



GOVERNMENT OF KERALA

**RESIDENTIAL VITAL RATES  
IN CORPORATION AND  
MUNICIPALITIES  
1983**

**DEPARTMENT OF  
ECONOMICS AND STATISTICS  
TRIVANDRUM**

TRIVA DRJ

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TRINIDAD

## PREFACE

This report presents the adjusted residential Vital rates of births and deaths in Municipalities and Corporations in the State for the year 1983. The rates have been estimated from the registered births and deaths to the normal residents, after making adjustments for under registration and for the events occurring outside the Municipal/Corporation areas, using the results of spot check conducted in the Municipalities/Corporations. 30 Municipalities, 3 Corporations and one township are covered in the Report. The report has been prepared by the Vital Statistics Unit of the Department of Economics and Statistics.

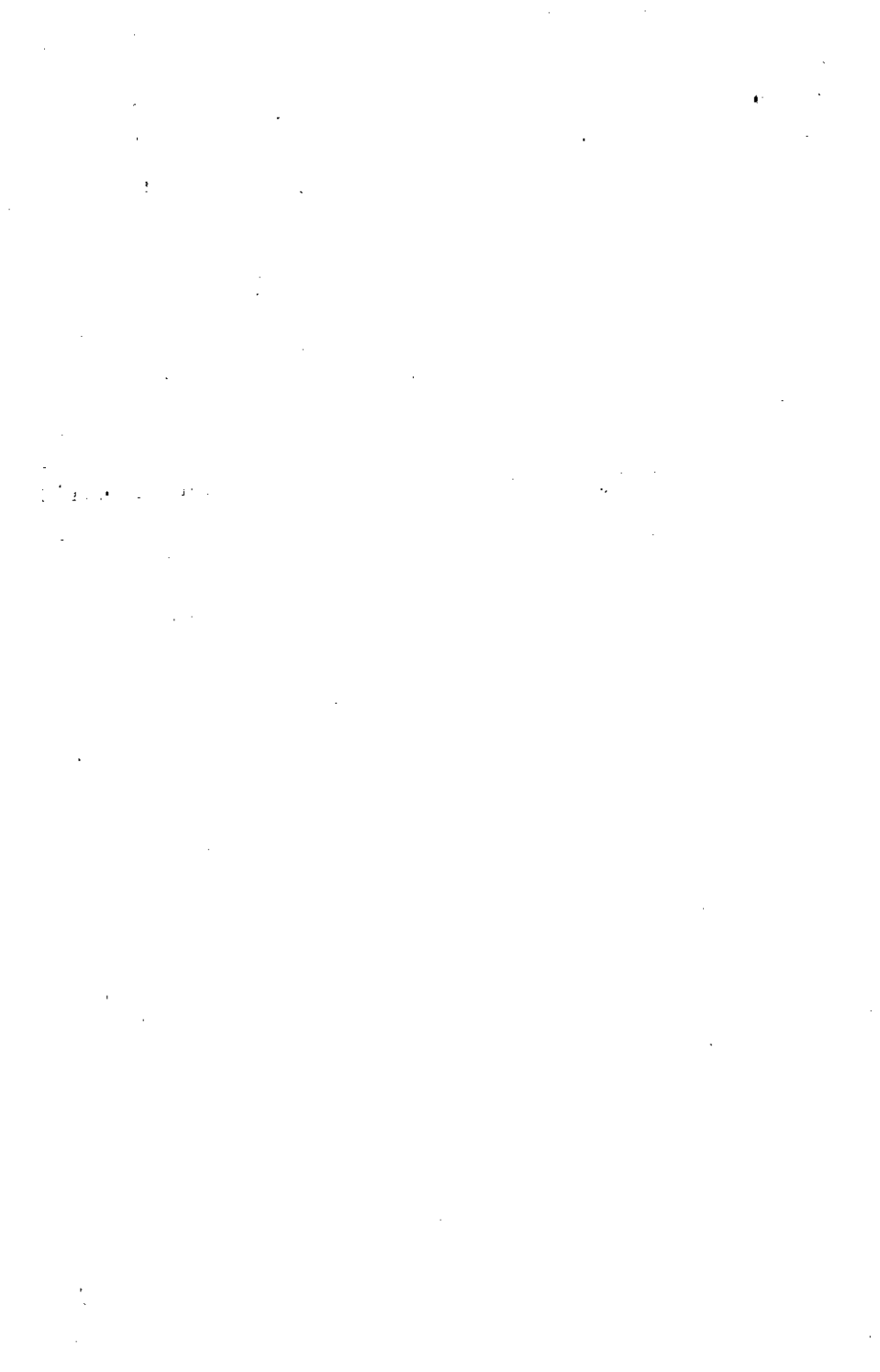
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Trivandrum,  
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## RESIDENTIAL VITAL RATES IN MUNICIPALITIES

### Introduction

The report contains the spot check results on births and deaths conducted in Municipalities/corporations in the State for the year 1983 under the scheme "Improvement of vital statistics in municipalities".

The Registration of Births and Deaths Act of 1969 and the Kerala Births and Deaths Registration Rules govern the registration of vital events in the state. All the events that occur inside the towns whether they relate to normal residents or outsiders have to be registered at the place of occurrence of the events. But unregistered events are bound to occur due to various reasons under the present system of registration.

For avoiding omissions in the registration of vital events, the municipal authorities are displaying notices to make the public aware of the importance of registering births and deaths. Slides are also exhibited in cinema theatres emphasising the importance of vital registration. Show cause notices are issued to defaulters and action is taken based on the provisions of the Births and Deaths Act by the municipal corporation commissioners.

### 2. Scheme for Improvement of Vital Statistics

The spot check scheme was introduced in the Corporations and Municipalities to estimate the correct residential vital rates and to estimate the extent of under registration of vital events.

During the year 1983, 3 corporations, 30 municipalities and Guruvayoor Township were covered under the scheme. In the Corporations of Cochin and Calicut, 18 wards each and in Quilon and Alleppey Municipalities 50% of the wards (18 wards) were selected for the study. In Trivandrum Corporation, 15 wards were selected. In Guruvayoor Township all the 10 wards and in the other municipalities 15 wards each were selected for the study. The compilers and research assistant assigned for the work conducted house to house enumeration in these selected wards and collected data on vital events from each household.

Vital events occurring to normal residents enumerated during the spot-check are divided into three categories.

- (i) Events occurring inside the town and registered
- (ii) Events occurring inside the town but not registered
- (iii) Events occurring outside the town registered or unregistered.

