Municipalities and 3 Corporations of the State. The field work of the survey is being conducted by the statistical staff posted in the concerned Municipalities/ Corporations under the supervision of the Additional District Officer (Sample Registration). For conducting survey, 15 wards have been selected at random from the total wards in the concerned Municipalities/Corporations. In the case of Guruvayoor municipality all the wards have been selected for the survey. In Kollam and Alappuzha Municipalities, 18 wards have been selected for the survey. This survey was not conducted in Cherthala Municipality due to administrative reasons.

## **3. Limitations of the Survey**

The most important limitation of the survey is the less coverage. The prime objective of the survey is to find out the under registration of events. However, the data arrived from this survey is partial. For obtaining under registration in urban areas, it should be extended to the entire 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 under registration could be made possible. Similarly a state level under registration can be estimated only after extending this survey to rural areas and also to the remaining municipalities of the state.



The vital events to normal residents estimated through spot check survey comprise the following.

- i. Events occurring inside the town and registered.
- ii. Events occurring inside the town but not registered.
- iii. Events occurring outside the town registered and not registered.

#### 4. General findings of the survey

**Table 1** This table represents the estimated mid-year population of the selected Corporations/Municipalities of the state. Cochin Corporation occupies the largest population among the corporations followed by Thiruvananthapuram Corporation. In the case of Municipalities, Alappuzha Municipality has the largest population followed by Kollam Municipality. The lowest estimated Population during the period was reported from Kunnamkulam Municipality. The Census population of 1991 and estimated population in 1995 reveal that population of all Municipalities/Corporations were increasing except in Kottayam, Aluva, Thrissure and Thalassery Municipalities.

**Table 2** This table presents the number of hospitals, dispensaries and other institutions, maternal and child health centres both in public and private existed in the respective municipalities/corporation areas. As regards to public hospital, maximum number were reported in Thiruvananthapuram corporation with 19 followed by Cochin corporation with 15. In the case of bed strength in public sector, it was also highest in Thiruvananthapuram corporation with 6738 beds followed by Kozhikode corporation with 3805 beds. The lowest number of public hospitals were in Attingal, Punalur, Chalakudy, Guruvayur, Kunnamkulam and Kannur. In these places only one public hospital was reported. The lowest number of bed strength in public hospital was reported from Guruvayur municipality with 30 numbers.

Highest number of private hospitals was reported in Cochin Corporation with 63 followed by Thiruvananthapuram Corporation with 37. Regarding the bed strength in private hospital, Cochin Corporation stood first with 3844 beds followed by Thiruvananthapuram Corporation with 1352 beds. The lowest numbers of private hospitals were reported in Chittoor municipality having only 2 hospitals.



During the period under report maximum number of public dispensaries & other institutions was reported in Kozhikode Corporations with 12 numbers followed by Kollam municipality with 7 numbers. Private dispensaries and institutions were maximum in Alappuzha with 127 numbers followed by Kozhikode Corporation with 88 numbers. Guruvayur and Kunnamkulam municipalities were having no private dispensaries and institutions.

At present, the Government is imparting more importance to public maternity and child health centers in order to bring down the maternal deaths and infant mortality of the state. Survey results reveal that maximum number of these centers were in Thiruvananthapuram corporation with 34 followed by Kollam municipality and Cochin corporation with 72 numbers each. However, Kayamkulam, Mavelikara, Thiruvalla, Aluva, Irinjalakuda, Kodungaloor, Chalakkudy, Thrissur, Chittur, Thalassery and Kasaragod municipalities were having no public maternity and child health centers during the period under survey. As per survey report, private maternity and child health centers were not existing in all the selected municipality/corporations.

**Table 3** This table is pertaining to the details of existing number of registration units, area and density of population of the respective Municipalities/Corporations. All the selected municipalities having only one Registration unit each. The largest area among the Corporations was occupied by Cochin corporation and Punalur was the municipality in that category.

During the year under report, density of population was reported highest in Kollam municipality followed by Thiruvananthapuram corporation with density 7612 and 7237 respectively. Punalur was having the lowest followed by Pala municipality.

**Table 4** This table displays the number of burial and cremation grounds existed in the municipalities/corporations. Generally both burial and cremation grounds were maximum in Cochin corporation with 8 numbers followed by Thiruvananthapuram corporation with 4 numbers. However, Aluva, Kodungaloor, Chittur and Kasaragod municipalities were having no public burial grounds. Burial grounds under private sector was maximum in Cochin corporation with 40 numbers followed by Thiruvananthapuram with 27 numbers.



Most of the selected municipalities were having no public cremation grounds while private cremation grounds were existing in certain municipalities. It was reported maximum in Alappuzha with 19 numbers followed by Cochin corporation and Thalassery municipality with 11 numbers each.

