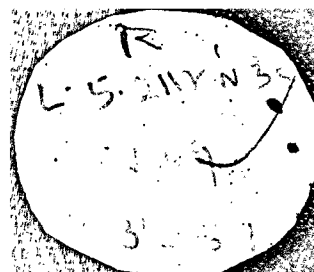
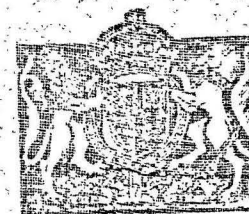


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1938-39 and Forty-sixth
Annual Report of Sanitary
Engineer 1938





REPORT OF THE DIRECTOR OF PUBLIC
HEALTH, MADRAS, FOR 1938

INCLUDING

ADMINISTRATION OF VACCINATION
IN 1938-39

AND

FORTY-NINTH ANNUAL REPORT OF THE
SANITARY ENGINEER TO GOVERNMENT
1938

No 33057

MADRAS

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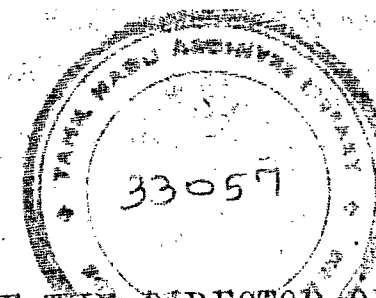
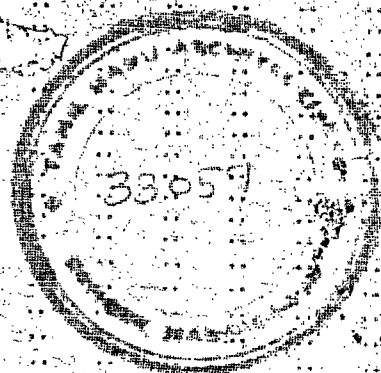
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ANNUAL REPORT OF THE DIRECTOR OF PUBLIC HEALTH, MADRAS, FOR 1938.

RAINFALL AND PRICES OF FOOD-GRAINS.

1. The average district rainfall during 1938 was 45.21 as against 49.25 inches in 1937. The seasonal distribution was as follows:—

	1938.	Average for the previous 5 years ending with 1937.
	INCHES.	INCHES.
Inter-monsoon period—January to May	6.40	6.48
South-west monsoon period—June to September	31.19	25.43
North-east monsoon period—October to December	7.62	15.63
Total	45.21	47.54

As compared with the average rainfall for the previous five years, there was a marked decrease in the north-east monsoon, and a slight increase in the south-west monsoon. The districts of Vizagapatam, East Godavari (Plains), West Godavari, Kistna, Guntur, Anantapur, Bellary, Kurnool, Tinnevely, and South Kanara had more than the average rainfall. The highest rainfall of 160.03 inches was recorded in South Kanara district and the lowest of 20.53 inches in Coimbatore district. Due to the scanty rainfall in the Coimbatore district, famine conditions became evident in certain areas of the district by the end of the year.

2. The following statement shows the average prices of the principal food-grains:—

(Grains.	Seers per rupee in			Average for the previous 10 years (seers per rupee).	Percentage of variation of prices in 1938 from 10 years' average.
	1938	1937	1936		
Rice (second sort)	10.3	10.3	10.5	9.2	-10.7
Ragi	17.8	15.7	16.3	15.5	-12.9
Cholam	15.7	15.3	16.1	14.9	-5.1
Gumbu	15.7	17.4	14.9	14.4	-8.3

The prices of rice and cholam have practically remained the same as in the previous year, while there was a small increase in the price of gumbu and a small decrease in that of ragi. The prices were, however, less than the average for the previous ten years.

VITAL STATISTICS

GENERAL POPULATION.

3. The population of the Madras Province exclusive of the Indian States was 44,182,017 as per census of 1931. It has an area of 125,438 square miles and the average density of population is 353 per square mile. The estimated mid-year population in 1938, calculated on the assumption that the population has increased by geometrical progression at the same rate as in the previous intercensal period, is 47,461,550. The population estimated by the natural increase method (i.e., by adding the accruing excess of births over deaths and of immigration over emigration to the census population) is 48,088,052, and this differs from the population estimated by geometrical progression method by only 1.3 per cent.

As in the previous years, the vital statistics recorded in the Vizagapatam Agency have not been included in the report, in the absence of a proper system of registration of births and deaths in that area.

4. It was proposed by the Director of Public Health that the vital statistics of Europeans and Anglo-Indians should be included in the Provincial Administration Reports. As the Public Health Commissioner with the Government of India, and the Government of India have now agreed to this proposal, the figures this year relate to the whole population of the Province without excluding Europeans and Anglo-Indians. The population whose vital statistics are recorded in this report is, therefore, 48,985,197, of which 6,190,709 is urban (municipalities and rural towns), the remaining 37,794,488 rural.

MIGRATION OF POPULATION.

5. As emigration of unskilled labourers to Malaya was prohibited from June 1938, there was a large fall in the total number of emigrants from this Province during the year. The following table shows the number of emigrants during the last five years:—

Year.	Number of emigrants.	Year.	Number of emigrants.
1934.	118,447	1937.	106,514
1935.	68,830	1938.	51,472
1936.	44,683		

The emigrants to Malaya were mainly drawn from the districts of North Arcot, Chingleput, South Arcot, Salem, and Malabar, while those to Ceylon were from the districts of Trichinopoly, Salem, Madura and Ramnad.

The number of immigrants who were either repatriated or assisted to return during the year was 89,100 from Malaya, Ceylon, South Africa, British Guiana, and Fiji. These figures relate to assisted migration of unskilled labourers only and not to other migrants who paid their own passages and for whom no statistics are available.

REGISTRATION OF BIRTHS AND DEATHS.

6. Registration of births and deaths is compulsory in all municipalities, while in rural areas it is compulsory only in those villages where the

Madras Registration of Births and Deaths Act (Act III of 1899) is in force. So far, the Act has been extended to about 39 per cent of the total number of villages in the Province.

With a view to improving birth and death registration, proposals have been made to the Board of Revenue to extend the Act III of 1899 throughout the Province except in certain backward tracts. If these proposals are accepted, registration of births and deaths will become compulsory practically in the whole Province.

7. The revised draft rules regarding the registration of births and deaths issued under the Madras Registration of Births and Death Act and the Madras District Municipalities Act were confirmed during the year. One special feature of the rules issued in respect of municipalities is that either the father, mother or the nearest adult relative is required to report the name of the child within two months from the date of registration of birth, if its name had not already been entered at the time of registration. For non-municipal areas such provision already exists under the Act III of 1899.

8. The village headmen are generally the birth and death registrars in villages whether the Madras Registration of Births and Deaths Act is in force or not. A special staff of trained Birth and Death Registrars are appointed for registering births and deaths occurring in municipalities and in a few panchayats. During the year, 23 candidates were trained in two batches, one under the Municipal Health Officer, Bezwada, and the other under the Municipal Health Officer, Vellore. The candidates who were trained at Bezwada were from Telugu and ceded districts and those trained at Vellore were from Tamil and West Coast districts.

9. In accordance with Section 6 of Act III of 1899, the name of the registrar with his designation written in the local language should be caused to be put up at some conspicuous place on or near the outer door of his office. Though the provision of such sign boards is a statutory requirement, it is not observed in many villages where the Act is in force. The provision of such sign boards serves a useful purpose and ought to be insisted on.

10. In order to improve the registration of births and deaths in rural areas the health staff are required, as a part of their routine duties, to investigate births and deaths in villages and to check the birth and death registers whenever they visit villages and all villages have to be visited at least once a year by the health staff. In addition to this, during the off-season when vaccination work is suspended for four months in the year, all Health Inspectors and Vaccinators are directed to do intensive investigation of vital statistics recorded in the villages. The health staff bring all cases of unregistered births and deaths detected by them to the notice of the registrars, get them registered and get the defects in the registers rectified. In the course of verification the health staff detected during the year 42,857 unregistered births and 12,319 unregistered deaths. Of these 30,612 births and 7,862 deaths were detected during the off-season alone. The largest number of such omissions was detected in the districts of South Arcot, Ramnad, Salem and Nellore. 13,927 cases of defaulters under the Act III of 1899 were reported to the

Revenue Authorities for action. The nature of the action taken against them is not fully known, but the need for such action as will serve to educate the public in their duties to register all births and deaths has to be emphasised if registration in the Province is to be improved.

COMPILATION OF VITAL STATISTICS.