For the calculation of the percentage of under-registration, the events occurring to persons coming into the town/city to avail themselves of better medical facilities are excluded.

For the calculation of residential vital rates of a town/city the vital events occurred to outsiders should be excluded from the total registered events. The registered rate to normal residents is weighted for under-registration and further adjusted for events occurring outside the town to the normal residents.

In the Corporations of Trivandrum, Cochin and Kozhikode and in the major municipalities of Quilon and Alleppey, the scheme for medical certification of causes of death has also been introduced to develop cause of death statistics.

### 3. General findings of the towns/cities

Table I gives the area, mid-year population and density of population of the municipalities and corporations. The highest density of population in 1983 is for Quilon (7646 per sq. km) followed by Trivandrum and Trichur.

Table II represents the number of hospitals and other institutions in the municipalities and corporations. The largest number of public hospitals (2) is in Trivandrum with 4300 beds. Some of the cities/towns have only one public hospital. The maximum number of dispensaries is in Alleppey.

Table III shows the number of Burial-grounds, cremation-grounds and civil registration units in the various municipalities and corporations.

Table IV compares the area and population with the registration units. In Trivandrum there are 13 registration units. The area per registration unit in Trivandrum Corporation is 5.76 sq.kms. In Cochin there are 2 registration units and the area per registration unit is highest here that is 47.44 sq. km. In Calicut there are 14 registration units, the maximum number in the State. The area per registration unit is 5.90 sq.km.

The town-wise details of the vital events registered during the year are presented in Table V. The maximum number of live births that occurred to normal residents in 1983 as also in 1982 was in Calicut (1983-9928, 1982-10217). The highest number of still births to normal residents occurred in Calicut (136). In 1982, it was highest in Cochin (137). The maximum number of infant deaths in respect of normal residents took place in Calicut (396). During the previous year, the incidence of infant death was highest in Trivandrum (354). We find stray cases of material deaths in Punalur, Chalakudy, Trichur and Palghat.

From Table VI listing out the distribution of deaths according to causes, we find that in 1983, the highest number of deaths occurred in Trivandrum. The most lethal cause has been respiratory diseases and that too has been most prevalent in Trivandrum.

The details of vital events collected through spot-check during the year, 1983 are pictured in Table VII. The number of live-births enumerated is highest in Trivandrum Corporation so also the number registered. Cochin corporation comes second followed by Alleppey Municipality. During 1982 the largest number of live births enumerated was in Cochin.

Table VIII presents under registration and occurrence of outside events. The highest percentage of under-registration of births has been in Neyyattinkara (35.13 per cent) and of deaths in Cannanore (37.50 percent). During the previous year the highest percentage of under-registration of births has been for Punalur (35.48) and of deaths in Trichur (47.79). Cent per cent registration of births and deaths has been evidenced in Attingal, Muvattupuzha, Chittoor-Thathamangalam and Tirur. This is more commendable than last year's picture.

#### **4. Adjusted residential vital rates and registered vital rates 1983**

Table IX presents the registered vital rates and adjusted residential vital rates. The registered birth rate is lowest in Guruvayoor township (0.43) and highest in Kasargode (32.53). Regarding registered death rate, it is lowest in Muvattupuzha (0.84) and highest in Chittoor-Thathamangalam (7.69). Coming to adjusted residential vital rates we find the highest birth rate is for Calicut (40.63) and lowest is for Tellicherry (9.61). The adjusted death rate is highest in Calicut (10.42) and lowest in Moovattupuzha (1.03). The method of calculation of adjusted residential vital rates is also given as Appendix.

Table X presents the adjusted residential rates from 1979-83. In Trivandrum, the birth rate fell from 23.64 to 19.55. In Cochin too a drop from 27.04 to 25.66 is witnessed. On the other hand, in Calicut, there was a rise from 25.71 to 40.63. For the years under comparison, the lowest birth rate (7.04) was for Alwaye in 1981 and the highest (45.83) for Kodungalloor in 1982. Of the 3 Corporations only in Cochin has there been a marginal reduction in the death rate (that is 7.40 in 1979 to 6.98 in 1983).

#### **5. Conclusion**

In 1983 as in the previous year an all out effort was made to keep under registration to a minimum. The spot-check scheme in this regard has proved to be significantly effective.

## APPENDIX

**Method of Calculation of adjusted Residential Vital Rates**

Residential rates can broadly be defined as the rate of occurrence of vital events to the normal residents of an area in a year. The vital events occurring to Normal Residents enumerated during the spot check are divided into 3 categories.

- (i) events occurring inside the town and registered.
- (ii) events occurring inside the town but not registered.
- (iii) events occurring outside the town registered or unregistered.

For calculation of the percentage of under registration, the events occurring to persons coming into the town/city to avail themselves of better medical facilities are excluded.

- |      |   |  |
|------|---|--|
| I.   | Percentage of under registration =  | $\frac{\text{(No. of events occurred to normal residents inside the town but not registered)} \times 100}{\text{No. of events occurred to normal residents inside the town registered and not registered.}}$ |
| II.  | Percentage of events occurred outside the town to normal residents =                              | $\frac{\text{(No. of events occurred to N.R. outside the town registered and not registered)} \times 100}{\text{Total No. of events enumerated and occurred to N.R. inside the sample.}}$                    |
| III. | Registered Birth rate/Death rate to N.R. =  | $\frac{\text{(Total No. of Birth/Death occurred to N.Registered)} \times 1000}{\text{Mid year Population of the Sample Town.}}$  |
| IV.  | Residential Birth/Death rate to N.R. occurred inside the town (weighted for under registration) = | $\frac{\text{Registered Birth/Death rate} \times 100}{100 - \text{Percentage of under registration}}$  |
| V.   | Final residential Birth/Death rate (weighted for outside events) =                                | $\frac{\text{(Residential Birth/Death rates to weighted for under registration N.R. occurred inside the town)} \times 100}{100 - \text{percentage of events occurred outside the town to N.R.}}$             |