**Table 5** During the year under report total events of births & deaths were maximum in Thiruvananthapuram corporation. While analyzing the data of vital events, it is seen that most of the events occurred in these municipalities/corporations belonged not that of normal residents but of outside people.

According to the survey results, maximum number of live births were reported from Thiruvananthapuram corporation with 34155 numbers of which male and female break up were 18112 and 16043 respectively. Out of the total live births the number of live births of normal residents were only 19257 and the male and female break up were 9750 and 9507 respectively. Live births was 2<sup>nd</sup> highest in Kozhikode corporation with 31097 numbers of which the events of normal residents were only 12311. In the case of municipalities, live births were maximum in Thrissur municipality with 14352 numbers of which the events of normal residents were only 1005 numbers. Guruvayur municipality was reported the lowest live births during the period under report with 937 numbers only with only 49 events of normal residents.

Maximum number of still births was reported from Kozhikode corporation having 577 numbers. However such events of normal residents were only 281 numbers. The next highest still births was reported from Thrissur municipality with 264 numbers. While the events of normal residents were only 13 numbers. Changanassery and Chittur municipalities were having only one still birth each.

In the case of infant deaths it was reported highest in Thiruvananthapuram corporation with 657 numbers of which the events of normal residents were only 225 numbers followed by Kozhikode corporation with 582 numbers of which the events of normal residents were only 261 numbers. Similarly infant deaths of normal residents were nil in Attingal, Vaikom, Aluva, Paravoor, Guruvayur and Thrissur municipalities.

The notable feature of the survey was the absence of maternal deaths from any selected municipality/corporation.



Events of other deaths was maximum in Thiruvananthapuram with 7869 numbers where in the events of other deaths (excluding infant deaths and still birth) deaths to normal residents was only 2848. Next in the list stood Kozhikode corporation with 7046 numbers. Among the selected municipalities minimum other death was reported from Attingal municipality having only 153 numbers.

**Table 6** This table pertains to the cause of death occurred in these municipalities/corporations. Heart decease was predominant among the various causes of death. During the period under report death due to heart decease was highest in Thiruvananthapuram corporation with 4011 numbers. Cancer was the second major cause of death occurred in the municipality/corporation. In this case also Thiruvananthapuram corporation topped in the list with 618 deaths. A major portion of deaths was happened due to other causes of deaths in all selected centers.

**Table 7** This table provides the details regarding the registration of events and place of occurrence of events to normal residents. As regard to number of non-registration of events, it was highest in Cochin corporation with 56 followed by Thrissur municipality with 22 numbers. In most all municipalities, a good number of events occurred in outside area. There was no under registration of infant deaths in any selected centers except in Mavelikara municipality. In respect of other deaths under registered were reported maximum in Cochin corporation with 101 numbers followed by Kozhikode corporation with 63 numbers. A good number of deaths were happened the jurisdiction outside in all municipalities.

**Table 8** The ultimate objective of this survey was to find out the level of under registration of vital events for assessing the functioning of Civil Registration system in the state. This table depicts the percentage of under registration existing in these municipalities/corporations. Out of 34 municipalities/corporations only 10 numbers were having a very small percentage of under registration of birth events. Among these, the highest percentage was noted in Thrissur municipality with 11.64 followed by Cochin corporation with 3.92 %. In respect of under registration of death events, out of the 34 municipalities/corporations, 11 numbers were having no under registration of deaths. The highest under registration of death events with 17.87 % was noticed in Cochin corporation followed by Paravoor municipality with 15.49 %. In short, under registration of death events was higher than that of the birth events.



Usually there is inflow of rural people to urban areas for obtaining more modern medical facilities. But the survey results indicated that the outflow of urban people of these selected municipalities/corporations were very high in all most all centers. Out side events of birth were reported the highest in Irinjalakuda municipality with 73.60 % followed by Guruvayur municipality with

73.60% followed by Guruvayoor municipality with 72.47 %. As regards to outside events of deaths to normal residents, it was also high in all most all municipalities. Thiruvananthapuram corporation and Thiruvalla municipality were having no outside events of deaths. Vadakara municipality was having the highest number of outside events of deaths with 37.58 % followed by Kannur with 37.10 %.

**Table 9** This table gives the details of registered and adjusted residential vital rates of normal residents. The highest birth rate as per the registration of birth events was reported from Thalassery municipality with 51.72 followed by Thiruvananthapuram corporation by 35.48. In respect of lowest birth rate as per the registration of birth events was reported in Vaikom municipality with 2.17. But the death rate was highest in Kozhikode corporation with 10.22 followed by Thiruvananthapuram corporation with 5.88 and lowest in Thiruvalla municipality with 0.0046.

Adjusted residential vital rates of births was also reported highest in Thalassery municipality with 55.20 followed by Neyyattinkara municipality with 39.23 and the lowest was reported in Guruvayur municipality with 8.35. Relating to adjusted residential rate of deaths, it was highest in Kozhikode corporation with 12.57 followed by Mavelikara municipality with 7.13 and the lowest rate of deaths was reported in Thiruvalla municipality with 0.0046.

