



GOVERNMENT OF KERALA

# **RESIDENTIAL VITAL RATES**

**2009**

Directorate of Economics & Statistics  
Thiruvananthapuram  
**July, 2012**

## PREFACE

This report presents the adjusted vital rates of births and deaths of the selected Municipalities and Corporations for the year 2009. The rates have been estimated from the registered births and deaths of the normal residents after making adjustments for under registration and for the same occurring outside the Municipal/Corporation areas, using the results of Spot Check Survey conducted in the above places. Details of twenty-nine Municipalities and five Corporations are included in this report.

The Vital Statistics Division of the Department has prepared the report under the supervision and control of Smt. E. Baby, Additional Director (General) and Additional Chief Registrar of Births & Deaths. I acknowledge the sincere efforts taken by the team of officers in the Vital Statistics Unit under the guidance of Shri. Sreekumar.B, Deputy Director(VS) & Deputy Chief Registrar of Births & Deaths, in bringing out the report. The team included Shri. D. Ajayakumar, Scrutiny Officer, Shri. M. N. Raju, Research Assistant, Shri. B. R. Prasanth, Statistical Assistant Gr.I and Shri. Bipin.V, Statistical Assistant Gr.I.

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# ANNUAL RESIDENTIAL VITAL RATES 2009

## 1. Introduction

The Civil Registration System was introduced in India under “The Registration of Births and Deaths Act, 1969” enacted by the Parliament. The Act provides compulsory registration of every vital event in the respective registration units (Local Self Government Institutions) at the place of occurrence. As per the Act, every event should be registered within 21 days from the date of its occurrence. Even though the Act stipulates both fine and punishment, non-registration of events exists to a certain extent. . Moreover, the Act insists on that registration is to be done at the place of occurrence of the event. This may not be possible in all cases and as such we may not be able to capture the true picture of registration. In order to overcome such eventualities in urban areas, where more people from rural areas came to urban for availing the modern health facilities there, the spot-check surveys being conducted in the selected Municipalities and Corporations.

One of the important classifications in population data is the rural-urban breakup. In Kerala, the number of vital events happening in urban areas is always higher than that in the rural areas. It shows that the rate of registration of vital events in urban areas is always higher than that in the rural areas. Modern health facilities are generally available in the urban areas. Rural people, because of their knowledge on health activities and access to Modern health facilities usually resort to urban areas to avail such facilities. Usually the under registration in rural areas is higher than that in urban areas especially in the case of deaths. This is because, most of the deaths in rural areas happened in the house and the people are not interested to register deaths due to the ignorance of the importance of registration. Another important fact is that both rural and urban population tends to hide incidence of suicide and illegal termination of pregnancy. Similarly, there exists gross under registration of vital events such as Infant deaths and Still births in the State.

## **2. Objectives of the survey**

**The main objectives of the survey are furnished below:**

1. To estimate the extent of under registration of vital events in the selected Municipalities/Corporations and to work out the actual vital rates in these areas.
2. To estimate the residential vital rates of these Municipalities/Corporations
- 3 To find out the major diseases that lead to deaths in the selected urban areas of the state

## **3. Coverage of the survey**

The survey is being implemented in five Corporations and twenty-nine Municipalities in the State. The list of Municipalities / Corporations and the statistical staff working in these centres are given below:

Sl.No.	Name of Municipalities / Corporation	Statistical Staff		
		Statistical Assistant Gr.I	Research Assistant	Total
1	Neyyattinkara (M)	1	0	1
2	Thiruvananthapuram ( C )	2	1	3
3	Attingal ( M )	1	0	1
4	Kollam ( C )	2	1	3
5	Punalur (M)	1	0	1
6	Kayamkulam ( M )	1	0	1
7	Mavelikara (M)	1	0	1
8	Alappuzha (M)	2	1	3
9	Cherthala (M)	1	0	1
10	Thiruvalla (M)	1	0	1
11	Changanassery (M)	1	0	1
12	Kottayam (M)	1	0	1
13	Pala (M)	1	0	1
14	Vaikom (M)	1	0	1
15	Muvattupuzha (M)	1	0	1

16	Kochi ( C )	2	1	3
17	Aluva (M)	1	0	1
18	North Paravur (M)	1	0	1
19	Perumbavur (M)	1	0	1
20	Irinjalakuda (M)	1	0	1
21	Kodungallur (M)	1	0	1
22	Chalaky (M)	1	0	1
23	Thrissur ( C )	1	0	1
24	Guruvayur (M)	1	0	1
25	Kunnamkulam (M)	1	0	1
26	Palakkad (M)	1	0	1
27	Chittoor –Thathamangalam (M)	1	0	1
28	Thirur ( M )	1	0	1
29	Malappuram (M)	1	0	1
30	Kozhikode (C)	2	1	3
31	Vadakara (M)	1	0	1
32	Thalassery (M)	1	0	1
33	Kannur (M)	1	0	1
34	Kasaragod (M)	1	0	1
<b>Total</b>		<b>39</b>	<b>5</b>	<b>44</b>

The fieldwork pertaining to the survey was carried out in all centres. For conducting fieldwork of the survey fifteen wards have been randomly selected from each unit except Alappuzha Municipality, where 25 wards have been selected. The statistical staff posted in the Municipalities/Corporations visited all houses of the selected wards and collected the required data.

#### **4. Limitations of the survey**

One of the main objectives of the survey is to find out the under registration of vital events. Since the survey is being implemented only in the urban areas, the extent of under registration in the rural areas cannot be estimated. The extent of under registration can only be estimated in the selected urban areas. In order to obtain a correct and complete picture of the rate of under registration in urban areas, the remaining urban areas of the State should also be brought under the purview of

the survey. If this survey is extended to rural areas, a comparative study between urban and rural level of under registration could also be made possible. Similarly the State level under registration can be estimated only if this survey is further extended to rural areas and the remaining Municipalities of the State.

### **Analysis of the Survey data**

Table1 provides the estimated midyear population of the selected municipalities and corporations. It is obvious from the table that the population of all municipalities/corporations shows an increasing trend. Out of the 34 selected centres, the highest midyear population is recorded in Thiruvananthapuram Corporation and the lowest in Guruvayur Municipality. Among the municipalities, the highest is at Alappuzha.

The number of Educational Institutions under government and private sectors in the selected municipalities/corporations are presented in table 2. Among all the centres, Kochi Corporation has the maximum number of institutions. The total number of institutions in Kochi Corporation is 246. It is followed by Thiruvananthapuram Corporation with 191 institutions. In the case of municipalities, the highest number of institutions, 79 is recorded at Thalassery municipality and the lowest is at Guruvayur Municipality where only 12 Educational Institutions exist.

Table -3 depicts the data pertaining to Medical Institutions both in the public and private sector existing in the selected municipalities/corporations. Number of hospitals in the private sector is higher than that in the Government sector. Among all centres, Thiruvananthapuram Corporation has the highest number of government hospitals 19, followed by Kochi Corporation with 18. In the case of municipalities Alappuzha has the highest number of government hospitals. Considering the bed strength in government hospitals Thiruvananthapuram Corporation stood first with 7019 numbers followed by Kozhikkode Corporation with 4131. In the case of municipalities, the highest bed strength is at Palakkad. In the case of private hospitals the maximum number of hospitals is recorded in Kochi Corporation with 70 followed by Thiruvananthapuram with 53.

In the case of government dispensaries and other institutions, the highest number is at Thiruvananthapuram Corporation with 21 followed by Kozhikkode Corporation with 17. Considering the strength of private dispensaries and other

institutions, Alappuzha municipality stood first with 127 followed by Kozhikkode Corporation and Kottayam municipality with 112 and 103 respectively.