TABLE 1

## ANNUAL RESIDENTIAL VITAL RATES—1983

*Area and population*

<i>Sl. No.</i>	<i>Name of Municipality/Corporation</i>	<i>Area (Sq. Kms)</i>	<i>Mid year population</i>	<i>Density of population</i>
1	Neyyattinkara	9.99	29100	2912
2	Trivandrum	75.00	501800	6690
3	Attingal	14.18	30300	2136
4	Quilon	18.48	141300	7646
5	Punalur	34.60	44200	1277
6	Kayamkulam	21.79	63100	2895
7	Mavelikkara	12.65	26800	2118
8	Alleppey	46.77	172200	3681
9	Shertallai	16.19	41400	2557
10	Thiruvalla	14.48	29800	2058
11	Changanacherry	13.26	52800	3981
12	Kottayam	16.45	65600	3987
13	Palai	15.93	22000	1381
14	Vaikom	8.73	21300	2439
15	Muvattupuzha	13.18	26100	1980
16	Cochin Corporation	94.88	533200	5619
17	Alwaye	7.18	25600	3565
18	Parur	9.02	26700	2960
19	Perumbavoor	13.61	24100	1770
20	Irinjalakuda	11.24	26200	2330
21	Kodungalloor	17.30	29000	1676
22	Chalakyudy	25.23	43000	1704
23	Trichur	12.65	79600	6292
24	Guruvayoor	6.49	18400	2835
25	Kunnamkulam	6.96	19700	2830
26	Palghat	26.60	115100	4327
27	Chittoor-Thathamangalam	14.71	30800	2093
28	Tirur	16.59	43100	2597
29	Malappuram	33.60	41800	1244
30	Calicut	82.67	410000	4959
31	Badagara	21.34	66800	3130
32	Tellicherry	15.35	77200	5029
33	Cannanore	11.03	62300	5648
34	Kasargode	16.68	45300	2715

TABLE II

## NO. OF HOSPITALS AND OTHER INSTITUTIONS—1983

Sl. No.	Name of Municipality/ Corporation	Hospitals					Total Beds
		No.	Public Beds	No.	Private Beds	No.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Neyyattinkara	3	185	2	30	5	215
2	Trivandrum	20	4300	14	650	34	4950
3	Atringal	..	..	7	205	7	205
4	Quilon	6	950	19	900	25	1850
5	Punalur	1	100	8	180	9	280
6	Kayamkulam	2	125	10	225	12	350
7	Mavelikkara	2	220	2	140	4	360
8	Alleppey	6	1329	6	94	12	1423
9	Shertallai	1	126	2	164	3	290
10	Thiruvalla	2	140	6	445	8	585
11	Changanacherry	2	139	9	196	11	335
12	Kottayam	2	315	15	200	17	515
13	Palai	3	227	6	330	9	557
14	Vaikom	2	270	2	60	4	330
15	Muvattupuzha	3	158	10	298	13	456
16	Cochin	12	1902	34	1948	46	3850

17.	Waye	2	208	12	505	14	713
18.	Parur	1	123	5	110	6	233
19.	Perumbavoor	2	141	9	340	11	481
20.	Irinjalakuda	2	189	2	40	4	229
21.	Kodungalloor	1	180	2	90	3	270
22.	Chalakydy	1	144	7	270	8	414
23.	Trichur	5	1124	13	564	18	1688
24.	Guruvayoor	1	20	1	13	2	33
25.	Kunnankulam	1	94	5	113	6	207
26.	Palghat	4	508	15	169	19	677
27.	Chittoor, Thathamangalam	2	88	..	..	2	88
28.	Tirur	4	145	1	120	5	265
29.	Malappuram	4	121	1	55	5	176
30.	Calicut	7	3460	28	1000	35	4400
31.	Badagara	2	190	..	..	2	190
32.	Tellicherry	2	410	11	180	13	590
33.	Cannanore	2	55	17	390	19	445
34.	Kasargode	1	120	10	400	11	520

TABLE II—Contd.

Sl. No.	Name of Municipality/ Corporation	Dispensaries other Institutions						Maternity and C. H. Centres.					
		Public No.	Public Beds	Private No.	Private Beds	Total No.	Total Beds	Public No.	Public Beds	Private No.	Private Beds	Total No.	Total Beds
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1.	Neyyattinkara	..	..	7	..	7	..	2	..	..	..	2	..
2.	Trivandrum	8	..	60	..	68	..	37	..	..	..	37	..
3.	Attingal	2	45	8	..	10	45	4	..	..	..	4	..
4.	Quilon	5	..	27	..	32	..	15	..	..	..	15	..
5.	Punalur	2	..	3	..	5	..	4	..	..	..	4	..
6.	Kayamkulam	..	..	4	..	4	6	6	..	..	..	6	..
7.	Mavelikara	..	..	6	60	6	60	1	..	..	..	1	..
8.	Alleppey	2	..	132	..	134	..	6	..	..	..	6	..
9.	Shertallai	2	..	..	..	2	..	4	..	..	..	4	..
10.	Thiruvalla	..	..	10	..	10	..	1	..	..	..	1	..
11.	Changanacherry	..	..	9	..	9	..	4	..	..	..	4	..
12.	Kottayam	3	..	53	..	56	..	3	..	..	..	3	..
13.	Palai	..	..	14	..	14	..	..	..	..	..	..	..
14.	Vaikom	..	..	34	..	34	..	2	20	..	..	2	20
15.	Muvattupuzha	..	..	4	..	4	..	2	..	..	..	2	..
16.	Cochin	3	14	90	..	93	14	6	..	..	..	6	..



17.	Alwaye	1	..	26	..	27	..	2	..	..	..	2	..
18.	Parur	..	..	8	..	8	..	2	..	..	..	2	..
19.	Perumbavoor	1	..	5	..	6	..	4	..	..	..	4	..
20.	Irinjalakuda	1	..	..	..	1	..	2	..	..	..	2	..
21.	Kodungalloor	1	..	..	..	1	..	..	..	2	..	2	..
22.	Chalakudy	2	..	4	..	6	..	3	..	..	..	3	..
23.	Trichur	1	..	12	..	13	..	4	..	..	..	4	..
24.	Guruvayoor	..	..	..	..	..	..	1	..	..	..	1	..
25.	Kunnamkulam	2	..	..	..	2	..	1	..	..	..	1	..
26.	Palghat	2	..	11	..	13	..	3	..	..	..	3	..
27.	Chittoor	..	..	..	..	..	..	..	..	..	..	..	..
	Thathamangalam	..	..	6	11	6	11	2	..	..	..	2	..
28.	Tirur	2	..	6	6	8	6	3	..	..	..	3	..
29.	Malappuram	1	..	3	..	4	..	2	..	..	..	2	..
30.	Calicut	18	..	65	..	83	..	7	..	..	..	7	..
31.	Badagara	..	..	37	244	37	244	6	..	2	13	8	13
32.	Tellicherry	2	..	41	..	43	..	..	..	..	..	..	..
33.	Cannanore	2	..	16	42	18	42	1	9	..	..	1	9
34.	Kasargode	..	..	14	..	14	..	..	..	..	..	..	..