**Table 10** This table represents the birth rate and the death rate from 1988 to 1994 of the respective municipalities/corporations. The study reveals that the birth rate and death rate are being decreased regularly in almost all the municipalities/corporations.



## 5. Conclusion

Most of the live births and infant deaths of normal residents had been registered municipalities/corporations while in the case of other deaths, registration was not functioning properly. This may be due to the reasons such as occurrence of deaths in the residence, concealment of certain deaths, ignorance of people for registering the events etc. The most highlighting aspect relating to the survey was the non reporting of maternal deaths from any units selected for the survey. As regards to cause of deaths, heart disease was the primary cause in almost all the centers. In respect of outside events of normal residents, birth events were very high in this selected urban area. It recorded that the outflow of urban population to other areas was due to certain reasons like obtaining more medical facilities, seeking employment purpose etc. in municipal areas.



## 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

Estimated Mid-year Population of Municipalities and Corporations 1993 to 2000 AD (as on 1<sup>st</sup> 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.	Cherthala	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 - Estimated Mid-year Population of Municipalities and Corporations 1993 to 2000 A.D 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.	Chalakyud	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.	Kunnamkulam	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 1995

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	360	9	420	4		16		20		3						3	
4.	Kollam	6	950	21	1249	27	2199	7		70		77		12						12	
5.	Punalur	1	144	11	225	12	369	1		22		23		4						4	
6.	Kayamkulam	3	170	12	275	15	445			8		8									
7.	Mavelikara	2	267	7	315	9	582			10		10									
8.	Alappuzha	8	1648	5	120	13	1768	2		127		129		6						6	
9.	Cherthala																				
10.	Thiruvalla	3	350	7	841	10	1191			14		14									
11.	Changanacherry	2	214	31	305	33	519			28		28		4						4	
12.	Kottayam	4	497	11	409	15	906	1		54		55		3						3	
13.	Palai	3	293	9	612	12	905			22		22		1						1	
14.	Vaikom	2	304	2	18	4	322			40		40		1						1	
15.	Muvattupuzha	3	376	12	460	15	836	1		33		34		2						2	
16.	Kochi Corporation	15	1973	63	3844	78	5817	6		78		84		12						12	
17.	Aluva	2	237	10	675	12	912			29		29									



Table 2 - Number of Hospitals and other Institutions 1995 (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	2	185	8	379	10	564	3		33		36		2				2	
19.	Perumbavoor	2	246	8	505	10	751	1		13		14		6				6	
20.	Irinjalakuda	3	248	4	59	7	307	1		2		3							
21.	Kodungallur	2	234	5	307	7	541			28		28							
22.	Chalakudy	1	144	9	360	10	504	2		25		27		3				3	
23.	Thrissur	5	1398	14	893	19	2291	1		13		14		4				4	
24.	Guruvayur	1	30	7	201	8	231							1				1	
25.	Kunnamkulam	1	124	3	320	4	444	2				2		1				1	
26.	Palakkad	4	739	17	491	21	1230	2		11		13		3				3	
27.	Chittoor-	2	128	2	28	4	156	1		12		13							
	Thathamangalam																		
28.	Thirur	6	184	9	225	15	409	6				6		3				3	
29.	Malappuram	4	257	5	316	9	573	1		27		28		2				2	
30.	Kozhikode Corpor.	9	3805	33	1218	42	5023	12		88		100		5				5	
31.	Vadakara	2	240	12	410	14	650	1		97		98		1				1	
32.	Thalassery	2	555	17	477	19	1032	2		14		16							
33.	Kannur	1	125	27	510	25	635	1		16		17		1		5		1	5
34.	Kasaragod	2	223	9	490	11	713	1		21		22							



Table 3

## Registration units with Area and Population 1995

Sl.No	Municipality/ Corporation	S.C *	S.T *	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	3	4	5	6	7	8	9	10
1.	Neyyattinkara	2514	8	1	9.70	9.70	31564	31564	3254
2.	Thiruvananthapuram	43297	550	15	74.93	5.00	542803	36186	7237
3.	Attingal	3560	9	1	14.18	14.18	34021	34021	2399
4.	Kollam	10112	84	1	18.48	18.48	140687	140687	7612
5.	Punalur	4150	318	1	34.60	34.60	47757	47757	1380
6.	Kayamkulam	4491	75	1	21.79	21.79	69844	69844	3205
7.	Mavelikara	3851	14	1	12.65	12.65	29070	29070	2298
8.	Alappuzha	3978	281	2	46.77	23.39	176755	883775	3793
9.	Cherthala	1526	54	1	16.18	16.18	44616	44616	2757
10.	Thiruvalla	4892	285	1	27.94	27.94	56136	56136	2009
11.	Changanacherry	4063	15	1	13.50	13.50	52657	52657	3900
12.	Kottayam	4710	176	2	15.55	7.78	62610	31305	4023
13.	Palai	558	33	1	15.93	15.93	22006	22006	1381
14.	Vaikom	1732	25	1	8.73	8.73	22073	22073	2528
15.	Muvattupuzha	1541	37	1	13.18	13.18	28647	28647	2173
16.	Kochi Corporation	19621	943	2	94.88	47.44	588408	294204	6201
17.	Aluva	1013	5	1	7.18	7.18	24557	24557	3420