11. The compilation of vital statistics recorded in the Province during each month as well as for the whole year is being done in the office of the Director of Public Health. For this purpose, the village headmen and the Executive Authorities of municipalities prepare monthly returns of births and deaths from the Birth and Death Registers relating to their villages and municipalities and forward them at the end of each month to the Director of Public Health. The returns from villages are posted in special posting registers and from these the figures for each rural town, taluk and district are consolidated each month. Similarly the figures for all the municipalities are separately compiled. The monthly consolidated vital statistical statements of districts exclusive of municipalities, municipalities, and rural towns with a population of 10,000 and above, are published in the *Fort St. George Gazette*. Every effort is made to obtain all the birth and death returns in time and to include them in the monthly and annual vital statistical statements. That this effort is crowned with almost cent per cent success may be seen from the fact that out of a total of about 420,000 monthly returns from villages due for the year, only 590 returns were not received in time for inclusion in this report. This number represents 0.11 per cent of the total number of returns due for the year and its omission is not likely to affect the rates materially. The returns in arrears were due mostly from the Tahsildars of Chandragiri taluk (Chittoor district), Dharmapuri taluk (Salem district), Amalapuram taluk (East Godavari district), and Kaikalur taluk (Kistna district).

12. In order to ensure that registration of births and deaths in each rural town is complete, the birth and death rates of the rural towns for each month are examined. Whenever a rural town return shows low birth and death rates, the causes for such low rates are investigated with the aid of the Revenue Department and measures taken to rectify defects if any.

With a view to enabling the village headmen to prepare the monthly birth and death returns correctly and accurately, monthly reviews on the vital statistics recorded in each district are sent to the Collectors pointing out the defects noticed in the returns. This step has improved in a large measure the quality of the returns and has diminished the errors found in them.

GENERAL BIRTH AND DEATH RATES.

13. The need for calculating the birth and death-rates on the estimated mid-year intercensal population, instead of on the 1931 Census population, if the rates are to represent actual conditions, has been emphasised in previous reports. This is especially necessary as this Province has a fairly rapidly growing population as evidenced by the recorded excess of births over deaths. The extent to which the rates

the two populations differ from each other, will be seen from the following table:—

Year.	Mid-year estimated population for which vital statistics were recorded.	Number of births.	Birth-rate based on the estimated population.	Birth-rate based on census population.	Difference (column 4—col. 5).	Number of deaths.	Death-rate based on estimated population.	Death-rate based on census population.	Difference (column 8—col. 9).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1931	45,322,074	1,690,405	35.4	38.5	-3.1	1,072,572	23.7	22.7	-0.0
1932	45,763,500	1,627,381	35.6	38.0	-2.4	992,424	21.7	22.0	-0.3
1933	46,400,390	1,704,245	36.9	37.7	-0.8	1,005,293	21.7	22.7	-1.0
1934	46,659,269	1,643,998	35.0	37.3	-2.3	1,127,169	24.3	24.9	-0.6
1935	47,113,707	1,671,186	35.5	37.0	-1.5	1,124,396	23.9	23.1	-0.8
1936	46,543,720	1,659,325	35.7	37.8	-2.1	1,053,839	22.8	24.9	-2.1
1937	47,000,560	1,701,662	36.2	38.7	-2.5	1,054,433	22.4	24.9	-2.5
1938	47,461,550	1,709,545	36.0	38.9	-2.9	1,032,052	21.7	25.6	-3.9

* The decrease is due to the transfer of a portion of this province to Orissa.

The differences between the birth and death-rates as calculated on the census and estimated populations are shown in columns 6 and 10 respectively. The difference in the birth-rates increased from 0.1 in the census year to 2.9 in the year under report, and that in the death rates from 0 to 1.8. It is therefore clear that the birth and death rates calculated on the population of last census do not give an accurate idea of the actual occurrence of the vital statistical events. Hence the necessity for calculating the birth and death rates on the estimated population cannot be overemphasised. The rates calculated in this report are based on the census population except where otherwise stated.

14. The following statement gives the number of deaths registered during the past five years under the different causes of death:—

Cause of deaths.	Number of deaths registered in					Increase or decrease in 1938 as compared with 1937.
	1934.	1935.	1936.	1937.	1938.	
Cholera	18,168	35,450	34,117	23,367	19,252	-13,055
Dysentery and diarrhoea	97,844	98,181	84,313	84,276	74,064	-10,212
Smallpox	18,088	12,330	4,581	2,446	2,273	-173
Plague	2,458	645	615	1,127	1,165	+ 28
Fever	325,050	315,908	271,668	236,634	232,708	-3,926
Respiratory diseases	107,742	102,843	93,842	95,906	98,429	+ 514
Deaths from child birth	13,908	14,439	13,536	15,589	15,392	+ 363
Other causes	544,627	546,444	521,167	546,085	549,788	+ 3,703
Total	1,127,169	1,124,336	1,023,839	1,074,430	1,032,052	-42,378

There has been a small fall in the number of deaths registered during the year as compared with the previous year. As with an increasing population, there should be an increase in the number of deaths, even if the rate remained constant, the fall is greater than is apparent at first sight. The number of deaths due to the three infectious diseases of cholera, smallpox and plague has contributed only a relatively small percentage of 1.3 to the total deaths registered.

15. The salient features of the vital statistics recorded in the Province during the year are—

(1) The birth-rate during the year both as per census population (38.9) and as per estimated population (36.0) showed little change as compared with the rates (38.7 and 36.2 respectively) for the previous year.

(2) There was a slight fall in the death-rate from 24.0 to 23.5 per 1,000 of the census population, and from 22.4 to 21.7 per 1,000 of the

(3) A further fall in the mortality from smallpox from 2,446 to 2,273 being the lowest recorded mortality for the past 71 years.

(4) A considerable fall in the mortality from cholera by about 56 per cent as compared with the previous year.

(5) A decrease in the number of deaths registered under "Dysentery and Diarrhoea" and "Fevers".

(6) Small increase in the mortality from plague, respiratory diseases and child birth.

BIRTHS.

16. The number of births registered during the year was 1,709,545 (873,709 boys and 835,836 girls), giving a birth-rate of 38.87 per 1,000 of population, as compared with 38.72 in 1937 and the average birth-rate of 37.47 during the previous five years. 251,032 births were recorded in urban areas (Municipalities and Rural Towns with a population of 5,000 and above) giving a birth-rate of 40.55 per 1,000 of population, while there were 1,458,513 births in rural areas, giving a birth-rate of 38.59.

The ratio of male births to female births in the Province was 105 : 100.

The birth-rates among the different communities were as follows :—

Hindus	38.69 per 1,000 of population.
Muhammadans	40.64 ..
Indian Christians	37.36 ..
All communities	38.87 ..

The highest birth-rate was recorded in the Muhammadan community.

The statement given in Annexure J shows the distribution of births during the months and the four quarters of the year.

As usual, the third quarter recorded the largest number of births.

17. The number of registered births and the birth-rate in each district of the Province are given in Statement I of Appendix I. Eight districts have recorded birth-rates over 40 per 1,000 of population, fourteen between 35 and 40, three between 30 and 35. Excluding Madras, the highest birth-rate of 46.93 was recorded in Kurnool district and the lowest (30.93) in Tanjore district. The other two districts which returned low birth rates were the Nilgiris (33.73) and South Arcot (34.01). The low birth-rate in these districts is perhaps due partly to defective registration. When compared with the previous year, the birth rates have increased in thirteen districts and decreased in twelve, the increase ranging from 0.23 in Cuddapah district to 3.42 in Nellore district and the decrease ranging from 0.34 in Trichinopoly district to 6.77 in West Godavari district.

18. The birth-rate was in excess of death-rate in all the districts, the maximum being 22.70 in North Arcot district and the minimum being 8.51 in Kistna district. The excess of birth-rate over death-rate in the Province was 15.41 as against 14.73 in the previous year.

19. 17,533 still-births (9,747 males and 7,836 females) were registered in districts exclusive of municipalities, giving a rate of 11.3 per 1,000 live-births. This rate is very low when compared with the rate of 47.7 per 1,000 live births in municipalities and indicates that many of the still-births escape registration in rural areas.

BIRTHS IN MUNICIPALITIES.

20. Statement VI of Appendix I gives the number of registered births and birth-rates in each of the municipalities in the Province. The number of births recorded in municipalities was 156,821 giving a birth-rate of 42.51 per 1,000 of population, as compared with 41.25 in the previous year. Forty-six municipalities registered birth-rates over 40 per 1,000 of population, thirty-five between 40 and 30 and two between 30 and 20. The two municipalities which returned low birth-rates were Palacole (26.85) and Cannanore (29.60). Palacole has recorded low birth-rates in the two previous years also and the low rate is probably due to defective registration.

The number of still births registered in the municipalities was 7,484 (4,111 males and 3,373 females), giving a rate of 47.73 per 1,000 live-births.

BIRTHS IN RURAL TOWNS.