...

TABLE III

NO. OF BURIAL GROUNDS, CREMATION GROUNDS, WARDS AND  
CIVIL REGISTRATION UNITS

Sl. No.	Name of Municipality/ Corporation	Burial grounds			Cremation grounds			Total	No. of wards	No. of registra- tion Divisions
		Municipality/ Corporation	Private	Total	Municipality/ Corporation	Private	Total			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1.	Neyyattinkara	1	4	5	..	3	3	20	1	
2.	Trivandrum	..	27	27	2	4	6	50	13	
3.	Attingal	1	2	3	..	5	5	20	1	
4.	Quilon	2	15	17	..	..	..	36	3	
5.	Punalur	1	7	8	..	..	..	24	1	
6.	Kayamkulam	1	14	15	..	3	3	32	1	
7.	Mavelikara	1	9	10	..	1	1	20	1	
8.	Alleppey	..	..	..	2	21	23	36	6	
9.	Shertallai	1	1	2	..	2	2	24	1	
10.	Thiruvalla	2	..	2	..	..	..	20	1	
11.	Changanacherry	1	6	7	..	1	1	28	1	
12.	Kottayam	1	15	16	1	1	2	32	4	
13.	Palai	1	5	6	..	..	..	20	1	

14.	Vaikom	1	1	2	..	..	..	20	1
15.	Muvattupuzha	1	4	5	..	..	..	20	1
16.	Cochin	8	40	48	5	11	16	50	2
17.	Alwaye	..	7	7	..	3	3	20	2
18.	Parur	1	7	8	1	7	8	20	1
19.	Perumbavoor	..	8	8	..	1	1	20	1
20.	Irinjalakuda	1	5	6	..	1	1	20	1
21.	Kodungalloor	..	..	..	..	..	..	20	1
22.	Chalakydy	2	7	9	..	1	1	24	1
23.	Trichur	3	11	14	2	1	3	32	6
24.	Guruvayoor Town Ship	1	4	5	..	1	1	10	1
25.	Kunnamkulam	1	1	2	..	..	..	16	1
26.	Palghat	4	7	11	1	1	2	32	5
27.	Chittoor-Thathamangalam	2	1	3	3	1	4	20	2
28.	Tirur	1	..	1	..	1	1	24	1
29.	Melappuram	1	10	11	..	1	1	24	1
30.	Calicut	2	9	11	5	2	7	39	14
31.	Badagara	1	8	9	..	..	..	32	3
32.	Tellicherry	1	15	16	1	11	12	32	4
33.	Cannanore	1	12	13	1	..	1	32	4
34.	Kasaragod	..	9	9	2	1	3	24	2

TABLE IV

## REGISTRATION UNITS WITH AREA AND POPULATION—1983

Sl. No.	Name of Municipality/Corporation	No. of Registration units	Area in sq. kms	Area/ Registrations units	Estimated population	Population/ Registration units
1.	Neyyattinkara	1	9.99	9.99	29100	29100
2.	Trivandrum	13	75.00	5.76	501800	38600
3.	Attingal	1	14.18	14.18	30300	30300
4.	Quilon	3	18.48	6.16	141300	47100
5.	Punalur	1	34.60	34.60	44200	44200
6.	Kayamkulam	1	21.79	21.79	63100	63100
7.	Mavelikkara	1	12.65	12.65	26800	26800
8.	Alleppey	6	46.77	7.79	172200	28700
9.	Shertallai	1	16.19	16.19	41400	41400
10.	Thiruvalla	1	14.48	14.48	29800	29800
11.	Changanacherry	1	13.26	13.26	52800	52800
12.	Kottayam	4	16.45	4.11	65600	16400
13.	Palai	1	15.93	15.93	22000	22000
14.	Vaikom	1	8.73	8.73	21300	21300
15.	Muvattupuzha	1	13.18	13.18	26100	26100
16.	Cochin Corporation	2	94.88	47.44	533200	266600
17.	Alwaye	2	7.18	3.59	25600	12800
18.	Parur	1	9.02	9.02	26700	26700

19.	Perumbavoor	1	13.61	13.61	24100	24100
20.	Injalakuda	1	11.24	11.24	26200	26200
21.	Kodungalloor	1	17.30	17.30	29000	29000
22.	Chalakudy	1	25.23	25.23	43000	43000
23.	Trichur	6	12.65	2.10	79600	13266
24.	Guruvayoor Township	1	6.49	6.49	18400	18400
25.	Kunnankulam	1	6.96	6.96	19700	19700
26.	Palghat	5	26.60	5.32	115100	23020
27.	Chittoor Thathamangalam	2	14.71	7.35	30800	15400
28.	Tirur	1	16.59	16.59	43100	43100
29.	Malappuram	1	33.60	33.60	41800	41800
30.	Calicut	14	82.67	5.90	410000	29285
31.	Badagara	3	21.34	7.11	66800	22266
32.	Tellicherry	4	15.35	3.83	77200	19300
33.	Cannanore	4	11.03	2.75	62300	15575
34.	Kasargode	2	16.68	8.34	45300	22650

TABLE V

## VITAL EVENTS REGISTERED DURING THE YEAR 1983

Sl. No.	Name of Municipality/ Corporation	Number of Live Births				Number of Still Births												
		Total Events		Events to normal residents		Total events		Events to normal residents										
(1)	(2)	M	F	T	(5)	M	F	T	(8)	M	F	T	(11)	M	F	T	(14)	
1.	Neyyattinkara	1501	1480	2981	197	190	387	13	7	20	4	1	5					
2.	Trivandrum	13762	13196	26958	4587	4378	8965	124	128	252	41	43	84					
3.	Atingal	807	815	1622	190	137	267	12	10	22	2	2	2					
4.	Quilom	6213	5915	12128	1240	1108	2348	102	88	185	13	15	28					
5.	Punalur	1984	1980	2764	364	354	718	27	22	49	5	4	9					
6.	Kayamkulam	1716	1654	3370	591	533	1124	12	16	28	5	6	11					
7.	Mavelikara	1343	1257	2600	201	192	393	..	1	1	..	..	..					
8.	Alloppy	3669	3575	7244	1588	1655	3243	48	47	95	18	16	34					
9.	Shertalai	1232	1136	2368	307	294	601	26	12	38	3	1	4					
10.	Thiruvalla	1544	1591	3135	181	192	373	13	13	26	3	..	3					
11.	Changaniacherry	1204	1166	2370	335	269	604	3	8	11	..	4	4					
12.	Kottayam	2235	2224	4459	375	346	721	7	2	9	2	1	3					
13.	Palai	1315	1273	2588	88	89	177	12	19	31	1	2	3 <sup>5</sup>					
14.	Valkorn	843	922	1765	83	88	171	13	7	20	2	..	2					