\* S.C/S.T Population as per 1991 Census



Table 3 - Registration units with Area and Population 1995 (Contd....)

Sl.No	Municipality/ Corporation	S.C *	S.T *	No. of Reg. units	Area in Sq.km	Area per Reg. units	Mid year popula-tion	Population per Reg. units	Density per Sq.Km.
1	2	3	4	5	6	7	8	9	10
18.	Paravur	1328	118	1	9.02	9.02	28639	28639	3112
19.	Perumbavoor	2295	34	1	13.59	13.59	25396	25396	1868
20.	Irinjalakuda	2757	2	1	11.24	11.24	28119	28119	2501
21.	Kodungallur	2729		1	17.30	17.30	32605	32605	1884
22.	Chalakudy	3371	15	1	25.23	25.23	46519	46519	1843
23.	Thrissur	3635	27	6	12.65	2.11	73210	12201	5782
24.	Guruvayoor	2254	3	1	6.49	6.49	21332	21332	3286
25.	Kunnamkulam	2338	5	1	6.96	6.96	19752	19752	2837
26.	Palakkad	9757	97	1	26.60	26.60	128906	128906	4846
27.	Chittoor-	3785	38	1	14.71	14.71	32791	32791	2229
	Thathamangalam								
28.	Thirur	2686	12	1	16.59	16.59	53752	53752	3240
29.	Malappuram	2626	9	1	33.61	33.61	54721	54721	1628
30.	Kozhikode Corpo.	18014	301	14	82.68	5.91	431334	30810	5213
31.	Vadakara	1539	48	1	21.33	21.33	76337	76337	3578
32.	Thalasserry	1996	62	2	15.33	7.68	79056	39528	5146
33.	Kannur	4415	23	4	11.03	2.76	67210	16802	6087
34.	Kasaragod	1817	131	2	16.68	8.34	53497	26748	3207

\* S.C/S.T Population as per 1991 Census



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		
2.	Thiruvananthapuram	4	27	31	1	5	5		
3.	Attingal	1	1	2		5	5		
4.	Kollam	2	20	22					
5.	Punalur	1	16	17					
6.	Kayamkulam	1	14	15	1	3	4		
7.	Mavelikara	1	9	10		1	1		
8.	Alappuzha	3	2	5		19	19		
9.	Cherthala								
10.	Thiruvalla	1	1	2					
11.	Changanacherry	1	12	13		1	1		
12.	Kottayam	1	15	16	1	1	2		
13.	Palai	1	5	6					
14.	Vaikom	1	2	3					
15.	Muvattupuzha	1	8	9					
16.	Kochi Corporation	8	40	48	5	11	16		
17.	Aluva		7	7		3	3		
18.	N.Paravur	1	7	8	1	7	8		
19.	Perumbavoor	1	8	9		1	1		
20.	Irrinjalakuda	1	5	6		1	1		
21.	Kodungallur		2	2					
22.	Chalakydy	2	8	10		1	1		
23.	Thrissur	3	11	14	2	1	3		
24.	Guruvayoor	1	4	5	1	1	2		
25.	Kunnamkulam	1	1	2					
26.	Palakkad	4	7	11	3	1	4		
27.	Chittoor- Thathamangalam		1	1	3		3		
28.	Thirur	2		2					
29.	Malappuram	1	10	11		1	1		
30.	Kozhikode Corpor.	2	9	11	4	2	6		
31.	Vadakara	1	8	9					
32.	Thalasserry	1	15	16	1	11	12		
33.	Kannur	1	13	14	1		1		
34.	Kasaragod		12	12	2	1	3		