The number of maternity and child health centres in public sector was highest in Kozhikkode Corporation and Kollam Corporations. In the private sector such facilities do not exist anywhere else in the entire State except in Thiruvananthapuram, Kollam, Kochi and Kozhikkode Corporations and Attingal Municipality.

In table 4, the details regarding the number of registration units, area and population of the selected centres are furnished. Thiruvananthapuram Corporation has the largest area 141.74 sq. km. When municipalities are taken into consideration, Alappuzha covers the largest area 46.77 sq. km followed by Punalur municipality with 34.60 sq. km. Considering the density of population the highest is recorded in Kollam Corporation, i.e. 6702 per sq. km. followed by Kochi Corporation with 6563 per sq.km. In the case of Municipality, it is highest in Kannur with 6141 per sq. km. and lowest is in Punalur Municipality with 1389 per sq.km.

The details regarding number of Burial Grounds and Cremation Grounds are presented in table 5. This table reveals Kochi Corporation stood first with 8 public burial grounds. Kochi Corporation has the highest number of private burial grounds with 40 followed by Kollam Corporation with 37. Kayamkulam Municipality have no burial and cremation grounds and Vaikom and Chittoor- Thathamangalam Municipalities have no burial grounds, but do have cremation grounds.

Table 6 gives total number of vital events and the number of vital events of the usual residents registered in their respective centres. Kozhikkode Corporation stood first with 37835 live births. In the case of municipalities, the highest number 15004 was recorded in Palakkad municipality and the lowest 143 in Chittoor- Thathamangalam Municipality.

The maximum number of stillbirths 458 was registered in Kozhikkode Corporation. Thiruvananthapuram Corporation stood in the second place with 360. No still births were reported in Mavelikara, Guruvayur and Chittoor- Thathamangalam municipalities.

In the case of infant deaths, the highest number 1076 was recorded in Kozhikkode Corporation out of which 578 are male and 498 are female and infant



death corresponds to normal residents were 109. Thiruvananthapuram Corporation stood at the second place with 725 numbers. In the case of municipalities, the highest number of infant deaths 69 was registered in Palakkad municipality. The table reveals that no infant death was registered in Neyyattinkara, Attingal, Irinjalakuda, Guruvayur, and Chittoor-Thattamangalam municipalities during the year under report.

The number of deaths registered in Thiruvananthapuram Corporation was 13400 which is the highest in the State followed by Kozhikkode Corporation with 11378. In the case of municipalities, the highest is in Palakkad municipality with 2435 numbers and the lowest in Guruvayoor municipality with 143 deaths.

Death according to major causes are furnished in table 7. The highest number of deaths is due to heart failure. During the year under report 22 AIDS cases were reported of which 2 cases from Thiruvananthapuram Corporation and the rest from Kozhikkode Corporation.

The results of Spot Check Survey of the selected registration units are presented in table 8. Out of 19 infant deaths enumerated, 17 deaths were registered in the respective units.

In the case of deaths, about 80% of enumerated deaths were registered in the respective registration units. Only 19% of deaths were occurred outside the units. i.e., most of the cases were occurred within the respective registration units. Non registration of deaths happened in Kochi and Kozhikkode corporations, Punalur, Kayamkulam, Mavelikkara, Kottayam, Changanassery, Chalakkudy, and Kannur municipalities.

Table 9 gives the percentage of under registration and the percentage of outside registration of events in the selected units. With regard to the registration of births, cent percent registration was recorded in all centres. In the case of deaths, cent percent registration was reported from 25 centres and under registration in the remaining centres. The highest percentage of under registration of death 12.68% was reported from Changanacherry Municipality and the lowest 0.75% in Kochi Corporation.

The table reveals that percentage of outside registration of births was highest in Chittoor- Thattamangalam Municipality with 95.36% and lowest in

Thiruvananthapuram Corporation with 3.23%. In the case of deaths, the highest percentage 50.35% was recorded in Attingal Municipality followed by Guruvayur Municipality with 47.44% and lowest 0.63% in Thiruvananthapuram Corporation.

The Registered Vital Rates, Residential Vital Rates and Adjusted Residential Vital Rates in the selected Municipalities and Corporations are presented in table 10.

From the table, it can be seen that highest birth rate 42.06 is recorded in Palakkad Municipality followed by Thalassery Municipality with 16.46 and the lowest in Chittur Thathamangalam with 0.64. In the case of registered death rates, the highest is at Kochi Corporation (8.43) followed by Palakkad Municipality (6.57) and the lowest in Malappuram Municipality (2.12).

The table reveals that, in the case of the Residential and Adjusted residential vital rates of Births, the highest rates were 42.06 & 46 respectively reported from Palakkad Municipality. The corresponding lowest rates of 0.64 & 5.75 were reported from Chittoor – Thathamangalam and Thiruvalla Municipalities. As regards death rates, the Residential and Adjusted residential vital rates were highest in Kochi Corporation (8.49) and Kayamkulam Municipality (9.29) and the lowest were in Malappuram Municipality (2.12 & 2.65).

### **Executive Summary**

The survey results reveal that under registration of death events still exists in the urban areas of the State. Hence cent percentage registration could not be achieved during the year under report also. Lack of awareness about the need and importance of registration of events may be the reasons for the same. Spot Check Survey helps us to find out the unregistered events and thereby the concerned authorities can take necessary steps to minimize the extent of under registration.

**Table 1 - Estimated Mid-year Population of Municipalities and Corporations from 2001 to 2009 (as on 1<sup>st</sup> July)**

Sl. No.	Municipality/ Corporation	2001 Census Population	2002	2003	2004	2005	2006	2007	2008	2009
1	Neyyattinkara	69467	70362	71041	71726	72418	73117	73822	74534	75253
2	Thiruvananthapuram Corporation	744983	754576	761852	769198	776615	784103	791663	799296	807003
3	Attingal	35693	36122	36447	36775	37106	37440	37777	38117	38460
4	Kollam Corporation	361560	365047	367684	370340	373016	375711	378425	381159	383913
5	Punalur	47235	47364	47461	47558	47655	47753	47851	47949	48047
6	Kayamkulam	68585	68778	68923	69068	69214	69360	69506	69653	69800
7	Mavelikkara	28439	28458	28472	28486	28500	28514	28528	28542	28556
8	Alappuzha	177029	177346	177584	177822	178061	178300	178539	178779	179019
9	Cherthala	45105	45348	45531	45715	45900	46085	46271	46458	46646
10	Thiruvalla	56837	57117	57328	57540	57752	57965	58179	58394	58610
11	Changanacherry	51967	52468	52847	53229	53613	54000	54390	54783	55179
12	Kottayam	60728	61311	61752	62196	62643	63093	63547	64004	64464
13	Palai	22640	22858	23023	23189	23356	23524	23694	23865	24037
14	Vaikom	22641	22859	23024	2319	23357	23525	23695	23866	24038
15	Muvattupuzha	29246	29473	29644	29816	29989	30163	30338	30514	30691
16	Kochi Corporation	595575	599835	603050	606282	609532	612733	616083	619385	622705
17	Aluva	24110	24420	24655	24892	25132	25374	25618	25865	26114