21. As a part of Saint Thomas' Mount has been added to the Alandur Panchayat, the population of Saint Thomas' Mount has fallen below 5,000. It has therefore been removed from the list of rural towns with a population of 5,000 and above in the Province, the total number of such towns now being 240. The number of births registered in the rural towns was 94,211, giving a birth-rate of 37.65 per 1,000 of population as against 37.67 in 1937.

The following statement shows the distribution of birth-rates in the rural towns as compared with the previous year :—

Birth-rates.	Number of rural towns.	
	1937.	1938.
Over 40 per mille	89	90
Between 40 and 30 per mille	119	110
Between 30 and 20 per mille	31	38
Below 20 per mille	2	2
Total	241	240

The rural towns which recorded birth-rates less than 20 per mille were Pallathur (15.89) and Kottayur (19.83) in Ramnad district. The latter returned low birth-rate in the previous year also.

DEATHS.

22. The number of deaths registered during the year was 1,032,052 (524,065 males and 507,987 females), giving a death-rate of 23.46 per 1,000 of population, as compared with 1,054,430 deaths in 1937, giving a rate of 23.99 per 1,000 of population and the average rate of 24.16 for the period of five years ending with 1937. There were 165,334 recorded deaths in urban areas (municipalities and rural towns), giving a death-rate of 26.71 as against 27.21 in the previous year. 866,718 deaths were registered in rural areas giving a rate of 22.36 per 1,000 of population as against 23.46 in 1937. The proportion of male deaths to female deaths was 103 : 100.

23. The total number of recorded deaths and the death-rates in each district are furnished in Statement II of Appendix I. High death-rates were recorded in the districts of Kurnool (29.56), East Godavari Agency (28.33), and West Godavari (27.91). The lowest death-rate of 19.74 per mille was recorded in South Arcot district, the other districts which registered low rates were Malabar (20.12), Ramnad (20.31), Salem (20.57), and Chittoor and North Arcot (20.98 each). As compared with the previous year, the death-rate has increased in 9 districts and decreased in 16 districts, the increase ranging from 0.06 in Malabar district to 3.46 in East Godavari Agency and the decrease ranging from 0.01 in the Nilgiris district to 2.84 in Kistna district. The large increase in the death-rate in East Godavari Agency is due to prevalence of cholera and the increase in mortality from dysentery and diarrhoea.

24. The distribution of deaths during the four quarters of the year was as follows :—

			Number of deaths.	Percentage to total.
First quarter	..	..	242,526	23.50
Second quarter	..	..	234,442	22.72
Third quarter	..	..	279,435	27.08
Fourth quarter	..	..	275,649	26.70
Total	..	..	1,032,052	100.00

The highest mortality was recorded in the third quarter and the lowest in the second quarter.

The death-rates among the chief communities were as follows :—

				Death rate per 1,000 of population.
Hindus	..	..	..	23.72
Muhammadans	..	..	..	22.17
Indian-Christians	..	..	..	19.91
All communities	..	..	..	23.46

The highest death-rate was in the Hindu community.

DEATHS IN MUNICIPALITIES.

25. 108,173 deaths were registered in the municipalities during the year, giving a death-rate of 29.32 per 1,000 of population as against 29.51 in the previous year. The number of deaths recorded in each municipality and the death-rates are given in Statement VI of Appendix I. Two municipalities returned death-rate above 40 per mille, fifteen between 40 and 30, fifty-nine between 30 and 20 and seven between 20 and 15. The municipalities which recorded high death-rates were Nellore (40.67) and Madras (40.61). Low rates were recorded in Bodinayakanur (16.85), Sivakasi (16.83), Erode (17.22), Villupuram (17.69), Vaniyambadi (18.13), Chirala (19.79) and Peddapuram (19.78).

DEATHS IN RURAL TOWNS.

26. 57,161 deaths were registered in rural towns giving a mortality rate of 22.85 per 1,000 of population as against 23.82 in the previous

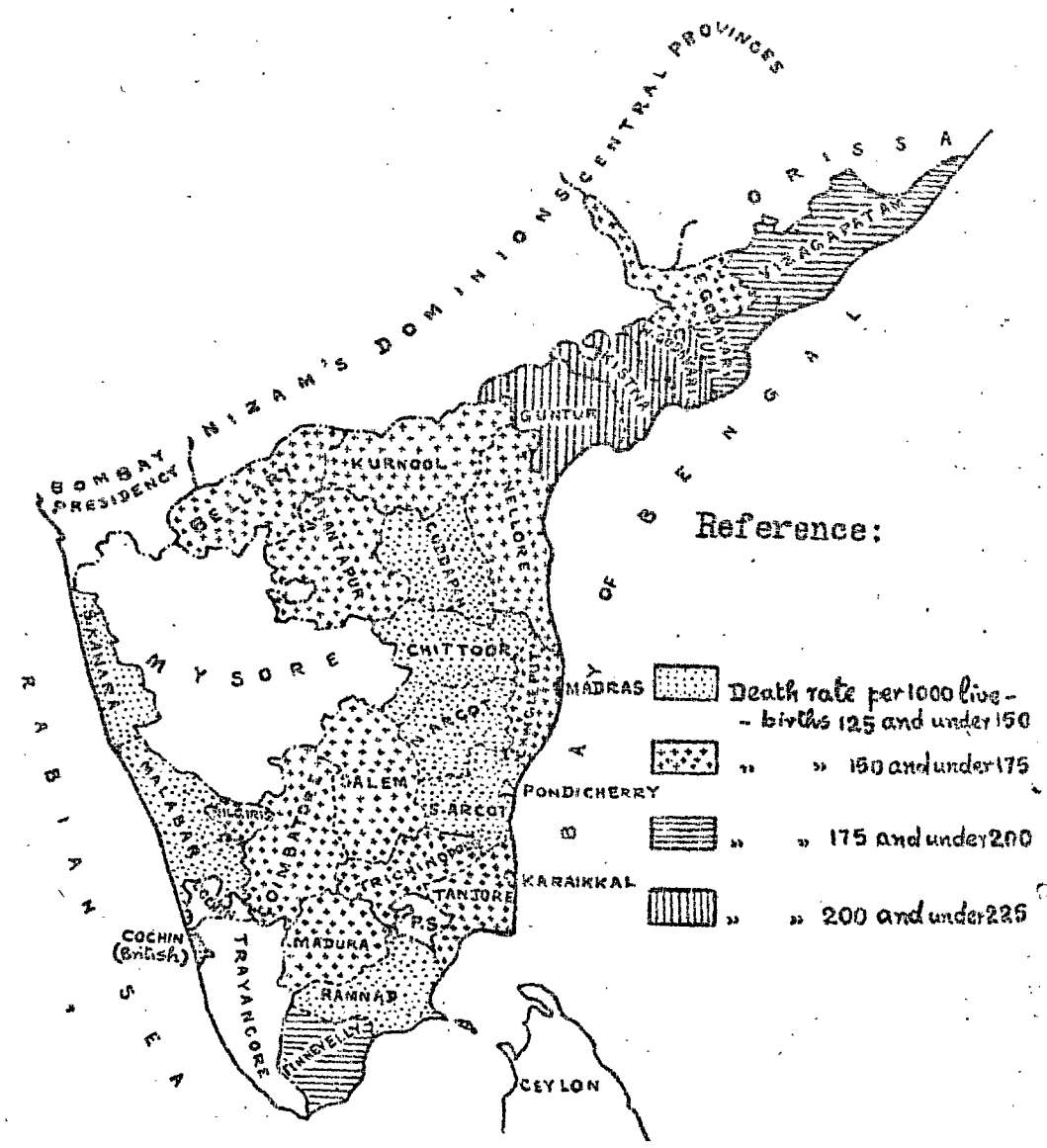
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Map VII