Table 5

## Vital events registered during the year 1995

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	2116	2091	4207	234	225	459						
2.	Thiruvananthapuram	18112	16043	34155	9750	9507	19257	132	125	257	88	64	152
3.	Attingal	883	897	1780	110	116	226	7	2	9	2		2
4.	Kollam	6890	6610	13500	1177	1121	2298	329	31	63	5	4	9
5.	Punalur	1588	1713	3301	348	306	654	5	7	12			
6.	Kayamkulam	1697	1550	3247	424	401	825	4	3	7			
7.	Mavelikara	2126	1968	4094	155	155	315	10	7	17	1	1	2
8.	Alappuzha	5928	5256	11184	1283	967	2250	78	36	114	15	8	23
9.	Cherthala												
10.	Thiruvalla	2562	2496	5058	211	237	448	12	13	25		3	3
11.	Changanacherry	1247	1223	2470	296	285	581	1		1	1		1
12.	Kottayam	1649	1618	3267	187	187	374	7	2	9			
13.	Palai	1302	1564	2866	91	56	147	18	12	30	1		1
14.	Vaikom	712	675	1387	67	77	144	2	7	9	1		1
15.	Muvattupuzha	1644	1605	3249	130	107	237	5	5	10			
16.	Kochi Corporation	9862	9404	19267	3840	3651	7491	65	47	113	26	18	44
17.	Aluva	2531	2477	5008	86	82	168	13	10	23			



Table 5 - Vital events registered during the year 1995 (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	1628	1519	3147	145	157	302	6	16	22			
19.	Perumbavoor	1193	1160	2354	116	109	225	6	8	14			
20.	Irinjalakuda	792	842	1634	66	62	128	7	6	13	3	1	4
21.	Kodungallur	2353	2311	4664	176	145	321	2		2			
22.	Chalakudy	2071	2054	4125	249	226	475	3	3	6			
23.	Thrissur	7013	7339	14352	494	511	1005	123	141	264	7	6	13
24.	Guruvayoor	464	473	937	24	25	49	3	7	10			
25.	Kunnankulam	1294	1210	2504	41	26	67	5	8	13			
26.	Palakkad	6398	6023	12421	1240	1042	2282	64	46	110	6	3	9
27.	Chittoor-Thathamangalam	858	846	1704	216	152	368		1	1			
28.	Thirur	4011	4346	8357	313	327	640	4	5	9			
29.	Malappuram	2752	2605	5358	455	444	895	6	3	9			
30.	Kozhikode Corporation	14909	16185	31097	6183	6128	12311	305	272	577	149	132	281
31.	Vadakara	3314	3151	6465	367	330	697	13	12	25			
32.	Thalassery	5063	4912	9975	2218	1871	4089	48	42	90	13	8	21
33.	Kannur	2456	2242	4698	397	384	781	13	13	26	2	1	3
34.	Kasaragod	3537	3494	7031	478	485	963	40	46	86	4	5	9



Table 5 - Vital events registered during the year 1995 (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	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total	Male	Fem ale	Total
1.	Neyyattinkara	4	1	5	4		21	22	23	24	25	26	27	28	29	30	31	32	
2.	Thiruvananthapuram	398	259	657	105	120	225	2598	4271	7869	1476	1372	2848	3996	4530	8526	1492	3173	
3.	Attingal		1	1			87	66	153	56	47	103	87	67	154	56	47	103	
4.	Kollam	93	72	165	15	7	22	1156	643	1799	335	186	521	1249	715	1964	193	543	
5.	Punalur	7	9	16		3	3	243	142	385	86	56	142	250	151	401	59	145	
6.	Kayamkulam	3	2	5	1	1	2	190	136	326	141	111	252	193	138	331	142	254	
7.	Mavelikara	20	16	36	3	2	5	277	166	443	90	69	159	297	182	479	71	164	
8.	Alappuzha	90	84	174	22	17	39	1210	795	2005	430	395	825	1300	879	2179	412	864	
9.	Cherthala																		
10.	Thiruvalla	35	36	71	2	3	5	550	368	918	138	121	259	585	404	989	124	264	
11.	Changanacherry	7		7	5		5	168	107	275	112	81	193	175	107	282	81	198	
12.	Kottayam	9	7	16	4	1	5	419	239	658	194	99	293	428	246	674	100	298	
13.	Palai	10	7	17		1	1	242	116	358	75	44	119	252	123	375	45	120	
14.	Vaikom	2		2				100	66	166	56	50	106	102	66	168	56	106	
15.	Muvattupuzha	10	8	18	1	1	2	184	102	286	51	32	83	194	110	304	52	85	
16.	Kochi Corporation	192	130	324	58	40	98	3557	2016	5575	1779	1179	2958	3749	2150	5899	1219	3056	
17.	Aluva	9	6	15				233	144	377	44	33	77	242	150	392	44	77	