15. Muvattupuzha	1432	1058	2490	388	329	717	14	17	31	2	2	4
16. Cochin	7634	7715	15349	4368	4733	9101	90	87	177	47	43	90
17. Alwaye	2386	2166	4502	151	165	316	19	19	38	1	2	3
18. Parur	1525	1390	2915	155	138	293	15	23	38	2	2	4
19. Perumbavoor	1210	1067	2277	128	104	232	15	9	24	1	..	1
20. Irinjilakuda	1024	953	1977	164	166	330	12	23	35	2	..	2
21. Kodungalloor	1863	1525	3388	193	167	360	17	21	38	2	2	4
22. Chalakudy	1255	1222	2477	174	206	380	12	14	26	1	2	3
23. Trichur	6690	7055	13745	583	621	1204	75	47	122	6	7	13
24. Gruruvayoor Township	16	18	34	6	2	8	..	..	..	..	..	..
25. Kunnankulam	1430	1279	2709	75	74	149	19	16	35	..	..	..
26. Palghat	3597	3376	6973	1140	1127	2267	115	115	230	26	27	53
27. Chittoor, Thathasangalam	603	600	1203	242	247	489	5	4	9	2	2	4
28. Tirur	1917	1862	3779	353	400	753	30	24	54	..	..	..
29. Malappuram	1222	1160	2382	455	432	887	..	..	..	..	..	..
30. Calicut	..	..	20640	..	..	9928	..	..	480	..	..	136
31. Badagara	3527	3389	6866	673	625	1298	22	12	34	5	3	8
32. Tellicherry	4125	4015	8140	339	337	676	48	30	78	2	2	4
33. Cannanore	1620	1743	3363	501	404	905	9	12	21	3	2	5
34. Kasargode	2153	2046	4199	720	754	1474	75	51	126	11	8	19

TABLE V—Contd.

Sl. No.	Name of Municipality Corporation	Number of infant deaths												Number of Other deaths						No. of maternal deaths								
		Total events			Events to normal residents			Total events			Events to normal residents			Total events		Events to normal residents												
		M	F	T	(15)	(16)	(17)	(18)	(18)	(19)	M	F	T	(20)	(20)	(21)	(22)	(22)	(23)	T	M	F	(24)	(24)	(25)	(26)	(27)	(28)
(1)	(2)	M	F	T	(15)	(16)	(17)	(18)	(18)	(19)	M	F	T	(20)	(20)	(21)	(22)	(22)	(23)	T	M	F	(24)	(24)	(25)	(26)	(27)	(28)
1.	Neyyattinkara	20	15	35	4	4	5	5	9	167	98	265	62	39	101	..	..	..	..	..	..	..	..	..	..	..	..	..
2.	Trivandrum	483	414	897	161	138	299	3750	6163	1250	2413	6163	1250	804	2054	..	..	..	..	..	..	..	..	..	..	..	..	..
3.	Attungal	3	2	5	1	1	2	61	114	46	53	114	46	47	93	..	..	..	..	..	..	..	..	..	..	..	..	..
4.	Quilon	154	132	286	25	19	44	819	1561	241	742	1561	241	152	393	..	..	..	..	..	..	..	..	..	..	..	..	..
5.	Punatur	19	27	46	7	3	10	114	160	61	160	274	61	70	131	2	1	..	..	..	..	..	..	..	..	..	..	..
6.	Kayamkulam	9	7	16	5	3	8	151	124	275	124	275	112	105	217	..	..	..	..	..	..	..	..	..	..	..	..	..
7.	Mavelikara	23	10	33	3	1	4	204	134	337	134	337	79	70	149	..	..	..	..	..	..	..	..	..	..	..	..	..
8.	Alleppey	116	126	242	48	43	91	981	648	1629	648	1629	574	288	862	..	..	..	..	..	..	..	..	..	..	..	..	..
9.	Sherthallai	24	20	44	9	6	15	273	182	455	182	455	122	133	235	..	..	..	..	..	..	..	..	..	..	..	..	..
10.	Thiruvalla	34	27	61	3	3	6	245	159	404	159	404	72	58	130	..	..	..	..	..	..	..	..	..	..	..	..	..
11.	Changanacherry	13	8	21	3	1	3	152	85	237	85	237	15	64	179	..	..	..	..	..	..	..	..	..	..	..	..	..
12.	Kottayam	14	15	29	9	5	14	274	170	444	170	444	145	95	240	..	..	..	..	..	..	..	..	..	..	..	..	..
13.	Palai	12	10	22	4	3	7	138	71	209	71	209	52	26	78	..	..	..	..	..	..	..	..	..	..	..	..	..
14.	Vaikom	14	13	27	4	3	7	86	94	180	94	180	22	27	49	..	..	..	..	..	..	..	..	..	..	..	..	..



15. Muvattupuzha	12	11	23	..	..	99	74	173	13	9	44
16. Cochin	174	148	322	104	34	2253	1359	3612	1949	892	2241
17. Alwaye	41	31	72	4	2	228	110	338	46	26	72
18. Farur	21	19	40	1	3	175	99	274	63	48	111
19. Perumbavoor	10	11	21	1	1	118	70	188	52	25	77
20. Irinjakuda	7	9	16	3	1	194	93	227	63	40	103
21. Kodungalloor	30	17	47	3	1	147	114	261	89	64	147
22. Chalakudy	20	19	30	8	..	144	78	222	74	56	130
23. Trichur	159	138	297	27	10	1037	830	1867	147	107	254
24. Gurusvoor Township	1	..	1	..	..	57	51	108	30	36	66
25. Kunnankulam	27	22	49	..	..	129	85	214	50	42	92
26. Padgat	168	135	303	33	30	819	514	1333	382	272	654
27. Chittoor, Thathamangalam	7	11	18	6	6	176	152	328	121	104	225
28. Tirur	67	50	117	12	9	221	162	383	80	75	155
29. Malappuram	54	32	86	6	4	132	110	242	79	68	147
30. Calicut	..	..	1008	..	..	396	..	5731	..	..	2421
31. Badagara	57	35	92	12	4	258	191	449	144	129	273
32. Tellicherry	61	51	112	6	11	583	391	974	135	114	249
33. Cannanore	9	11	20	2	2	249	275	524	52	59	11
34. Kasargode	67	68	135	15	12	186	189	375	83	81	164