**Table 1 Contd.**

Sl. No.	Municipality/ Corporation	2001 Census Population	2002	2003	2004	2005	2006	2007	2008	2009
18	North Paravur	30059	30358	30584	30812	31042	31273	31506	31741	31978
19	Perumbavoor	26547	26808	27005	27204	27404	27606	27809	28014	28220
20	Irinjalakkuda	28873	29063	29206	29350	29495	29640	29786	29933	30081
21	Kodungallur	33539	33857	34097	34339	34583	34829	35076	35325	35576
22	Chalakkudy	48380	48840	49188	49538	49891	50246	50604	50964	51327
23	Thrissur corpn.	317526	321101	323809	326539	329292	332069	334869	337693	340541
24	Guruvayoor	21186	21319	21419	21520	21621	21723	21825	21928	22031
25	Kunnamkulam	51592	52173	52613	53057	53504	53955	54410	54869	55332
26	Palakkad	130767	131798	132577	133360	134148	134940	135737	136539	137346
27	Chittoor-Thathamangalam	31886	32296	32607	32921	33238	33558	33881	34207	34536
28	Tirur	53654	54241	54685	55133	55585	56040	56499	56962	57429
29	Malappuram	58491	59777	60760	61759	62775	63807	64856	65923	67007
30	Kozhikkode Corpn.	436556	438838	440557	442283	444016	445756	447502	449255	451015
31	Vadakara	75847	76314	76666	77020	77375	77732	78091	78451	78813
32	Thalasserry	99387	100989	102207	103440	104688	105951	107229	108523	109832
33	Kannur	63797	64412	64877	65345	65817	66292	66771	67253	67739
34	Kasaragod	52634	52978	53237	53498	53760	54023	54288	54554	54821
<b>TOTAL</b>		<b>4002561</b>	<b>4038904</b>	<b>4066412</b>	<b>4073269</b>	<b>4122093</b>	<b>4150200</b>	<b>4178665</b>	<b>4207297</b>	<b>4236159</b>

**Table 2 - Number of Educational Institutions 2009**

Sl. No	Municipality/ Corporation	Lower Primary School			Upper Primary Schools			High School			HSS/VHSC			Colleges			Technical Institutions			Grand Total
		Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Neyyattinkara	5	9	14	4	3	7	4	7	11	2	5	7	1	1	2	1	2	3	44
2	Thiruvanthapuram	35	15	50	24	9	33	14	4	18	27	16	43	12	4	16	4	27	31	191
3	Attingal	4	16	20	2	9	11	3	3	6	3	3	6	2	0	2	2	2	4	49
4	Kollam Corpn.	7	34	41	4	12	16	10	13	23	11	15	26	1	9	10	8	43	51	167
5	Punalur	7	6	13	2	1	3	0	2	2	1	6	7	0	1	1	1	0	1	27
6	Kayamkulam	6	10	16	3	5	8	2	6	8	3	6	9	1	3	4	1	4	5	50
7	Mavelikkara	2	11	13	2	4	6	2	7	9	3	5	8	2	1	3	1	3	4	43
8	Alappuzha	8	14	22	3	3	6	4	11	15	5	6	11	0	2	2	0	3	3	59
9	Cherthala	3	1	4	1	1	2	0	0	0	2	2	4	1	3	4	1	0	1	15
10	Thiruvalla	4	15	19	4	4	8	2	9	11	0	7	7	0	1	1	0	0	0	46
11	Changanassery	7	12	19	3	7	10	2	7	9	2	6	8	0	3	3	0	1	1	50
12	Kottayam	2	14	16	3	2	5	2	11	13	2	9	11	0	4	4	0	0	0	49
13	Palai	2	3	5	0	3	3	0	0	0	1	4	5	0	2	2	1	2	3	18
14	Vaikom	4	7	11	4	8	12	3	6	9	0	0	0	1	0	1	0	0	0	33
15	Muvattupuzha	1	4	5	2	3	5	3	7	10	3	5	8	1	1	2	0	0	0	30
16	Kochi Corppn	15	57	72	6	24	30	0	0	0	16	34	50	2	8	10	1	83	84	246
17	Aluva	1	8	9	0	7	7	1	7	8	2	6	8	0	2	2	0	0	0	34

**Table 2 Contd.**

Sl. No	Municipality/ Corporation	Primary School			Upper Primary Schools			High School			HSS/VHSC			Colleges			Technical Institutions			Grand Total
		Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt	Total	Govt	Pvt.	Total	Govt.	Pvt.	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
18	North Paravur	5	6	11	1	1	2	2	9	11	2	6	8	1	0	1	2	8	10	43
19	Perumbavur	4	7	11	0	1	1	3	3	6	3	3	6	0	1	1	0	0	0	25
20	Irinjalakuda	2	14	16	0	7	7	2	8	10	4	7	11	0	10	10	1	3	4	58
21	Kodugallur	3	4	7	0	1	1	2	0	2	2	2	4	1	0	1	1	0	1	16
22	Chalakkudy	3	2	5	0	1	1	3	3	6	1	1	2	1	1	2	3	2	5	21
23	Thrissur Corpn.	4	40	44	4	8	12	0	13	13	8	19	27	1	5	6	4	9	13	115
24	Guruvayoor	0	3	3	1	1	2	1	2	3	1	2	3	0	1	1	0	0	0	12
25	Kunnamkulam	1	12	13	1	3	4	2	6	8	3	2	5	0	1	1	1	2	3	34
26	Palakkad	12	9	21	6	7	13	4	9	13	4	5	9	1	2	3	2	3	5	64
27	Chittur-Thathamangalam	3	2	5	3	2	5	3	2	5	5	1	6	1	0	1	0	0	0	22
28	Tirur	3	17	20	1	8	9	0	1	1	2	4	6	1	0	1	1	3	4	41
29	Malappuram	5	9	14	1	3	4	2	7	9	2	4	6	1	1	2	2	9	11	46
30	Kozhikode-Corpn.	23	33	56	15	23	38	1	4	5	21	24	45	7	14	21	3	5	8	173
31	Vadakara	0	26	26	0	11	11	1	1	2	3	3	6	3	2	5	3	0	3	53
32	Thalassery	4	31	35	3	12	15	0	3	3	6	2	8	1	13	14	0	4	4	79
33	Kannur	4	6	10	6	5	11	0	0	0	4	6	10	0	6	6	2	13	15	52
34	Kasaragod	8	2	10	4	4	8	3	1	4	0	0	0	1	0	1	3	1	4	27
<b>TOTAL</b>		<b>197</b>	<b>459</b>	<b>656</b>	<b>113</b>	<b>203</b>	<b>316</b>	<b>81</b>	<b>172</b>	<b>253</b>	<b>154</b>	<b>226</b>	<b>380</b>	<b>44</b>	<b>102</b>	<b>146</b>	<b>49</b>	<b>232</b>	<b>281</b>	<b>2032</b>