Table 5 - Vital events registered during the year 1995 (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	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	7	6	13				209	134	343	67	48	115	216	140	356	67	48	115
19.	Perumbavoor	2	6	8		1	1	173	115	288	33	29	62	175	121	296	33	30	63
20.	Irinjalakuda	8	4	12	1		1	154	84	238	77	53	130	162	88	250	78	53	131
21.	Kodungallur	12	13	25	2	2	4	210	147	357	86	74	160	222	160	382	88	76	164
22.	Chalakudy	11	16	27	3	3	3	258	148	406	102	86	188	269	164	433	102	89	191
23.	Thrissur	211	189	400	6	4	10	1210	1107	2317	177	125	302	1421	1296	2717	183	129	312
24.	Guruvayoor	4	3	7				34	41	75	116	67	183	120	70	190	34	41	75
25.	Kunnamkulam	5	11	16		1	1	45	43	92	150	84	234	155	95	250	49	44	93
26.	Palakkad	88	58	146	3	2	5	314	247	561	926	562	1488	1014	620	1634	317	249	566
27.	Chittoor- <td>7</td> <td>3</td> <td>10</td> <td>3</td> <td></td> <td>3</td> <td>107</td> <td>76</td> <td>183</td> <td>130</td> <td>93</td> <td>223</td> <td>137</td> <td>96</td> <td>233</td> <td>110</td> <td>76</td> <td>186</td>	7	3	10	3		3	107	76	183	130	93	223	137	96	233	110	76	186
	Thathamangalam																		
28.	Thirur	27	28	55				85	89	174	261	259	520	288	287	575	85	89	174
29.	Malappuram	27	26	53	1	2	3	97	63	160	227	127	354	254	153	407	98	65	163
30.	Kozhikode Corpora.	328	254	582	135	126	261	2639	1510	4149	4362	2684	7046	4690	2938	7628	2774	1636	4410
31.	Vadakara	25	12	37	2	3	5	171	143	314	348	273	629	373	285	658	173	146	319
32.	Thalassery	41	31	72	7	5	12	209	198	407	816	399	1215	857	430	1287	216	203	419
33.	Kannur	41	28	69	4	2	6	128	134	262	295	225	520	336	253	589	132	136	268
34.	Kasaragod	31	36	67	5	4	9	122	85	207	288	159	447	319	195	514	127	89	216



Table 6  
Deaths according to causes 1995

Sl. No.	Municipality/ Corporation	T.B	Plague	Cholera	Small Pox	Dysentery & Diarrhoea	Respiratory Diseases	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteritis	Heart Failure	Pulmonary Diseases	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara						39				11				232	282
2.	Thiruvananthapuram	37				348					118		4011		3512	8526
3.	Attingal					1					5		49		109	154
4.	Kollam					1		8			14		544	66	1331	1964
5.	Punalur							1		2				91	307	401
6.	Kayamkulam	1					21	5			18		84	7	195	331
7.	Mavelikara					2	38				18		207	16	198	479
8.	Alappuzha					2		6	2		35			12	2122	2179
9.	Cherthala															
10.	Thiruvalla							2			11			32	944	989
11.	Changanacherry						17	14			16			8	223	282
12.	Kottayam					2					23			24	625	674
13.	Palai						49				10		56	16	244	375
14.	Vaikom							3					56		109	168
15.	Muvattupuzha												119		185	304
16.	Kochi Corpora.	90		2		15		10			20		1350		4312	5899
17.	Aluva										7		18	11	356	392



Table 6 - Deaths according to cause 1995 (Contd...)

Sl. No.	Municipality/ Corporation	T.B	Plague	Cholera	Small Pox	Dysentry & Diarohea	Respiratory Diseases	Enteric fever	Rabies	Diphtheria	Cancer	Gastro Enteritics	Heart Failure	Pulmonary Disea-ses	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	Paravur										9		64		283	356
19.	Perumbavoor					1					11			12	272	296
20.	Irinjalakuda							2			8			3	237	250
21.	Kodungallur							6			10			72	294	382
22.	Chalakudy						130				15		19	2	266	433
23.	Thrissur					10					157		492		2058	2717
24.	Guruvayoor						89				4		16		81	190
25.	Kunnamkulam							3			7		10	18	212	250
26.	Palakkad					11					74		226		1323	1634
27.	Chittoor- Thathamangalam					1					10				221	233
28.	Thirur															
29.	Malappuram					10					20		110		435	575
30.	Kozhikode Corpo.							2			19			10	376	407
31.	Vadakara					42		2		12	535			164	6873	7628
32.	Thalasserry					21		20			10			2	646	658
33.	Kannur							1			326		38	120	800	1287
34.	Kasaragod										11				539	589
											13			28	473	514