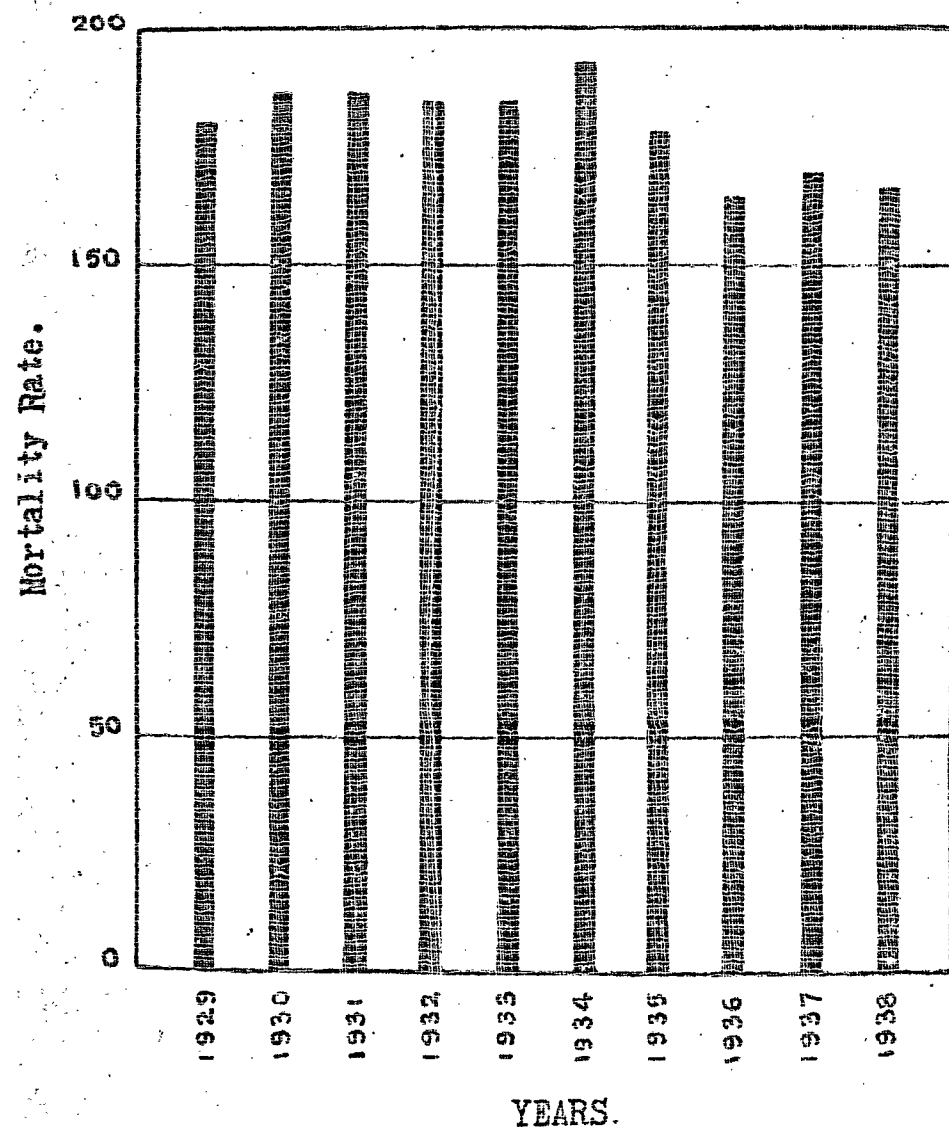
MADRAS PROVINCE.
INFANTILE MORTALITY RATE PER 1000 LIVE BIRTHS.
1938.



MADRAS PROVINCE.

Infantile Mortality Rate per 1000 Live-Births.

During the years 1929 to 1938.



year. Nineteen towns recorded death-rates between 40 and 30 per mille, 163 between 30 and 20 per mille, 47 between 20 and 15 per mille, and eleven less than 15 per mille. The towns that returned low rates were Kandamur (10.99), Pallathur (11.69), Sendamangalam (12.53), Namakkal (12.57), Kovuru (12.66), Ilaiyangudi (12.70), Vriddhaachalam (14.31), Kottaiyur (14.36), Panruti (14.77), Sivaganga (14.84), and Tirupattur (14.94).

AGE AND SEX DISTRIBUTION OF DEATH-RATES IN URBAN AND RURAL AREAS.

27. The distribution of deaths and death-rates as per age and sex in urban and rural areas is given in Statement IV of Appendix I. An abstract of the statement of death-rates per 1,000 of population is given in Annexure K. An examination of the Annexure shows the following salient features:—

(1) The death-rates for all age-groups in rural areas are less than the corresponding rates in urban areas except in the age groups "under 1 month" and "5 to 10 years". This shows that the environmental conditions in rural areas are generally more conducive to healthy life than in urban areas, but that the conditions in the neo-natal period are not favourable in rural areas.

(2) The death-rates of females during the age period 10 to 40 years are higher than those of males, while in the other age periods they are less. This perhaps reflects the greater risks women undergo during the childbearing periods of age.

(3) The mortality rate steadily decreases from a high death rate at infancy, reaches the minimum during the age period 10 to 15 years and gradually increases to a maximum at old age, thus showing a normal trend in the death-rates according to age.

The results of this analysis of age specific death rates in urban and in rural areas are in accord with the findings of previous years.

INFANTILE MORTALITY.

28. The number of infantile deaths registered during the year was 288,930 giving an infantile mortality rate of 166.04 per 1,000 live-births, as compared with 288,920 infantile deaths giving a rate of 169.70 in the previous year. The percentage of infantile deaths to total deaths in the Province was 27.5. Of the infantile deaths recorded, 55 per cent occurred within the first month of life. The infantile mortality rates for the age groups "under one month", "one to six months", and "six to twelve months" were 91, 39, and 36 per 1,000 live-births respectively.

29. The infantile mortality rates during the past ten years are given below:—

Year.	Infantile mortality rate.	Year.	Infantile mortality rate.
1929	179.5	1934	182.60
1930	185.7	1935	178.47
1931	186.6	1936	164.04
1932	182.9	1937	169.70
1933	184.9	1938	166.04

It will be seen from these figures that the infantile mortality rates during second half of the last decennium show a downward trend.

MATERNAL MORTALITY RATE.

30. 15,392 mothers died as a result of child-birth giving a mortality rate of 8.87 per 1,000 births (live and still) as against 8.46 in 1937. The slightly higher rate recorded during the year may be mainly due to the change in the definition of maternal deaths adopted towards the end of the previous year. As per the new definition all maternal deaths occurring during child-birth or within one month thereof, are classified as deaths due to child-birth, while in the previous years deaths of mothers during child-birth or within 14 days only, were classified as deaths due to child-birth.

GENERAL.

31. The vital index of the Province for the year, which expresses the ratio of birth-rate to death-rate as a percentage was 166 against 157 during the previous year. This again shows that the population of this Province is continuing to increase rapidly.

32. The following statement sets forth the vital statistics recorded in the different Provinces in India during the year. The figures vary widely from Province to Province, but in making such a comparative study the fact that the completeness and accuracy of registration and compilation of births and deaths also vary in different Provinces, should be kept in view.

Province.	Birth-rate.	Death-rate.	Survival rate (Birth-rate/Death-rate).	Number of male births to 100 female births.	Number of male deaths to 100 female deaths.	Infantile mortality rate.
Assam	29.92	22.42	7.50	107	106	164.67
Bengal	...	...	...	...	...	...
Bihar	...	...	...	...	...	...
Bombay	42.22	30.47	11.75	106	105	174.16
Central Provinces	43.19	41.07	2.13	106	108	238.20
N.W. Frontier Provinces	30.56	22.89	7.67	134	120	154.08
Orissa	...	...	...	...	...	...
Punjab	...	...	...	...	...	...
Sind	...	...	...	...	...	...
United Provinces	36.79	25.82	10.87	113	117	149.61
Madras	38.87	23.46	15.41	105	103	166.04

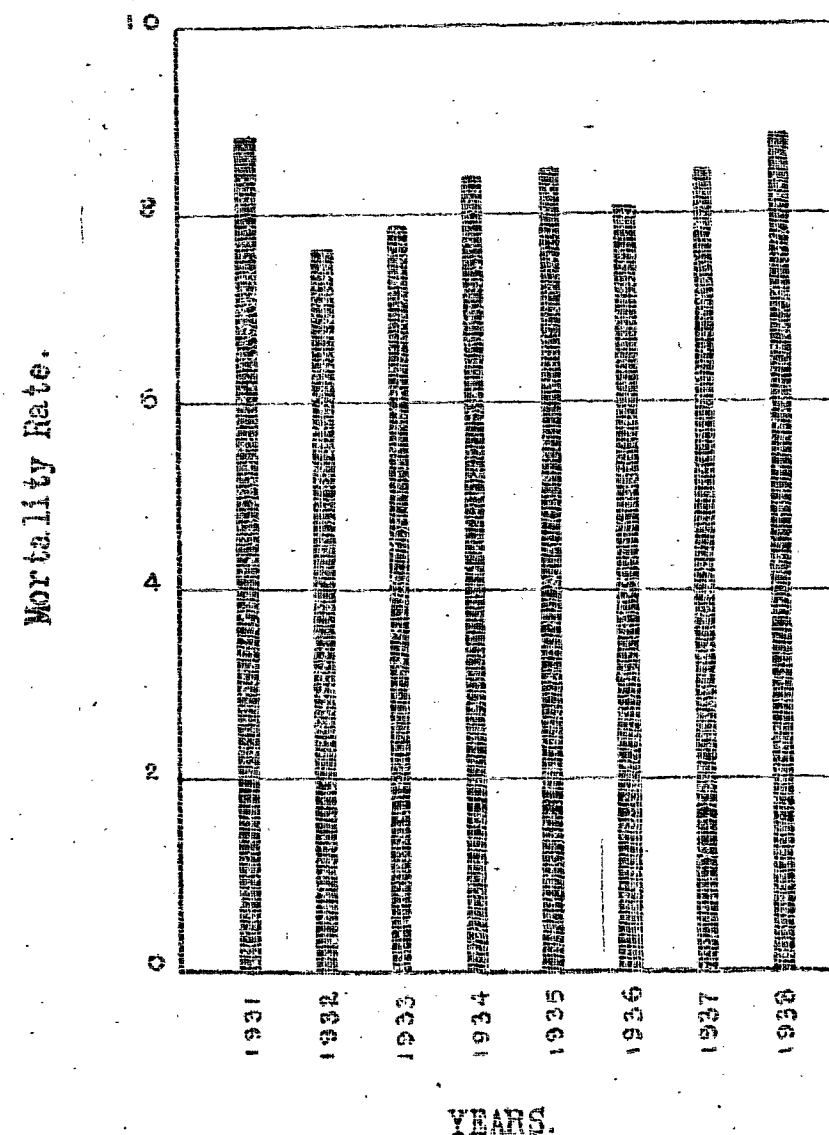
33. In the graph facing this page straight lines have been fitted by the method of least squares to the variations in the recorded birth and death rates since 1900. From the equations to the straight lines it is seen that since 1900 the recorded birth-rate has risen on the average by about 0.12 and the death-rate has fallen by about 0.06 per 1,000 per year. There has therefore been a steady increase in the population of the Province.