TABLE VI

## DEATHS ACCORDING TO CAUSES—1963

Sl. No.	Name of Municipality/ Corporation	Deaths according to causes														Total	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		(15)
		Plague	Cholera	Small-pox	Dysentery, diarrhoea & enteric fever	Respiratory	Enteric fever	Diphtheria	Hydrophobia	Gastro-enteritis	Heart failure	Pulmonary diseases	Others				
1.	Neyyattinkara	..	..	..	3	50	10	..	..	..	..	..	..	..	..	237	300
2.	Trivandrum	..	..	..	393	2903	..	..	..	..	37	..	..	..	..	3725	7060
3.	Attāngal	..	..	..	6	..	..	..	..	..	94	..	..	..	..	79	119
4.	Qullam	..	1	..	73	..	..	21	1	..	..	300	..	..	..	1451	1847
5.	Punabur	..	..	..	14	..	8	..	..	2	..	..	..	19	279	922	922
6.	Kayambulam	..	..	..	..	17	8	..	..	..	1	40	..	..	225	291	291
7.	Mavelikara	..	..	..	7	74	5	..	..	2	..	..	..	..	..	282	370
8.	Alleppey	..	..	..	45	51	48	..	..	10	..	..	..	87	1630	1871	1871
9.	Shertallai	..	..	..	8	..	13	..	..	..	..	..	..	72	406	499	499
10.	Thiruvalla	..	..	..	..	..	1	..	..	..	..	..	..	199	265	465	465
11.	Changanacherry	..	..	..	4	28	9	..	..	..	..	..	..	1	216	258	258
12.	Kottayam	..	..	..	25	..	..	13	..	..	3	..	..	50	382	473	473
13.	Palai	..	..	..	..	..	..	..	..	..	..	..	..	15	216	231	231
14.	Vaikom	..	..	..	13	..	..	..	..	..	..	..	..	43	151	207	207
15.	Muvattupuzha	..	..	..	2	15	3	..	..	1	2	12	..	2	159	196	196

16.	Cochin	..	..	7	127	..	12	2	..	63	..	..	9723	3634
17.	Alwaye	..	..	..	..	..	..	..	..	..	..	41	369	410
18.	Parur	..	..	..	134	1	..	..	..	..	..	..	179	324
19.	Petumbavost	..	..	..	..	..	..	..	..	..	..	..	200	209
20.	Irinjalakuda	..	..	1	..	6	..	..	..	..	..	..	231	243
21.	Kodungalloor	..	..	2	..	3	..	1	..	..	..	..	240	308
22.	Chalaktody	..	..	1	..	..	..	..	..	..	23	..	235	261
23.	Tychar	..	..	6	278	..	10	4	..	..	273	..	1605	2171
24.	Curuwaye Town Ship	..	..	2	8	20	..	..	..	..	13	..	66	109
25.	Kunnamkulam	..	..	2	..	..	..	..	..	..	..	8	253	263
26.	Palghat	..	..	66	53	2	..	4	..	..	..	..	1520	1645
27.	Chittoor Thattamangalam	..	..	25	..	21	..	..	..	..	..	40	237	346
													23 N.R.	
28.	Tirur	..	..	39	..	..	..	..	..	..	..	22	439	500
29.	Malappuram	..	..	3	..	..	..	..	..	11	..	16	298	328
30.	Calicut	..	..	243	171	..	7	17	..	..	..	264	6037	6739
31.	Badagara	..	..	..	..	..	..	..	..	4	..	111	425	541
32.	Tellicherry	..	..	8	..	8	..	..	..	..	..	68	1002	1086
33.	Cannanore	..	..	31	..	12	..	..	..	..	..	39	462	544
34.	Kasargode	..	..	22	..	28	..	..	..	..	..	140	320	510

TABLE VII

## RESULTS OF SPOT CHECK

Sl. No.	Name of Municipality/ Corporation	No. of wards selected for spot check	Total No. of house-holds visited	Number of events to normal residents detected										
				Live Births			Infant deaths			Other deaths				
				Enumerated	Registered outside	Occurred outside the town	Registered	Occurred outside the town	Enumerated	Registered	Occurred outside the town	Enumerated	Registered	Occurred outside the town
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
1.	Neyyattinkara	15	5388	5588	350	120	165	3	1	..	..	91	53	17
2.	Trivandrum	15	29411	29288	2363	2156	44	243	228	..	..	753	673	20
3.	Atingal	15	6320	6303	229	145	84	2	2	..	..	72	57	15
4.	Quilon	18	12711	12711	1224	1017	192	11	10	..	..	194	139	26
5.	Punalur	15	4296	4296	325	250	71	7	7	..	..	82	48	26
6.	Kayamkulam	15	4634	4634	547	364	153	7	4	1	1	141	75	33
7.	Mavelikara	15	4077	4077	263	174	87	2	2	..	..	111	95	8
8.	Alleppy	18	19870	19870	1505	1321	152	27	23	..	..	431	356	10
9.	Sbertallai	15	6987	6987	325	179	145	1	1	..	..	123	116	6
10.	Thiruvalla	15	4965	4965	279	202	50	5	5	..	..	104	75	26
11.	Changanacherry	15	5616	5616	269	122	137	..	..	..	..	98	45	28
12.	Kottayam	15	7482	7482	277	146	131	..	..	..	..	113	82	30*
13.	Palai	15	2446	2446	169	84	85	..	..	..	..	40	34	5
14.	Vaikom	15	4306	4306	237	125	110	7	4	3	3	51	35	13