Table 7

## Results of Spot Check 1995

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
1.	Neyyattinkara	15	6245	6245	232	86	1	145	4	3		1	93	63	1	29
2.	Thiruvananthapuram	15	25564	25564	380	380							139	138	1	
3.	Attingal	15	6108	6108	299	143		156					89	77		12
4.	Kollam	18	13775	13775	737	610		127	4	4			224	195		29
5.	Punalur	15	6977	6977	260	198		62					83	66	4	15
6.	Kayamkulam	15	5262	5262	295	209		86					87	83		4
7.	Mavelikara	15	4606	4606	251	161		90	2	2			122	96	8	18
8.	Alappuzha	18	21016	21016	1138	954	1	183	14	13		1	418	380	10	28
9.	Cherthala															
10.	Thiruvalla	15	6446	6446	181	110	2	69	3	3			39	39		
11.	Changana-cherry	15	6949	6949	172	110		62					104	81		23
12.	Kottayam	15	5674	5674	321	163		158					136	101	6	29
13.	Palai	15	2548	2548	157	95		72					59	46	2	11
14.	Vaikom	15	3476	3476	174	48		126					101	70	2	29
15.	Muvattupuzha	15	4181	4181	237	125		112	2	1	1		83	55	7	21
16.	Kochi Corporation	15	28435	28435	1741	1369	56	316	5	2		3	587	464	101	22
17.	Aluva	15	3731	3731	165	92		73					67	49	7	11



Table 7 - Results of Spot Check 1995 (Contd....)

Sl. No.	Municipality/ Corporation	No. of wards select-ed	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	4449	4449	227	117		110					86	60	11	15
19.	Perumbavoor	15	3777	3777	212	120		92					53	34		19
20.	Irinjalakuda	15	4082	4082	178	47		131	1	1			90	62	4	24
21.	Kodungallur	15	4159	4159	223	133		90	1	1			87	68	10	9
22.	Chalakudy	15	5242	5242	323	212		111					123	83	25	15
23.	Thrissur	15	6338	6338	322	167	22	133					159	136	12	11
24.	Guruvayoor	15	2953	2953	178	49		129					107	75	5	27
25.	Kunnamkulam	15	3835	3835	220	62		158					109	85	8	16
26.	Palakkad	15	9771	9771	954	751	8	195	2	2			237	189	7	43
27.	Chittoor- Thathamangalam	15	4058	4058	187	103	1	83					94	85		9
28.	Thirur	15	4160	4160	343	305		38					93	88	2	3
29.	Malappuram	15	5242	5242	543	380		163					94	84		10
30.	Kozhikode Corpo.	15	19829	19829	1629	1431	4	194	1		1		456	371	63	22
31.	Vadakara	15	5092	5092	273	169	2	102					165	98	5	62
32.	Thalassery	15	7980	7980	460	431		29					130	105		25
33.	Kannur	15	4217	4217	347	258	1	88	4	3	1		120	72	3	45
34.	Kasaragod	15	3159	3159	275	259		16								



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	1.15	1.49	62.50	30.93
2.	Thiruvananthapuram		0.72		
3.	Attingal			52.17	13.48
4.	Kollam			17.23	12.72
5.	Punalur		5.70	23.85	15.60
6.	Kayamkulam			29.15	4.60
7.	Mavelikara		7.55	35.86	14.52
8.	Alappuzha	0.105	2.47	16.27	6.48
9.	Cherthala				
10.	Thiruvalla	1.785		38.12	
11.	Changanacherry			36.05	22.12
12.	Kottayam		5.61	49.22	21.32
13.	Palai		4.16	43.11	18.64
14.	Vaikom		2.78	72.41	28.71
15.	Muvattupuzha		10.50	47.257	24.71
16.	Kochi Corporation	3.929	17.876	18.15	3.75
17.	Aluva		12.50	44.25	16.42
18.	N.Paravur		15.49	48.46	17.44
19.	Perumbavoor			43.40	35.85
20.	Irrinjalakuda		6.06	73.60	26.67
21.	Kodungallur		12.82	40.36	10.34
22.	Chalakydy		23.15	34.37	12.20
23.	Thrissur	11.64	8.11	41.30	6.92
24.	Guruvayoor		6.25	72.47	25.23
25.	Kunnamkulam		8.60	71.82	14.68
26.	Palakkad	1.05	3.54	20.44	17.84
27.	Chittoor- Thathamangalam	0.96		44.39	9.57
28.	Thirur		2.22	11.08	3.23
29.	Malappuram			30.02	10.64
30.	Kozhikode Corpo.	0.28	14.52	11.91	4.82
31.	Vadakara	1.17	4.85	37.36	37.58
32.	Thalasserry			6.30	19.23
33.	Kannur	0.39	3.85	25.36	37.10
34.	Kasaragod			5.82	6.67