HISTORY OF THE CHIEF DISEASES AND THEIR EPIDEMIOLOGY.

34. One map and two graphs for each of the several important causes of death have been included in this chapter. The maps show the variations

MADRAS PROVINCE.

Maternal Mortality Rate per 1000 Births
During the years 1931 to 1938.



MADRAS PROVINCE.
MATERNAL MORTALITY RATE PER 1000 BIRTHS.
1938.

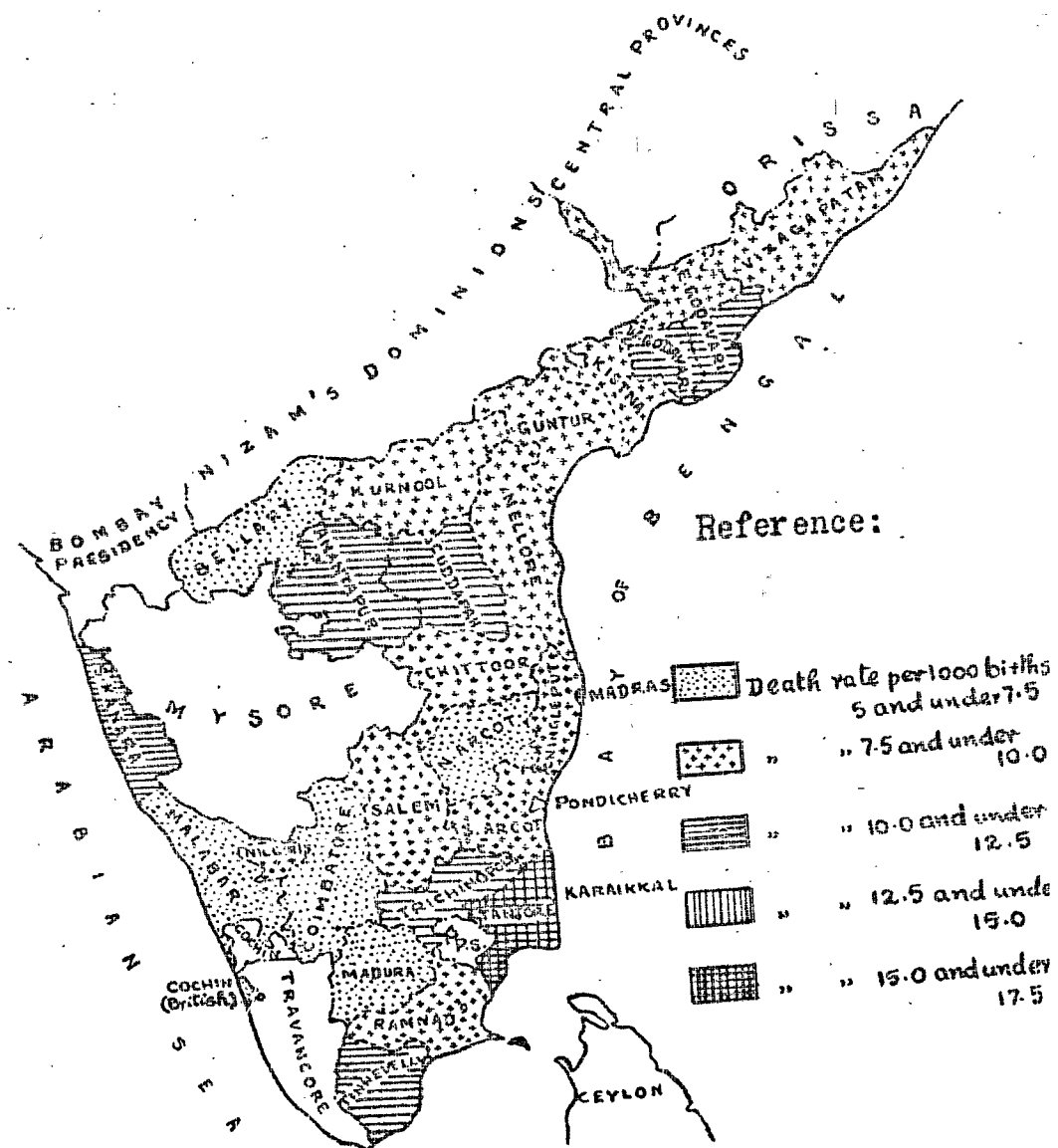
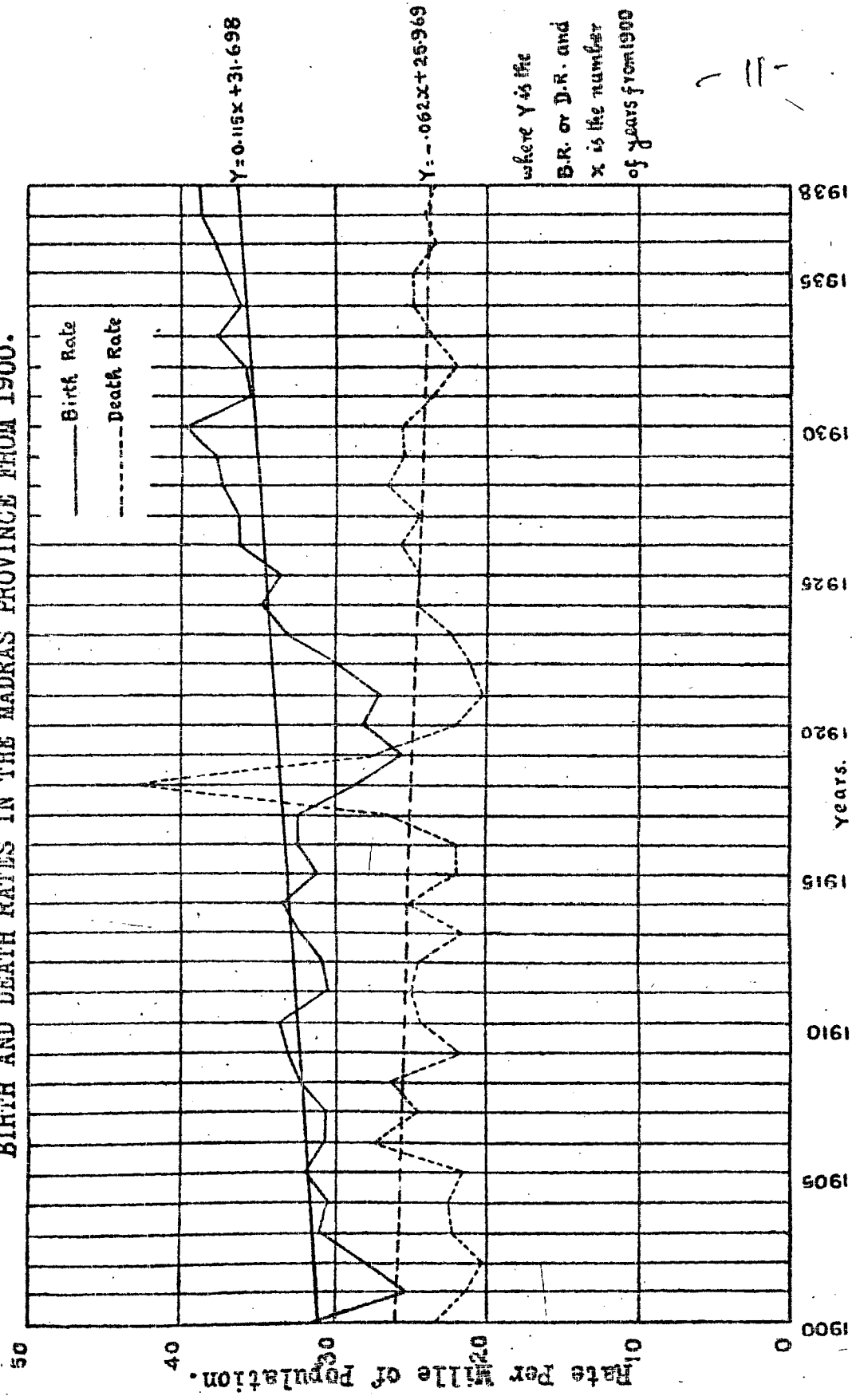
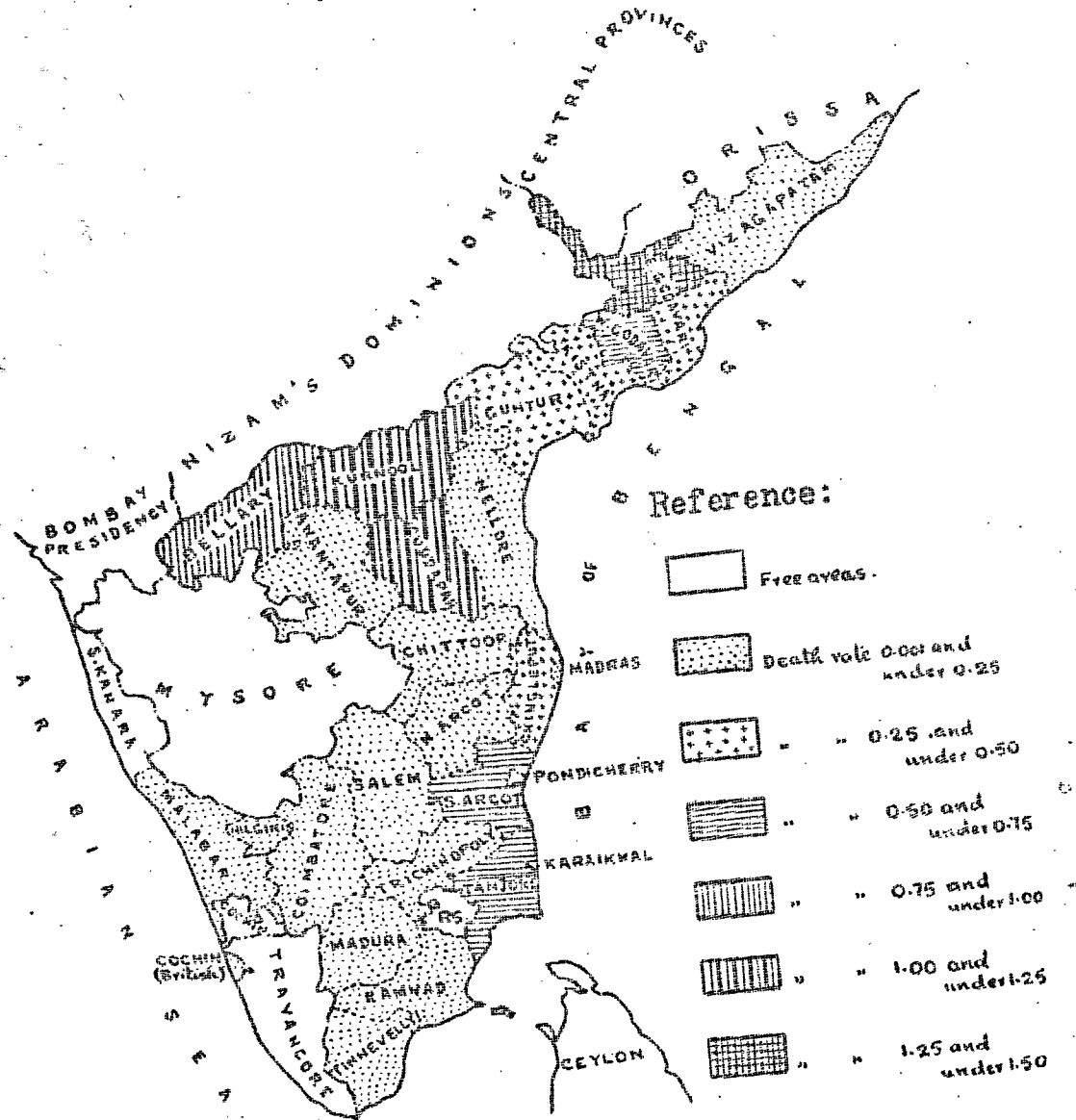