**Table 3 - Number of Hospitals and other Institutions 2009**

Sl. No	Municipality/ Corporation	Hospitals						Dispensaries & other Institutions						Maternity & Child Health Center					
		Govt		Private		Total		Govt		Private		Total		Govt		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	436	10	622	13	1058	4	0	12	0	16	0	2	0	0	0	2	0
2	Thiruvananthapuram Corpn.	19	7019	53	3141	72	10160	21	0	57	0	78	0	3	0	4	0	7	0
3	Attingal	2	100	9	355	11	455	3	0	25	0	28	0	1	10	3	130	4	140
4	Kollam Corpn.	9	1665	32	2826	41	4491	11	0	90	0	101	0	12	0	5	27	17	27
5	Punalur	2	169	12	441	14	610	2	27	22	0	24	27	6	0	0	0	6	0
6	Kayamkulam	4	280	18	625	22	905	0	0	37	0	37	0	0	0	0	0	0	0
7	Mavelikkara	2	367	7	523	9	890	0	0	10	0	10	0	0	0	0	0	0	0
8	Alappuzha	8	400	8	140	16	540	3	0	127	0	130	0	6	0	0	0	6	0
9	Cherthala	3	343	3	496	6	839	0	0	39	10	39	10	5	0	0	0	5	0
10	Thiruvalla	3	200	6	1500	9	1700	1	0	22	0	23	0	0	0	0	0	0	0
11	Changanacherry	2	293	11	345	13	638	0	0	39	0	39	0	4	0	0	0	4	0
12	Kottayam	4	455	11	750	5	1205	0	0	103	0	103	0	1	0	0	0	1	0
13	Palai	3	341	5	565	8	906	0	0	38	0	38	0	1	0	0	0	1	0
14	Vaikom	1	275	1	52	2	327	2	24	25	15	27	39	1	0	0	0	1	0
15	Muvattupuzha	3	310	11	535	14	845	1	0	38	0	39	0	2	0	0	0	2	0
16	Kochi Corpn.	18	2029	70	6375	88	8404	6	0	98	0	104	0	8	0	5	0	13	0
17	Aluva	2	321	10	763	12	1084	0	0	6	0	6	0	0	0	0	0	0	0

**Table 3 Contd.**

Sl. No.	Municipality/ Corporation	Hospitals						Dispensaries & other Institutions						Maternity & Child Health Centre					
		Govt		Private		Total		Govt		Private		Total		Govt		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	North Paravur	3	230	8	577	11	807	5	0	24	0	29	0	2	0	0	0	2	0
19	Perumbavoor	2	246	7	602	9	848	1	0	45	0	46	0	6	0	0	0	6	0
20	Irrinjalakuda	2	246	6	137	8	383	2	0	18	0	20	0	1	0	0	0	1	0
21	Kodungallur	2	176	6	430	8	606	0	0	32	0	32	0	0	0	0	0	0	0
22	Chalakydy	1	144	8	545	9	689	2	0	27	0	29	0	3	0	0	0	3	0
23	Thrissur corpn.	6	692	21	3210	27	3902	12	18	22	0	34	18	4	0	0	0	4	0
24	Guruvayur	1	35	5	157	6	192	1	0	0	0	1	0	1	0	0	0	1	0
25	Kunnamkulam	1	124	5	667	6	791	7	0	0	0	7	0	1	0	0	0	1	0
26	Palakkad	4	800	23	1150	27	1950	4	0	21	0	25	0	4	0	0	0	4	0
27	Chittoor-Thathamangalam	2	134	1	18	3	152	1	0	2	6	3	6	0	0	0	0	0	0
28	Tirur	2	164	8	438	10	602	1	0	1	0	2	0	0	0	0	0	0	0
29	Malappuram	4	187	5	486	9	673	1	0	27	0	28	0	0	0	0	0	0	0
30	Kozhikode Corpn.	9	4131	41	2547	50	6678	17	0	112	0	129	0	12	0	8	0	20	0
31	Vadakara	2	240	14	520	16	760	1	0	97	0	98	0	1	0	0	0	1	0
32	Thalasserry	1	541	16	1018	17	1559	3	0	20	0	23	0	0	0	0	0	0	0
33	Kannur	2	129	29	773	31	902	1	0	0	0	1	0	0	0	0	0	0	0
34	Kasaragod	2	251	11	888	13	1139	1	0	22	0	23	0	0	0	0	0	0	0
<b>TOTAL</b>		<b>134</b>	<b>23473</b>	<b>491</b>	<b>34217</b>	<b>615</b>	<b>57690</b>	<b>114</b>	<b>69</b>	<b>1258</b>	<b>31</b>	<b>1372</b>	<b>100</b>	<b>87</b>	<b>10</b>	<b>25</b>	<b>157</b>	<b>112</b>	<b>167</b>



**Table 4- Registration units with Area and Population 2009**

SL no	Municipality \ Corporation	No of Reg units	Area in sq\km	Area Per Reg units	Midyear population	Population per Registration units	Density per Sq km
1	2	5	6	7	8	9	10
1	Neyyattinkara	1	28.78	28.78	75253	75253	2615
2	Thiruvananthapuram	1	141.74	141.74	807003	807003	5694
3	Attingal	1	16.87	16.87	38460	38460	2280
4	Kollam Corporation	1	57.28	57.28	383913	383913	6702
5	Punalur	1	34.60	34.60	48047	48047	1389
6	Kayamkulam	1	21.79	21.79	69800	69800	3203
7	Mavelikara	1	12.65	12.65	28556	28556	2257
8	Alappuzha	1	46.77	46.77	179019	179019	3828
9	Cherthala	1	16.18	16.18	46646	46646	2883
10	Thiruvalla	1	27.52	27.52	58610	58610	2130
11	Changanacherry	1	13.50	13.50	55179	55179	4087
12	Kottayam	1	16.45	16.45	64464	64464	3919
13	Palai	1	16.06	16.06	24037	24037	1497
14	Vaikom	1	8.73	8.73	24038	24038	2753
15	Muvattupuzha	1	13.18	13.18	30691	30691	2329
16	Kochi Corporation	1	94.88	94.88	622705	622705	6563
17	Aluva	1	7.18	7.18	26114	26114	3637
18	North Paravur	1	9.02	9.02	31978	31978	3545
19	Perumbavoor	1	13.61	13.61	28220	28220	2074
20	Irinjalakuda	1	11.24	11.24	30081	30081	2676
21	Kodungallur	1	17.40	17.40	35576	35576	2045
22	Chalakydy	1	25.23	25.23	51327	51327	2034
23	Thrissur Corpn	1	101.42	101.42	340541	340541	3358
24	Guruvayoor	1	7.48	7.48	22031	22031	2947
25	Kunnamkulam	1	34.18	34.18	55332	55332	1619
26	Palakkad	1	26.60	26.60	137346	137346	5163
27	Chittoor- Thathamangalam	1	14.71	14.71	34536	34536	2348
28	Thirur	1	16.55	16.55	57429	57429	3470
29	Malappuram	1	33.69	33.69	67007	67007	1989
30	Kozhikode Corpn.	1	84.20	84.20	451015	451015	5356
31	Vadakara	1	21.34	21.34	78813	78813	3693
32	Thalasserry	1	23.98	23.98	109832	109832	4580
33	Kannur	1	11.03	11.03	67739	67739	6141
34	Kasaragod	1	16.69	16.69	54821	54821	3285
<b>TOTAL</b>		<b>34</b>	<b>1042.52</b>	<b>30.66</b>	<b>4236159</b>	<b>124593</b>	<b>4063</b>