Table 9

## Registered Vital Rates and Adjusted Residential Vital rates 1995

Sl. No.	Municipality/ Corporation	Registered vital rates		Adjusted residential vital rates	
		Births	Deaths	Births	Deaths
1	2	3	4	5	6
1.	Neyyattinkara	14.71	3.22	39.23	4.66
2.	Thiruvananthapuram	35.48	5.88	35.48	5.88
3.	Attingal	6.64	3.03	13.88	3.50
4.	Kollam	16.33	3.86	19.73	4.42
5.	Punalur	13.69	3.036	18.07	3.82
6.	Kayamkulam	11.81	3.64	16.67	3.81
7.	Mavelikara	10.80	5.64	16.84	7.139
8.	Alappuzha	12.74	5.22	15.22	5.59
9.	Cherthala				
10.	Thiruvalla	8.04	0.0046	12.99	0.0046
11.	Changanacherry	11.03	3.76	17.25	4.83
12.	Kottayam	5.97	4.76	11.76	6.41
13.	Palai	6.68	5.69	11.74	6.99
14.	Vaikom	2.17	3.17	7.87	4.58
15.	Muvattupuzha	8.27	2.96	15.64	4.49
16.	Kochi Corporation	12.73	5.19	16.19	6.57
17.	Aluva	6.84	3.14	12.27	4.28
18.	Paravur	10.55	4.02	20.47	5.77
19.	Perumbavoor	8.86	2.48	15.65	3.87
20.	Irrinjalakuda	4.55	4.66	17.23	6.76
21.	Kodungallur	9.85	5.03	16.52	6.44
22.	Chalakydy	10.21	4.11	15.56	6.09
23.	Thrissur	13.73	4.26	26.47	4.98
24.	Guruvayoor	2.30	3.52	8.35	5.02
25.	Kunnamkulam	3.39	4.71	12.03	6.04
26.	Palakkad	17.70	4.39	22.49	5.50
27.	Chittoor- Thathamangalam	11.22	5.67	20.37	6.27
28.	Thirur	11.91	3.24	13.39	3.42
29.	Malappuram	16.43	2.98	23.48	3.33
30.	Kozhikode Corpo.	28.54	10.22	32.49	12.57
31.	Vadakara	9.13	4.18	14.75	7.05
32.	Thalasserry	51.72	5.30	55.20	6.56
33.	Kannur	11.62	3.99	15.64	6.60
34.	Kasaragod	18.00	4.04	19.11	4.33



Table 10

## Adjusted Residential Vital Rates from 1988 to 1994

Sl. No	Municipality/ Corporation	Birth rate						Death Rate							
		1988	1989	1990	1991	1992	1993	1994	1988	1989	1990	1991	1992	1993	1994
		3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.	Neyyattinkara	40.85	39.49	31.48	21.74	17.83	16.13	28.80	6.15	4.73	5.05	4.03	2.51	1.71	5.50
2.	Thiruvananthapuram	27.49	28.73	30.98	27.74	27.32	30.00	32.23	3.59	3.80	4.02	3.88	3.62	4.94	5.26
3.	Attingal	24.21	24.40	35.11	21.26	14.88	11.31	11.87	4.63	4.45	4.28	4.37	3.80	3.19	3.31
4.	Kollam	21.65	22.71	21.42	20.74	18.97	18.62	19.35	4.05	5.19	6.05	8.18	4.79	4.55	4.46
5.	Punalur	21.15	22.48	14.57	20.53	20.77	22.66	19.42	4.51	4.32	4.22	5.91	5.47	3.99	3.54
6.	Kayamkulam	19.66	18.63	11.78	18.36	17.16	17.57	15.77	6.12	5.12	4.10	4.35	3.82	4.34	3.88
7.	Mavelikara	22.54	21.87	11.85	17.37	16.03	18.02	15.02	7.59	7.42	5.64	6.04	7.80	8.01	8.08
8.	Alappuzha	17.55	17.36	17.54	13.78	14.07	13.78	15.00	8.88	5.27	5.06	2.23	4.67	5.61	5.71
9.	Cherthala	19.81	15.97	10.02	17.61	10.62	15.09	-	7.95	8.12	5.73	6.63	5.92	11.04	-
10.	Thiruvalla	25.38	22.28	13.07	16.12	14.76	10.02	10.64	5.12	5.49	4.89	5.86	5.05	5.47	5.18
11.	Changanacherry	17.50	17.93	21.05	15.93	21.67	23.12	26.17	5.22	4.98	4.51	4.95	5.51	5.68	5.18
12.	Kottayam	19.26	20.19	18.86	13.57	10.98	9.88	15.04	5.25	5.57	5.16	6.16	6.16	6.35	5.09
13.	Palai	11.39	13.04	11.84	10.53	17.61	13.25	13.37	3.20	4.49	3.50	6.32	5.72	7.43	6.12
14.	Vaikom	13.94	15.31	27.36	18.86	15.44	21.84	18.56	4.90	4.68	5.34	7.20	5.52	6.57	6.62
15.	Muvattupuzha	20.09	20.78	15.32	14.47	14.69	12.40	19.07	3.28	3.57	4.32	4.27	4.58	4.81	4.16
16.	Kochi Corporation	18.79	17.60	16.96	16.99	17.38	16.27	17.27	6.01	6.15	5.69	6.98	5.97	6.81	6.95
17.	Aluva	18.41	18.36	17.16	13.75	14.51	13.20	12.76	3.32	5.47	6.16	3.66	4.38	5.32	6.47