Chart No. I

BIRTH AND DEATH RATES IN THE MADRAS PROVINCE FROM 1900.

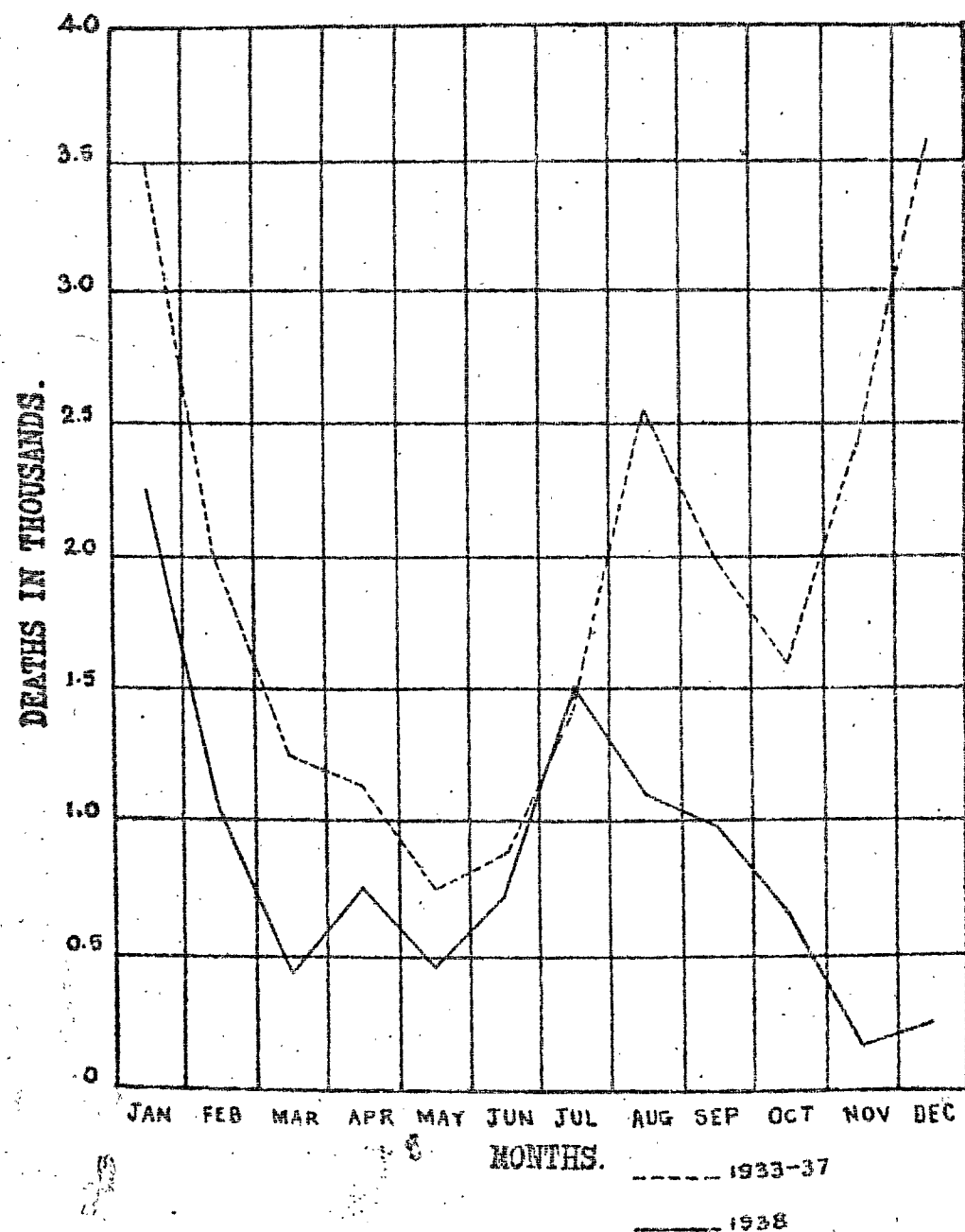


MADRAS PROVINCE.
MORTALITY FROM CHOLERA.
1938.