**Table 5 - Number of Burial Grounds, Cremation Grounds and Number of Registrations**

Sl. No	Municipality/ Corporation	Burial Grounds			Cremation Grounds			Birth-Death Registration	
		Mun/ Corp	Private	Total	Mun/ Corp.	Private	Total	No. of wards	No. of registrations
1	2	3	4	5	6	7	8	9	10
1	Neyyattinkara	1	4	5	0	3	3	41	147
2	Thiruvananthapuram Corpn	4	30	34	1	3	4	86	756
3	Attingal	0	5	5	1	0	1	24	193
4	Kollam Corpn	2	37	39	2	0	2	52	943
5	Punalur	1	20	21	1	0	1	32	246
6	Kayamkulam	0	0	0	0	0	0	41	244
7	Mavelikara	1	9	10	0	1	1	25	111
8	Alappuzha	3	2	5	0	19	19	50	852
9	Cherthala	0	6	6	1	4	5	28	168
10	Thiruvalla	1	0	1	1	0	1	32	164
11	Changanacherry	1	12	13	0	1	1	37	152
12	Kottayam	1	15	16	1	2	3	38	190
13	Palai	1	7	8	1	1	2	23	113
14	Vaikom	0	0	0	1	0	1	23	88
15	Muvattupuzha	0	8	8	1	0	1	28	175
16	Kochi Corporation	8	40	48	5	11	16	71	1174
17	Aluva	1	7	8	0	3	3	21	214
18	North Paravur	1	5	6	1	1	2	26	200
19	Perumbavoor	1	8	9	0	1	1	21	224
20	Irrinjalakuda	1	5	6	0	0	0	25	76
21	Kodungallur	0	2	2	1	0	1	24	215
22	Chalakydy	1	13	14	0	0	0	33	247
23	Thrissur Corpn	5	2	7	1	1	2	52	396
24	Guruvayoor	1	4	5	1	1	2	20	48
25	Kunnamkulam	2	11	13	1	0	1	31	286
26	Palakkad	4	7	11	3	1	4	50	148
27	Chittoor-Thathamangalam	0	0	0	3	0	3	24	102
28	Thirur	2	0	2	0	0	0	28	341
29	Malappuram	1	10	11	1	1	2	37	635
30	Kozhikode Corpn.	2	9	11	5	1	6	39	1555
31	Vadakara	1	8	9	1	0	1	44	217
32	Thalasserry	1	15	16	1	11	12	52	380
33	Kannur	1	13	14	2	0	2	39	246
34	Kasaragod	0	12	12	2	1	3	32	114
<b>TOTAL</b>		<b>49</b>	<b>326</b>	<b>375</b>	<b>39</b>	<b>67</b>	<b>106</b>	<b>1229</b>	<b>11360</b>

**Table 6 - Vital events registered during the year 2009**

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
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
1	Neyyattinkara	535	533	1068	218	40.75	239	44.84	457	42.79	0	2	2	0	2	2
2	Thiruvananthapuram	17374	16545	33919	2449	14.10	2325	14.05	4774	14.07	191	169	360	0	0	0
3	Attingal	1021	954	1975	155	15.18	110	11.53	265	13.42	3	1	4	0	0	0
4	Kollam Corpn	6684	6287	12971	1473	22.04	1312	20.87	2785	21.47	14	17	31	6	6	12
5	Punalur	1365	1373	2738	215	15.75	199	14.49	414	15.12	5	4	9	3	1	4
6	Kayamkulam	2547	2506	5053	423	16.61	385	15.36	808	15.99	3	4	7	0	0	0
7	Mavelikara	1149	1024	2173	60	5.22	51	4.98	111	5.11	0	0	0	0	0	0
8	Alappuzha	4587	4387	8974	1019	22.21	941	21.45	1960	21.84	31	42	73	7	7	14
9	Cherthala	1791	1725	3516	207	11.56	228	13.22	435	12.37	3	2	5	2	1	3
10	Thiruvalla	2042	1981	4023	108	5.29	121	6.11	229	5.69	17	16	33	1	3	4
11	Changanacherry	1277	1223	2500	259	20.28	250	20.44	509	20.36	2	0	2	1	0	1
12	Kottayam	1751	1673	3424	141	8.05	145	8.67	286	8.35	7	5	12	1	1	2
13	Palai	1350	1318	2668	67	4.96	54	4.10	121	4.54	3	4	7	1	0	1
14	Vaikom	413	470	883	38	9.20	44	9.36	82	9.29	0	3	3	0	0	0
15	Muvattupuzha	1583	1663	3246	94	5.94	91	5.47	185	5.70	0	1	1	0	0	0
16	Kochi Corporation	9101	8589	17690	5308	58.32	3681	42.86	8989	50.81	54	47	101	24	19	43
17	Aluva	2503	2247	4750	90	3.60	84	3.74	174	3.66	5	3	8	0	0	0

**Table 6 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	15	16	17
18	North Paravur	1477	1464	2941	98	6.64	83	5.67	181	6.15	3	4	7	0	1	1
19	Perumbavoor	1101	1080	2181	72	6.54	75	6.94	147	6.74	2	2	4	1	0	1
20	Irrinjalakuda	538	516	1054	40	7.43	30	5.81	70	6.64	3	2	5	0	0	0
21	Kodungallur	2834	2872	5706	106	3.74	86	2.99	192	3.36	2	4	6	0	0	0
22	Chalakkudy	2097	1899	3996	252	12.02	234	12.32	486	12.16	2	1	3	1	0	1
23	Thrissur Corpn	10237	9757	19994	1228	12.00	1170	11.99	2398	11.99	0	0	136	0	0	16
24	Guruvayoor	109	128	237	10	9.17	6	4.69	16	6.75	0	0	0	0	0	0
25	Kunnamkulam	2184	2070	4254	171	7.83	199	9.61	370	8.70	10	6	16	0	0	0
26	Palakkad	7551	7453	15004	2965	39.27	2812	37.73	5777	38.50	38	29	67	17	16	33
27	Chittoor- Thathamangalam	77	66	143	16	20.78	6	9.09	22	15.38	0	0	0	0	0	0
28	Thirur	4432	4254	8686	298	6.72	259	6.09	557	6.41	22	20	42	1	1	2
29	Malappuram	3783	3590	7373	305	8.06	292	8.13	597	8.10	30	24	54	0	0	0
30	Kozhikode Corporation	19244	18591	37835	2727	14.17	2216	11.92	4943	13.06	237	221	458	32	26	58
31	Vadakara	1483	1427	2910	246	16.59	238	16.68	484	16.63	4	3	7	1	1	2
32	Thalasserry	6837	6570	13407	965	14.11	843	12.83	1808	13.49	40	49	89	4	6	10
33	Kannur	3336	3200	6536	318	9.53	368	11.50	686	10.50	17	17	34	2	1	3
34	Kasaragod	5084	4822	9906	489	9.62	390	8.09	879	8.87	32	35	67	4	5	9
<b>TOTAL</b>		<b>129477</b>	<b>124257</b>	<b>253734</b>	<b>22630</b>	<b>17.48</b>	<b>19567</b>	<b>15.75</b>	<b>42197</b>	<b>16.63</b>	<b>780</b>	<b>737</b>	<b>1653</b>	<b>109</b>	<b>97</b>	<b>222</b>

**Table 6 - 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
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
1	Neyyattinkara	0	0	0	0	0	0	410	311	721	219	205	424
2	Thiruvanantha-Puram	423	302	725	0	0	0	7662	5013	12675	1351	1110	2461
3	Attingal	0	0	0	0	0	0	152	110	262	67	50	117
4	Kollam Corpn	34	19	53	12	7	19	1895	1271	3166	720	526	1246
5	Punalur	3	5	8	1	0	1	349	220	569	169	127	296
6	Kayamkulam	4	0	4	1	0	1	336	285	621	229	202	431
7	Mavelikara	1	3	4	0	0	0	405	273	678	80	59	139
8	Alappuzha	17	13	30	4	3	7	732	545	1277	505	418	923
9	Cherthala	2	1	3	0	0	0	387	291	678	106	87	193
10	Thiruvalla	9	11	20	1	2	3	950	541	1491	140	121	261
11	Changana-cherry	0	4	4	0	0	0	206	152	358	116	101	217
12	Kottayam	22	8	30	3	1	4	414	302	716	175	148	323
13	Palai	1	0	1	0	0	0	261	167	428	52	43	95
14	Vaikom	0	0	0	0	0	0	159	113	272	76	63	139
15	Muvattupuzha	2	3	5	0	0	0	256	246	502	69	47	116
16	Kochi Corporation	211	124	335	75	47	122	4955	3063	8018	3360	1769	5129
17	Aluva	5	4	9	0	0	0	352	200	552	56	37	93