15. Muvattupuzha	15	3797	3797	196	165	31	..	..	..	26	21	5
16. Cochin	18	29950	29950	2312	1536	495	24	12	2	684	440	47
17. Alwaye	15	3509	3509	262	131	127	3	..	..	53	21	20
18. Parur	15	5341	5341	324	189	131	3	2	..	86	63	12
19. Perumbavoor	15	3192	3192	272	134	127	3	2	..	60	39	9
20. Irinjalakuda	15	3663	3663	328	132	193	4	3	1	107	79	24
21. Kodungalloor	15	4306	4306	282	167	114	..	..	..	78	64	11
22. Chalakudy	15	4724	4724	407	194	210	3	2	1	86	62	12
23. Trichur	15	8504	6183	228	136	48	1	1	..	82	49	8
24. Gurusvayoor Township	10	3057	3057	289	8	279	2	..	2	95	66	16
25. Kunnankulam	15	3647	3647	327	141	182	6	..	3	121	84	19
26. Palghat	15	7790	7790	869	641	217	9	9	..	227	193	22
27. Chittoor- Thathamangalam	15	4155	4155	87	87	..	6	6	..	109	109	..
28. Tirur	15	3689	3689	570	510	60	14	14	..	80	79	1
29. Malappuram	15	4049	4049	605	428	129	3	1	..	93	73	10
30. Calicut	11/18	8285	8285	601	358	55	..	..	..	167	110	..
31. Badagara	15	4345	4345	582	441	121	..	..	..	143	79	26
32. Tellicherry	15	4711	4711	473	430	20	10	8	..	170	160	1
33. Cannanore	15	5820	5820	282	134	101	..	..	..	121	45	49
34. Kasargode	15	7557	7557	235	212	19	..	..	..	73	70	2

TABLE VIII

## UNDER REGISTRATION AND OCCURRENCE OF OUTSIDE EVENTS

Sl. No.	Name of Municipality/Corporation	Percentage of under registration		Percentage of events to normal residents occurring outside	
		Births	Deaths	Births	Deaths
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara	35.13	29.87	47.14	18.08
2.	Trivandrum	7.02	7.68	1.86	2.00
3.	Attingal	Nil	Nil	36.68	20.27
4.	Quilon	1.45	16.75	15.68	12.68
5.	Punalur	1.57	12.69	21.84	29.21
6.	Kayamkulam	7.61	30.70	27.97	22.97
7.	Mavelikara	1.13	7.61	33.07	7.07
8.	Alleppey	2.36	15.40	10.09	2.18
9.	Sherthalai	0.55	0.84	44.61	4.83
10.	Thiruvalla	11.79	3.61	17.92	23.85
11.	Changanacherry	7.57	35.71	50.92	28.57
12.	Kottayam	Nil	1.20	47.29	26.54
13.	Palai	Nil	2.85	50.29	12.50
14.	Vaikom	1.57	7.14	46.41	27.58
15.	Muvattupuzha	Nil	Nil	15.81	19.23

16.	Cochin	15.46	31.41	21.41	6.92
17.	Alwaye	2.96	41.66	48.47	35.71
18.	Parur	2.07	15.58	40.43	13.48
19.	Perumbavoor	7.58	24.07	46.69	14.28
20.	Iringalakuda	2.22	4.65	58.84	22.52
21.	Kodungalloor	0.59	4.47	40.42	14.10
22.	Chhalakudy	1.52	15.78	51.59	14.60
23.	Trichur	24.44	33.33	21.05	9.63
24.	Guruvayoor Township	20.00	16.45	96.53	18.55
25.	Kunnamkulam	2.75	20.00	55.65	17.32
26.	Palghat	1.68	5.60	24.97	9.32
27.	Chittoor Thathamangalam	Nil	Nil	Nil	Nil
28.	Tirur	Nil	Nil	10.52	1.06
29.	Malappuram	10.08	13.95	21.32	10.41
30.	Calicut	34.43	34.13	9.15	Nil
31.	Badagara	4.33	32.47	20.79	18.18
32.	Tellicherry	5.07	6.14	4.22	0.55
33.	Cannanore	25.96	37.50	35.81	40.49
34.	Kasargode	1.85	1.41	8.08	2.73

TABLE IX

## REGISTERED VITAL RATES AND ADJUSTED RESIDENTIAL RATES

Sl.No.	Name of Municipality/Corporation	Registered vital rates		Adjusted Residential vital rates	
		Births	Deaths	Births	Deaths
(1)	(2)	(3)	(4)	(5)	(6)
1.	Neyyattinkara	13.29	3.78	38.74	6.56
2.	Trivandrum	17.85	4.68	19.55	5.16
3.	Attingal	8.81	3.13	13.91	3.92
4.	Quilon	16.61	3.09	19.98	4.24
5.	Punalur	16.24	3.21	21.09	5.18
6.	Kayamkulam	17.81	3.56	26.75	6.65
7.	Mavelikara	14.66	5.70	22.14	6.62
8.	Alleppey	18.83	5.53	21.44	6.67
9.	Shertalai	14.51	6.03	26.34	6.38
10.	Thiruvalla	12.51	4.56	17.27	6.21
11.	Changanacherry	11.43	3.46	25.18	7.53
12.	Kottayam	10.99	3.87	20.84	5.32
13.	Palai	8.04	3.86	16.17	4.53
14.	Vaikom	8.02	2.62	15.18	3.89
15.	Muvattupuzha	27.47	0.84	32.62	1.03
16.	Cochin	17.06	4.46	25.66	6.98



17.	Always	12.34	3.04	24.66	8.10
18.	Parur	10.97	4.30	18.80	5.88
19.	Perumbavoor	9.62	3.27	19.50	5.01
20.	Irinjalakuda	12.59	4.08	31.26	5.52
21.	Kodungalloor	12.41	5.20	20.94	6.33
22.	Chalakudy	8.83	3.25	18.50	4.50
23.	Trichur	15.12	3.68	25.34	6.09
24.	Guruvyoor	0.43	3.58	15.27	5.25
25.	Kunnankulam	7.56	4.67	17.51	7.05
26.	Palghat	19.69	6.23	26.68	7.26
27.	Chittoor Thathamangalam	15.87	7.69	15.87	7.69
28.	Tirur	17.47	4.08	19.52	4.12
29.	Malappuram	21.22	3.75	30.01	4.85
30.	Calicut	24.21	6.87	40.63	10.42
31.	Badagara	19.43	• 4.32	25.62	7.80
32.	Tellicherry	8.75	3.44	9.61	3.68
33.	Cannanore	14.52	1.84	30.54	4.94
34.	Kasargode	32.53	4.21	36.05	4.38
	State	..	..	25.24	6.48