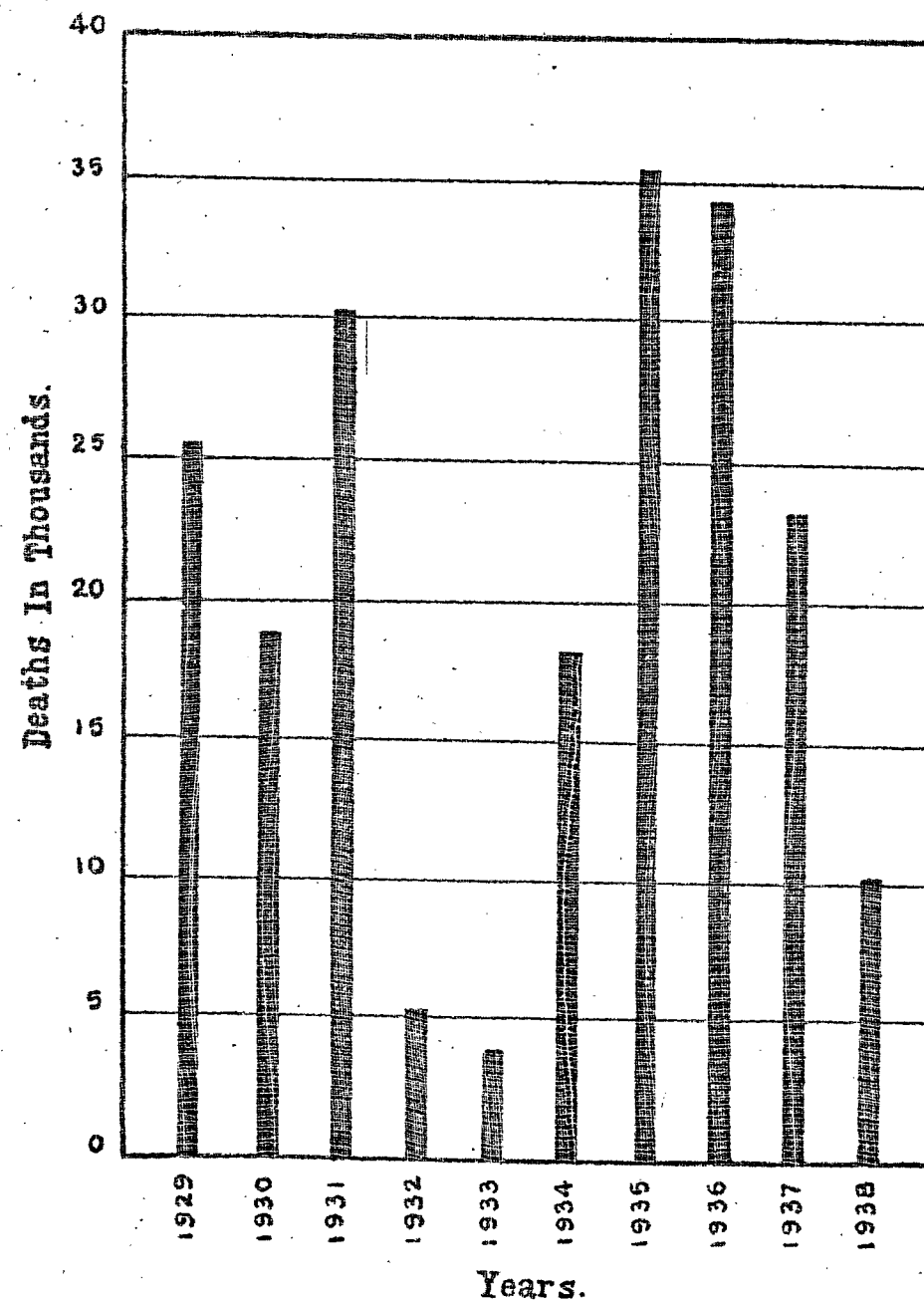
MADRAS PROVINCE.

MEAN MONTHLY DEATHS FROM CHOLERA IN 1933-37
AND MONTHLY DEATHS IN 1938.



MADRAS PROVINCE.

Deaths from Cholera during the years 1929 to 1938.



in the mortality rate from the several causes in the different districts of the Province during the year. The graphs show the annual mortality during the past ten years ending with 1938 as well as the monthly mortality during the year, as compared with the average monthly mortality of the previous five years.

CHOLERA.

35. The following statement shows the mortality from cholera in the province during the past ten years:—

Year.	Number of deaths from cholera.	Year.	Number of deaths from cholera.
1929 ...	25,846	1934 ...	18,158
1930 ...	18,746	1935 ...	35,456
1931 ...	30,232	1936 ...	34,117
1932 ...	5,278	1937 ...	23,307
1933 ...	3,851	1938 ...	10,252

It will be seen from the above table that the mortality, after having reached the peak in 1935, has gradually declined.

36. Forecasts of the probable trend in the prevalence of cholera were made periodically, to see whether there was any likelihood of an outbreak of the epidemic of cholera occurring during the ensuing months in any part of the province. During the year, with a view to keeping the public forewarned, Government published three forecasts in the Press. The actual occurrence or the absence of the epidemic, as the case may be during the ensuing periods for which these announcements were made, has shown that events had come to pass as predicted. These forecasts have been of immense value to the Public Health Department and to local bodies inasmuch as they were able to adopt the necessary preventive measures in advance in areas where the prevalence of cholera was anticipated and thereby to combat the outbreak and spread of the disease.

37. The mortality from cholera showed a further decline from 23,307 deaths in 1937 to 10,252 deaths in 1938. The death-rate from cholera has decreased from 0.53 per mille in 1937 to 0.23 per mille in 1938, the quinquennial average rate being 0.52 per mille. The mortality was highest in the first quarter and lowest in the last quarter. As in 1937, the winter epidemic in the southern and central districts was belated. South Kanara district was absolutely free and Nilgiris almost so, only a single death occurring during the year. Seven districts, viz., Madura, Ramnad, Tinnevely, North Arcot, Salem, Bellary and Malabar had a few sporadic cases but escaped an epidemic. In eight districts (Vizagapatam, Kistna, Nellore, Chingleput, Trichinopoly, Chittoor, Coimbatore and Anantapur), the epidemic was mild. The other seven districts (South Arcot, Tanjore, Kurnool, Cuddapah, East Godavari, Guntur and West Godavari) had severe epidemics. The mortality in these was 7,643 which is over 75 per cent of the total mortality from cholera in the Province.

Forty municipalities were affected during the year recording 367 deaths. This is the lowest mortality in municipal areas for over ten years. In urban areas, the health staff can act more promptly and with fuller facilities for prevention and control. Six municipalities contributed 50 per cent of the total urban mortality. They are Cuddalore (47),

Nandyal (38), Anantapur (32), Guntur (27), Rajahmundry (25) and Saidapet (21). Six others which accounted for another 25 per cent, are Bezvada (18), Kurnool (17), Gudivada (16), Palacole (14), Chidambaram (13) and Cuddapah (12).

38. The winter epidemic of 1937 continued in the first quarter of 1938 in a severe form in South Arcot and Tanjore districts, and in a milder extent in Chingleput, Cuddapah, Chittoor, Coimbatore, Nellore, and Trichinopoly. The epidemic soon subsided in these districts except Tanjore where it continued in a mild form practically throughout the year and Trichinopoly where it prevailed in the second quarter only. The pilgrims returning from Bhadrachalam festival set afoot a wave of cholera in the northern districts in the second quarter. Beginning in West and East Godavari, the epidemic soon spread to the adjoining districts of Kistna, Guntur, Kurnool and Vizagapatam, reaching its peak in the third quarter. East Godavari, Kurnool and Cuddapah suffered most. The infection subsided in the last quarter. The health staff exercised due diligence in the control of cholera. Additional staff was concentrated, prompt disinfection and attention to patients organized, rapid protection afforded by mass inoculation, and water supplies chlorinated and protected. Over 951,000 anti-cholera inoculations were done during the year.

39. It was noticed in many instances that the migration of coolies for transplantation and groundnut picking played a prominent part in the genesis and spread of cholera epidemics. This aspect was examined in the case of eight districts and a regular programme of preventive work to be done in anticipation of an outbreak has been drawn up. It will be tried in the ensuing season. The carrier problem was investigated in Madura under the direction of the Director, King Institute. The significant portion of the work awaits the next epidemic. The Municipal Council has since made the laboratory a permanent Public Health Laboratory, the first of its kind in the Province. With the programme of rural water-supplies, the training of all Rural Medical Practitioners in Public Health and the passing of the Public Health Act, the hands of the health staff have been greatly strengthened in the control of cholera epidemics.