**Table 6 - 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
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>
18	North Paravur	2	1	3	0	0	0	263	186	449	98	73	171
19	Perumbavoor	1	0	1	0	0	0	256	184	440	54	59	113
20	Irrinjalakuda	0	0	0	0	0	0	169	130	299	83	84	167
21	Kodungallur	5	8	13	0	1	1	257	295	552	68	31	99
22	Chalakydy	5	4	9	1	2	3	427	261	688	164	128	292
23	Thrissur Corpn	158	130	288	18	15	33	3281	2098	5379	645	393	1038
24	Guruvayoor	0	0	0	0	0	0	77	66	143	48	51	99
25	Kunnamkulam	6	5	11	0	0	0	318	298	616	158	174	332
26	Palakkad	34	35	69	18	22	40	1433	933	2366	614	248	862
27	Chittoor- Thathamangalam	0	0	0	0	0	0	166	109	275	111	91	202
28	Thirur	4	2	6	0	0	0	387	234	621	105	75	180
29	Malappuram	9	8	17	2	1	3	234	154	388	74	65	139
30	Kozhikode Corporation.	578	498	1076	57	52	109	6450	3852	10302	1026	882	1908
31	Vadakara	5	4	9	2	1	3	491	406	897	221	198	419
32	Thalasserry	36	29	65	2	3	5	1383	930	2313	352	301	653
33	Kannur	23	26	49	2	1	3	410	327	737	155	147	302
34	Kasaragod	23	17	40	3	1	4	522	326	848	132	116	248
<b>TOTAL</b>		<b>1623</b>	<b>1264</b>	<b>2887</b>	<b>202</b>	<b>159</b>	<b>361</b>	<b>36405</b>	<b>23892</b>	<b>60297</b>	<b>11598</b>	<b>8229</b>	<b>19827</b>

**Table 6 – Contd.**

Sl.No.	Municipality/Corporation	Total Death								
		Total Events			Events to normal residents					
		Male	Female	Total	Male	%	Female	%	Total	%
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
1	Neyyattinkara	410	311	721	219	53.41	205	65.92	424	58.81
2	Thiruvananthapuram	8085	5315	13400	1351	16.71	1110	20.88	2461	18.37
3	Attingal	152	110	262	67	44.08	50	45.45	117	44.66
4	Kollam Corpn	1929	1290	3219	732	37.95	533	41.32	1265	39.3
5	Punalur	352	225	577	170	48.3	127	56.44	297	51.47
6	Kayamkulam	340	285	625	230	67.65	202	70.88	432	69.12
7	Mavelikara	406	276	682	80	19.7	59	21.38	139	20.38
8	Alappuzha	749	558	1307	509	67.96	421	75.45	930	71.16
9	Cherthala	389	292	681	106	27.25	87	29.79	193	28.34
10	Thiruvalla	959	552	1511	141	14.7	123	22.28	264	17.47
11	Changanacherry	206	156	362	116	56.31	101	64.74	217	59.94
12	Kottayam	436	310	746	178	40.83	149	48.06	327	43.83
13	Palai	262	167	429	52	19.85	43	25.75	95	22.14
14	Vaikom	159	113	272	76	47.80	63	55.75	139	51.10
15	Muvattupuzha	258	249	507	69	26.74	47	18.88	116	22.88
16	Kochi Corporation	5166	3187	8353	3435	66.49	1816	56.98	5251	62.86
17	Aluva	357	204	561	56	15.69	37	18.14	93	16.58

**Table 6 – Contd.**

Sl.No.	Municipality/Corporation	Total Death								
		Total Events			Events to normal residents					
		Male	Female	Total	Male	%	Female	%	Total	%
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
18	North Paravur	265	187	452	98	36.98	73	39.04	171	37.83
19	Perumbavoor	257	184	441	54	21.01	59	32.07	113	25.62
20	Irrinjalakuda	169	130	299	83	49.11	84	64.62	167	55.85
21	Kodungallur	262	303	565	68	25.95	32	10.56	100	17.70
22	Chalakydy	432	265	697	165	38.19	130	49.06	295	42.32
23	Thrissur Corpn	3439	2228	5667	663	19.28	408	18.31	1071	18.90
24	Guruvayoor	77	66	143	48	62.34	51	77.27	99	69.23
25	Kunnamkulam	324	303	627	158	48.77	174	57.43	332	52.95
26	Palakkad	1467	968	2435	632	43.08	270	27.89	902	37.04
27	Chittoor-thathamangalam	166	109	275	111	66.87	91	83.49	202	73.45
28	Thirur	391	236	627	105	26.85	75	31.78	180	28.71
29	Malappuram	243	162	405	76	31.28	66	40.74	142	35.06
30	Kozhikode Corporation.	7028	4350	11378	1083	15.41	934	21.47	2017	17.73
31	Vadakara	496	410	906	223	44.96	199	48.54	422	46.58
32	Thalasserry	1419	959	2378	354	24.95	304	31.7	658	27.67
33	Kannur	433	353	786	157	36.26	148	41.93	305	38.8
34	Kasaragod	545	343	888	135	24.77	117	34.11	252	28.38
<b>TOTAL</b>		<b>38028</b>	<b>25156</b>	<b>63184</b>	<b>11800</b>	<b>31.03</b>	<b>8388</b>	<b>33.34</b>	<b>20188</b>	<b>31.95</b>



**Table 7 - Deaths according to causes 2009**

SI.No	Municipality/ Corporation	Suicide	Accident	Pneumonia	B.P	T.B	Aids	Diabetes	Hydrophob a / Rabies	Pulmonary Disease	Other Internal cause	Dysentery & Diarrhea	Respiratory Diseases
1	Neyyattinkkara	4	5	0	8	1	0	7	0	0	0	0	16
2	Thiruvananthapuram	10	185	211	238	97	2	468	5	0	2426	0	613
3	Attingal	10	5	1	0	0	0	2	0	0	0	0	3
4	Kollam Corpn	91	104	9	75	2	0	53	4	0	415	1	192
5	Punalur	18	22	0	14	1	0	10	0	0	9	0	68
6	Kayamkulam	9	21	1	10	0	0	6	0	0	0	0	18
7	Mavelikara	6	9	4	1	0	0	6	0	0	0	0	2
8	Alappuzha	0	0	0	0	0	0	0	2	165	0	0	0
9	Cherthala	3	10	3	8	0	0	4	1	4	0	5	0
10	Thiruvalla	15	44	27	54	7	0	77	0	0	0	0	41
11	Changanacherry	5	15	0	0	0	0	0	0	13	0	5	13
12	Kottayam	0	0	0	0	3	0	43	0	0	0	0	0
13	Palai	0	7	0	0	0	0	21	0	0	0	0	3
14	Vaikom	11	5	1	10	58	0	1	0	0	0	0	0
15	Muvattupuzha	0	0	0	0	0	0	0	0	0	0	0	0
16	Kochi Corpora.	0	341	0	44	0	0	990	0	0	2606	0	591
17	Aluva	0	0	6	11	3	0	26	0	0	10	0	14

Table 7 Continued.....