TABLE X

## ADJUSTED RESIDENTIAL VITAL RATES FROM 1979-83

Sl. No.	Name of Municipality/ Corporation	Birth rate					Death rate				
		1979	1980	1981	1982	1983	1979	1980	1981	1982	1983
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1.	Neyyattinkara	28.62	27.98	39.23	20.79	38.74	6.22	6.55	7.04	6.48	6.56
2.	Trivandrum	23.64	20.15	18.93	23.06	19.55	4.71	4.62	4.08	4.73	5.16
3.	Attingal	14.66	17.40	13.27	10.96	13.91	5.55	3.59	3.44	2.98	3.92
4.	Quilon	30.61	18.71	20.94	21.90	19.98	5.99	7.74	5.77	5.05	4.24
5.	Punalur	23.60	28.96	27.77	31.92	21.09	4.27	4.10	4.89	5.04	5.18
6.	Kayamkulam	35.97	32.78	31.56	31.81	26.75	7.55	5.82	7.03	6.04	6.65
7.	Mavelikara	24.38	25.83	25.24	23.58	22.14	12.48	7.54	6.41	6.60	6.62
8.	Alleppey	22.33	14.75	24.77	22.42	21.44	7.24	4.40	5.56	5.41	6.67
9.	Sherthalai	26.37	27.69	25.18	26.28	26.34	6.25	6.02	5.97	6.16	6.38
10.	Thiruvalla	14.30	15.60	17.34	16.56	17.27	5.91	5.90	5.88	6.09	6.21
11.	Changanacherry	24.78	28.61	27.39	22.97	25.18	7.44	5.67	8.11	5.37	7.53
12.	Kottayam	15.34	21.19	20.71	18.22	20.84	3.92	4.35	5.34	4.98	5.32
13.	Palai	18.06	16.84	18.04	16.14	16.17	7.57	5.95	5.57	3.76	4.58
14.	Vaikom	17.33	17.53	17.49	16.30	15.18	4.59	5.01	4.06	4.38	3.89
15.	Muvattupuzha	25.38	22.01	25.04	15.93	32.62	5.79	5.56	7.92	3.10	1.03

16.	Cochin	27.04	24.32	25.86	25.81	25.66	7.40	7.21	7.98	8.35	6.98
17.	Alwaye	18.85	14.83	7.04	27.76	24.66	3.95	5.61	2.39	4.79	8.10
18.	Parur	21.97	20.39	20.46	17.62	18.80	6.84	5.44	5.00	5.24	5.88*
19.	Perumbavoor	21.90	22.03	23.27	22.19	19.50	4.09	5.71	5.00	6.29	5.01
20.	Irinjakuda	25.32	41.95	25.89	22.61	31.26	5.32	6.08	5.91	5.73	5.52
21.	Kodungalloor	42.79	43.19	40.01	45.83	20.94	7.24	4.54	8.76	11.24	6.33
22.	Chalakudy	21.56	19.25	18.49	16.58	18.50	6.81	5.95	5.67	5.79	4.50
23.	Trichur	34.23	30.28	25.20	24.49	25.34	6.43	8.24	8.65	9.79	6.09
24.	Guruvayoor										
	Township	17.78	30.38	12.45	15.99	15.27	5.83	6.90	5.66	6.66	5.25
25.	Kunnamkulam	26.98	22.33	21.18	20.34	17.51	8.91	8.93	7.64	7.00	7.05
26.	Palghat	32.38	24.53	10.20	25.25	26.68	7.53	6.04	2.87	5.87	7.26
27.	Chittoor-										
	Thatha-										
	mangalam	22.30	26.92	19.49	19.58	15.87	9.46	9.51	6.92	8.54	7.69
28.	Tirur	24.00	19.48	21.54	22.88	19.52	5.46	4.45	4.12	4.18	4.12
29.	Malappuram	37.70	35.03	29.61	29.44	30.01	7.55	7.20	6.01	5.10	4.85
30.	Calicut	25.71	30.80	27.37	30.50	40.62	7.18	6.64	7.00	8.06	10.42
31.	Badagara	29.59	27.39	27.23	25.39	25.62	6.74	5.87	5.16	5.06	7.80
32.	Tellicherry	24.26	3.03	7.68	20.53	9.61	6.15	4.66	3.85	6.95	3.68
33.	Cannanore	40.43	42.31	32.64	31.70	30.54	8.58	10.76	8.96	9.09	4.94
34.	Kasargode	30.01	29.20	35.80	32.52	36.05	6.59	6.72	3.96	4.31	4.38

1. The first part of the document is a list of names and dates, arranged in a table-like format. The names are written in a cursive hand, and the dates are in a more formal, printed style. The list appears to be a record of some kind, possibly a ledger or a list of transactions.

Name	Date
John Smith	1820
James Brown	1821
William Jones	1822
Robert Taylor	1823
Thomas White	1824
Richard Black	1825
Henry Green	1826
George Grey	1827
Edward Red	1828
Charles Blue	1829
Francis Yellow	1830
Benjamin Purple	1831
Samuel Black	1832
Joseph White	1833
Samuel Brown	1834
John Green	1835
James Grey	1836
William Red	1837
Robert Blue	1838
Thomas Yellow	1839
Richard Purple	1840
Henry Black	1841
George White	1842
Edward Grey	1843
Charles Red	1844
Francis Blue	1845
Benjamin Yellow	1846
Samuel Purple	1847
Joseph Black	1848
Samuel White	1849
John Grey	1850
James Red	1851
William Blue	1852
Robert Yellow	1853
Thomas Purple	1854
Richard Black	1855
Henry White	1856
George Grey	1857
Edward Red	1858
Charles Blue	1859
Francis Yellow	1860
Benjamin Purple	1861
Samuel Black	1862
Joseph White	1863
Samuel Grey	1864
John Red	1865
James Blue	1866
William Yellow	1867
Robert Purple	1868
Thomas Black	1869
Richard White	1870
Henry Grey	1871
George Red	1872
Edward Blue	1873
Charles Yellow	1874
Francis Purple	1875
Benjamin Black	1876
Samuel White	1877
Joseph Grey	1878
Samuel Red	1879
John Blue	1880
James Yellow	1881
William Purple	1882
Robert Black	1883
Thomas White	1884
Richard Grey	1885
Henry Red	1886
George Blue	1887
Edward Yellow	1888
Charles Purple	1889
Francis Black	1890
Benjamin White	1891
Samuel Grey	1892
Joseph Red	1893
Samuel Blue	1894
John Yellow	1895
James Purple	1896
William Black	1897
Robert White	1898
Thomas Grey	1899
Richard Red	1900

The second part of the document contains a series of paragraphs of text, written in the same cursive hand as the names in the list. The text is somewhat faded and difficult to read, but it appears to be a continuation of the record or a separate entry.



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