SI.No	Municipality/ Corporation	Suicide	Accident	Pneumonia	B.P	T.B	Aids	Diabetics	Hydropho bia / Rabies	Pulmonary Disease	Other Interna case	Dysentery & Diarrhea	Respiratory Diseases
18	North Paravur	11	3	0	0	0	0	0	0	0	7	0	80
19	Perumbavoor	0	0	0	0	0	0	0	0	66	0	0	0
20	Irrinjalakuda	0	0	0	0	0	0	0	0	0	23	0	0
21	Kodungallur	0	0	0	0	0	0	0	0	0	44	0	0
22	Chalakydy	20	25	3	0	0	0	0	0	23	0	13	38
23	Thrissur Corpn	0	0	0	0	0	0	0	0	0	0	0	0
24	Guruvayoor	4	6	0	7	0	0	6	0	0	0	0	31
25	Kunnamkulam	0	25	2	2	0	0	14	0	0	0	0	57
26	Palakkad	0	0	0	0	0	0	0	0	0	4	0	0
27	Chittoor- Thathamangalam	36	0	1	13	1	0	0	0	10	0	0	10
28	Thirur	0	2	0	0	0	0	21	0	6	0	1	0
29	Malappuram	0	0	2	12	0	0	4	0	0	36	0	13
30	Kozhikode Corpn	155	428	78	105	3	20	195	0	540	0	1	0
31	Vadakara	0	0	0	0	0	0	0	0	0	0	0	0
32	Thalasserry	0	0	0	0	0	0	0	0	0	0	1	0
33	Kannur	0	0	0	0	0	0	0	0	0	0	0	0
34	Kasaragod	0	0	17	5	10	0	7	0	0	150	0	24
<b>TOTAL</b>		<b>408</b>	<b>1262</b>	<b>366</b>	<b>617</b>	<b>186</b>	<b>22</b>	<b>1961</b>	<b>12</b>	<b>827</b>	<b>5730</b>	<b>27</b>	<b>1827</b>

Table 7 Continued.....

SI.No	Municipality/ Corporation	Liver Disease	Kidney Diseases	Cancer	Malaria	Heart Failure	Senility	Fever	Jaundice	Others	Total
1	Neyyattinkkara	2	3	9	0	23	0	8	3	632	721
2	Thiruvananthapuram	469	524	1179	0	2639	966	0	39	753	13400
3	Attingal	0	0	10	0	145	0	0	1	85	262
4	Kollam Corpn	144	59	159	0	1409	358	0	3	141	3219
5	Punalur	21	3	23	0	212	151	0	2	23	577
6	Kayamkulam	9	2	32	0	341	109	0	2	65	625
7	Mavelikara	8	1	31	0	408	83	0	2	121	682
8	Alappuzha	0	0	205	0	0	0	0	0	935	1307
9	Cherthala	0	0	19	0	36	0	12	0	488	681
10	Thiruvalla	40	37	110	0	233	0	0	0	826	1511
11	Changanacherry	0	0	21	0	146	99	0	0	45	362
12	Kottayam	0	0	33	0	0	0	0	4	663	746
13	Palai	2	4	5	0	88	0	0	0	299	429
14	Vaikom	5	3	10	0	81	70	0	0	17	272
15	Muvattupuzha	0	0	0	0	65	0	0	0	442	507
16	Kochi Corpora.	0	0	0	0	0	0	0	0	3781	8353
17	Aluva	0	0	242	0	148	38	0	2	61	561

Table 7 Continued.....

Sl.No	Municipality/ Corporation	Liver Disease	Kidney Diseases	Cancer	Malaria	Heart Failure	Senility	Fever	Jaundice	others	Total
18	North Paravur	9	5	25	0	226	0	0	0	86	452
19	Perumbavoor	0	0	12	0	144	0	0	0	219	441
20	Irrinjalakuda	0	0	10	0	124	0	0	0	142	299
21	Kodungallur	0	0	21	0	140	0	0	0	360	565
22	Chalakydy	0	0	23	0	292	0	0	0	260	697
23	Thrissur Corpn	0	0	0	0	810	0	0	0	4857	5667
24	Guruvayoor	2	2	5	0	6	0	2	1	71	143
25	Kunnamkulam	15	16	37	0	201	28	0	1	229	627
26	Palakkad	0	0	81	0	40	0	0	0	2310	2435
27	Chittoor- Thathamangalam	1	3	12	0	56	0	0	1	131	275
28	Thirur	0	0	92	0	255	0	5	0	245	627
29	Malappuram	3	0	18	0	82	15	0	0	220	405
30	Kozhikode Corpn.	105	170	818	0	943	473	0	2	7342	11378
31	Vadakara	0	0	39	0	465	0	0	0	402	906
32	Thalasserry	0	0	229	0	1350	0	0	0	798	2378
33	Kannur	0	0	47	0	385	0	0	0	354	786
34	Kasaragod	33	6	44	0	260	38	0	4	290	888
<b>TOTAL</b>		<b>868</b>	<b>838</b>	<b>3601</b>	<b>0</b>	<b>11753</b>	<b>2428</b>	<b>27</b>	<b>67</b>	<b>30357</b>	<b>63184</b>

**Table 8 - Results of Spot Check Survey - 2009**

Sl. No	Municipality/ Corporation	No. of wards selected	Total no. of House holds	No. of House holds visited	No. of events detected to normal residents											
					Live Births				Infant Deaths				Other deaths			
					Enumerated	Registered	N.R	occurred outside	Enumerated	Registered	N.R	occurred outside	Enumerated	Registered	N.R	occurred outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Neyyattinkara	15	8145	7065	232	63	0	169	0	0	0	0	117	84	0	33
2.	Thiruvanantha- puram	15	49811	22750	619	599	0	20	0	0	0	0	158	157	0	1
3.	Attingal	15	6824	6824	229	122	0	107	0	0	0	0	143	71	0	72
4.	Kollam Corpn	15	24625	23446	750	615	0	135	0	0	0	0	392	328	0	64
5.	Punalur	15	6333	6333	209	135	0	74	0	0	0	0	144	111	3	30
6.	Kayamkulam	15	5638	5638	241	164	0	77	0	0	0	0	120	80	5	35
7.	Mavelikkara	15	3954	3954	98	54	0	44	1	1	0	0	73	56	2	15
8.	Alappuzha	25	22307	22307	676	583	0	93	1	1	0	0	326	268	0	58
9.	Cherthala	15	12249	12249	147	84	0	63	0	0	0	0	104	84	0	20
10.	Thiruvalla	15	5870	5870	103	70	0	33	0	0	0	0	106	94	0	12
11.	Changanassery	15	9151	7969	199	90	0	109	0	0	0	0	124	62	9	53
12.	Kottayam	15	5207	5207	181	83	0	98	0	0	0	0	144	107	5	32
13.	Palai	15	6818	3312	92	47	0	45	0	0	0	0	81	66	0	15
14.	Vaikom	15	4512	3052	100	41	0	59	0	0	0	0	73	47	0	26
15.	Muvattupuzha	15	5582	5582	152	95	0	57	0	0	0	0	96	80	0	16
16.	Kochi Corporation	15	24881	24881	956	779	0	177	2	2	0	0	416	393	3	20
17.	Aluva	15	5363	5363	174	136	0	38	0	0	0	0	93	78	0	15

**Table 8 (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	Register ed	N.R	Occurred outside	Enume rated	Register ed	N.R	occurred outside	Enume rated	Register ed	N.R	occurred outside
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18.	North Paravur	15	4703	4703	192	116	0	76	0	0	0	0	114	84	0	30
19.	Perumbavoor	15	5155	5155	239	142	0	97	0	0	0	0	120	82	0	38
20.	Irrinjalakuda	15	6874	4273	170	16	0	154	0	0	0	0	84	60	0	24
21.	Kodungallur	15	4807	4807	192	136	0	56	1	1	0	0	99	78	0	21
22.	Chalakydy	15	6300	5329	255	158	0	97	0	0	0	0	113	89	1	23
23.	Thrissur Corpn*	15	9809	8888	297	276	0	21	1	1	0	0	124	119	0	5
24.	Guruvayoor	15	3304	3304	113	7	0	106	0	0	0	0	78	41	0	37
25.	Kunnamkulam	15	7446	6129	265	153	0	112	0	0	0	0	176	133	0	43
26.	Palakkad	15	8970	8968	105	96	0	9	0	0	0	0	56	52	0	4
27.	Chittoor- Thathamangalam	15	4784	4784	151	7	0	144	0	0	0	0	109	95	0	14
28.	Thirur	15	5954	5954	395	272	0	123	2	1	0	1	94	68	0	26
29.	Malappuram	15	6385	6385	597	519	0	78	3	3	0	0	142	113	0	29
30.	Kozhikode Corpn.	15	35421	22587	1185	1118	0	67	6	6	0	0	471	431	22	18
31.	Vadakara	15	4922	4922	326	119	0	207	0	0	0	0	134	98	0	36
32.	Thalasserry	15	5822	3628	280	233	0	47	0	0	0	0	165	147	0	18
33.	Kannur	15	4351	4351	307	171	0	136	2	1	0	1	130	74	5	51
34.	Kasaragod	15	5232	4998	86	71	0	15	0	0	0	0	45	43	0	2
TOTAL		520	337509	280967	10313	7370	0	2943	19	17	0	2	4964	3973	55	936

\* Include results of six wards only

**Table 9 - Under Registration and Occurrence of outside events**

Sl. No	Municipality/ Corporation	% Of under registration		% of outside registration	
		Births	Deaths	Births	Deaths
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1	Neyyattinkara	0.00	0.00	72.84	28.21
2	Thiruvananthapuram	0.00	0.00	3.23	0.63
3	Attingal	0.00	0.00	46.72	50.35
4	Kollam Corpn	0.00	0.00	18.00	16.33
5	Punalur	0.00	2.63	35.41	20.83
6	Kayamkulam	0.00	5.88	31.95	29.17
7	Mavelikara	0.00	3.39	44.90	20.27
8	Alappuzha	0.00	0.00	13.76	17.74
9	Cherthala	0.00	0.00	42.86	19.23
10	Thiruvalla	0.00	0.00	32.04	11.32
11	Changanacherry	0.00	12.68	54.77	42.74
12	Kottayam	0.00	4.46	54.14	22.22
13	Palai	0.00	0.00	48.91	18.52
14	Vaikom	0.00	0.00	59.00	35.62
15	Muvattupuzha	0.00	0.00	37.50	16.67
16	Kochi Corporation	0.00	0.75	18.51	4.78
17	Aluva	0.00	0.00	21.84	16.13
18	North Paravur	0.00	0.00	39.58	26.32
19	Perumbavoor	0.00	0.00	40.59	31.67
20	Irinjalakuda	0.00	0.00	90.59	28.57
21	Kodungallur	0.00	0.00	29.17	21.00
22	Chalakydy	0.00	1.11	38.04	20.35
23	Thrissur Corpn	0.00	0.00	7.07	4.00
24	Guruvayoor	0.00	0.00	93.81	47.44
25	Kunnamkulam	0.00	0.00	42.26	24.43
26	Palakkad	0.00	0.00	8.57	7.14
27	Chittoor-Thathamangalam	0.00	0.00	95.36	12.84
28	Thirur	0.00	0.00	31.14	28.13
29	Malappuram	0.00	0.00	13.07	20.00
30	Kozhikode Corpn.	0.00	4.79	5.65	3.77
31	Vadakara	0.00	0.00	63.50	26.87
32	Thalasserry	0.00	0.00	16.79	10.91
33	Kannur	0.00	6.25	44.30	39.39
34	Kasaragod	0.00	0.00	17.44	4.44

**Table 10 - Registered Vital Rates and Adjusted Residential Vital rates 2009**

Sl. No.	Municipality/ Corporation	Registered vital rates		Residential vital rates		Adjusted residential vital rates	
		Births	Deaths	Births	Deaths	Births	Deaths
1	2	3	4	5	6	7	8
1	Neyyattinkara	6.07	5.63	6.07	5.63	22.35	7.84
2	Thiruvananthapuram	5.92	3.05	5.92	3.05	6.12	3.07
3	Attingal	6.89	3.04	6.89	3.04	12.93	6.12
4	Kollam Corpn.	7.25	3.30	7.25	3.30	8.84	3.94
5	Punalur	8.62	6.18	8.62	6.35	13.35	8.02
6	Kayamkulam	11.58	6.19	11.58	6.58	17.02	9.29
7	Mavelikara	3.89	4.87	3.89	5.04	7.06	6.32
8	Alappuzha	10.95	5.19	10.95	5.19	12.70	6.31
9	Cherthala	9.33	4.14	9.33	4.14	16.33	5.13
10	Thiruvalla	3.91	4.50	3.91	4.50	5.75	5.07
11	Changanacherry	9.22	3.93	9.22	4.50	20.38	7.86
12	Kottayam	4.44	5.07	4.44	5.31	9.68	6.83
13	Palai	5.03	3.95	5.03	3.95	9.85	4.85
14	Vaikom	3.41	5.78	3.41	5.78	8.32	8.98
15	Muvattupuzha	6.03	3.78	6.03	3.78	9.65	4.54
16	Kochi Corporation	14.44	8.43	14.44	8.49	17.72	8.92
17	Aluva	6.66	3.56	6.66	3.56	8.52	4.24
18	North Paravur	5.66	5.35	5.66	5.35	9.37	7.26
19	Perumbavoor	5.21	4.00	5.21	4.00	8.77	5.85
20	Irinjalakuda	2.33	5.55	2.33	5.55	24.76	7.77
21	Kodungallur	5.40	2.81	5.40	2.81	7.62	3.56
22	Chalakkudy	9.47	5.75	9.47	5.81	15.28	7.29
23	Thrissur Corpn	7.04	3.14	7.04	3.14	7.58	3.27
24	Guruvayoor	0.73	4.49	0.73	4.49	11.79	8.54
25	Kunnamkulam	6.69	6.00	6.69	6.00	11.59	7.94
26	Palakkad	42.06	6.57	42.06	6.57	46.00	7.08
27	Chittoor- Thathamangalam	0.64	5.85	0.64	5.85	13.79	6.71
28	Thirur	9.70	3.13	9.70	3.13	14.09	4.36
29	Malappuram	8.91	2.12	8.91	2.12	10.25	2.65
30	Kozhikkode Corpn.	10.96	4.47	10.96	4.69	11.62	4.87
31	Vadakara	6.14	5.35	6.14	5.35	16.82	7.32
32	Thalasserry	16.46	5.99	16.46	5.99	19.78	6.72
33	Kannur	10.13	4.50	10.13	4.80	18.19	7.92
34	Kasaragod	16.03	4.60	16.03	4.60	19.42	4.81



## APPENDIX

### Method of calculation of adjusted residential vital rates

Residential vital rates can broadly be defined as the rate of occurrence of vital events among the normal residents of an area in a year. In order to calculate the percentage of under registration, the events occurring among persons coming to the town/city to avail themselves of better medical facilities are excluded and those of normal residents who are going outside the town are included.

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