SMALLPOX.

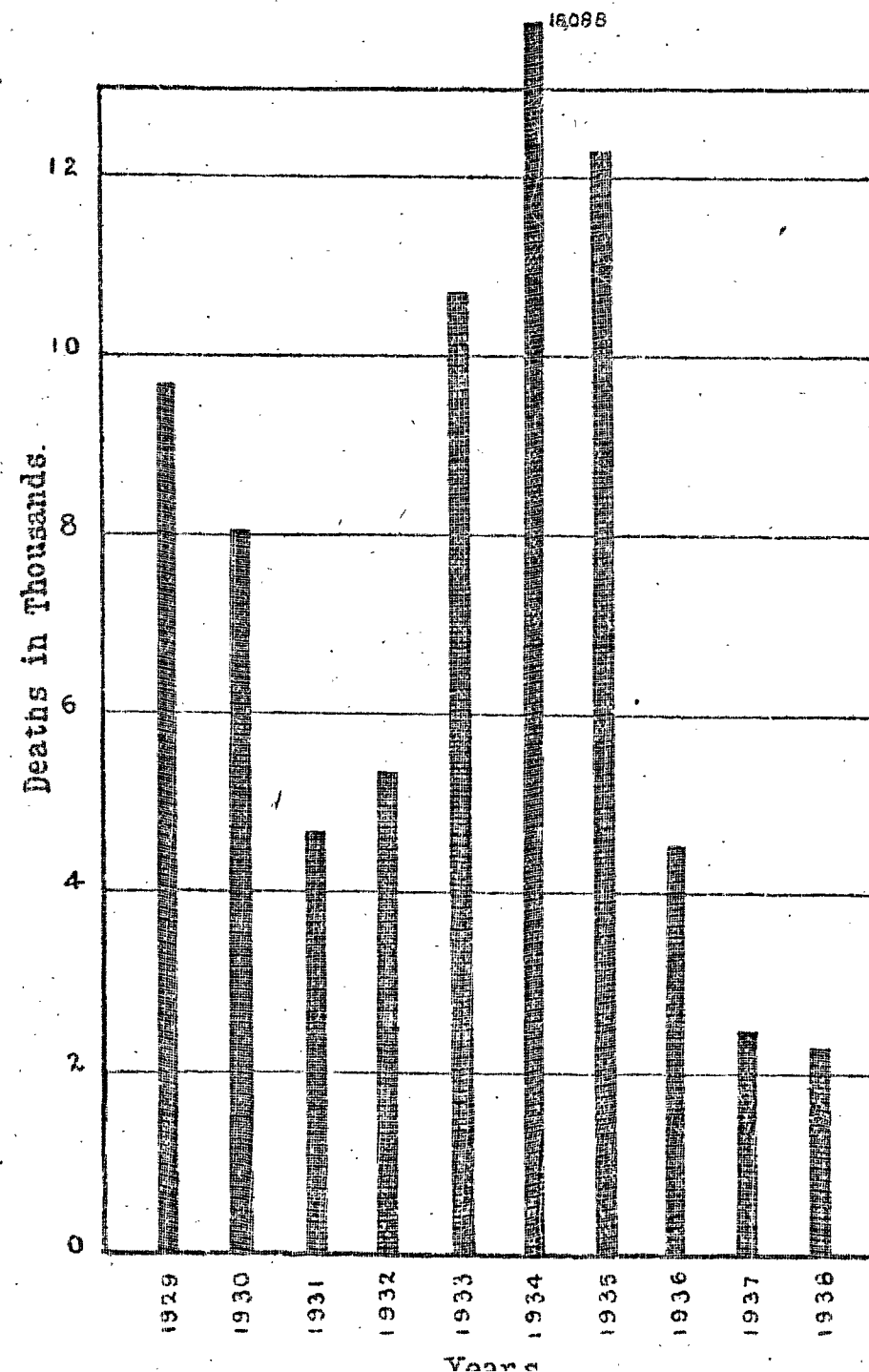
40. The number of deaths from smallpox has still further decreased from 2,446 in 1937 to 2,273 in 1938, giving mortality rates of 0.06 and 0.05 per 1,000 of population. The death-rate from smallpox during the year shows a decrease of 0.16 per mille over the quinquennial average rate of 0.21 per mille. The mortality from smallpox is the lowest ever recorded during the past 71 years. The following table shows the number of deaths registered under smallpox during the past decennium :—

Year.	Number of deaths from smallpox.	Year.	Number of deaths from smallpox.
1929	9,708	1934	18,088
1930	8,025	1935	12,330
1931	4,660	1936	4,581
1932	5,363	1937	2,446
1933	10,745	1938	2,273

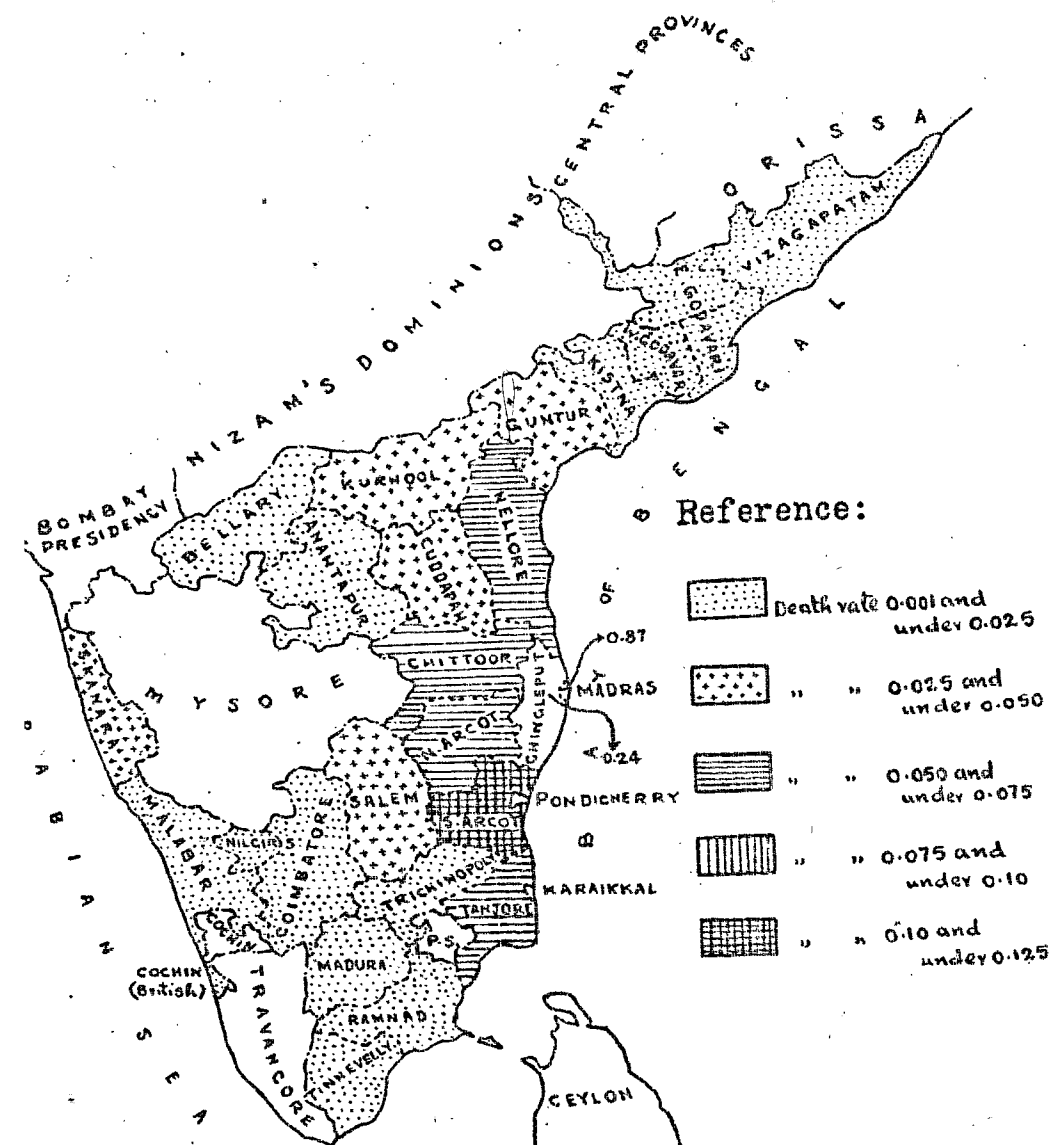
Graph II (a)

MADRAS PROVINCE

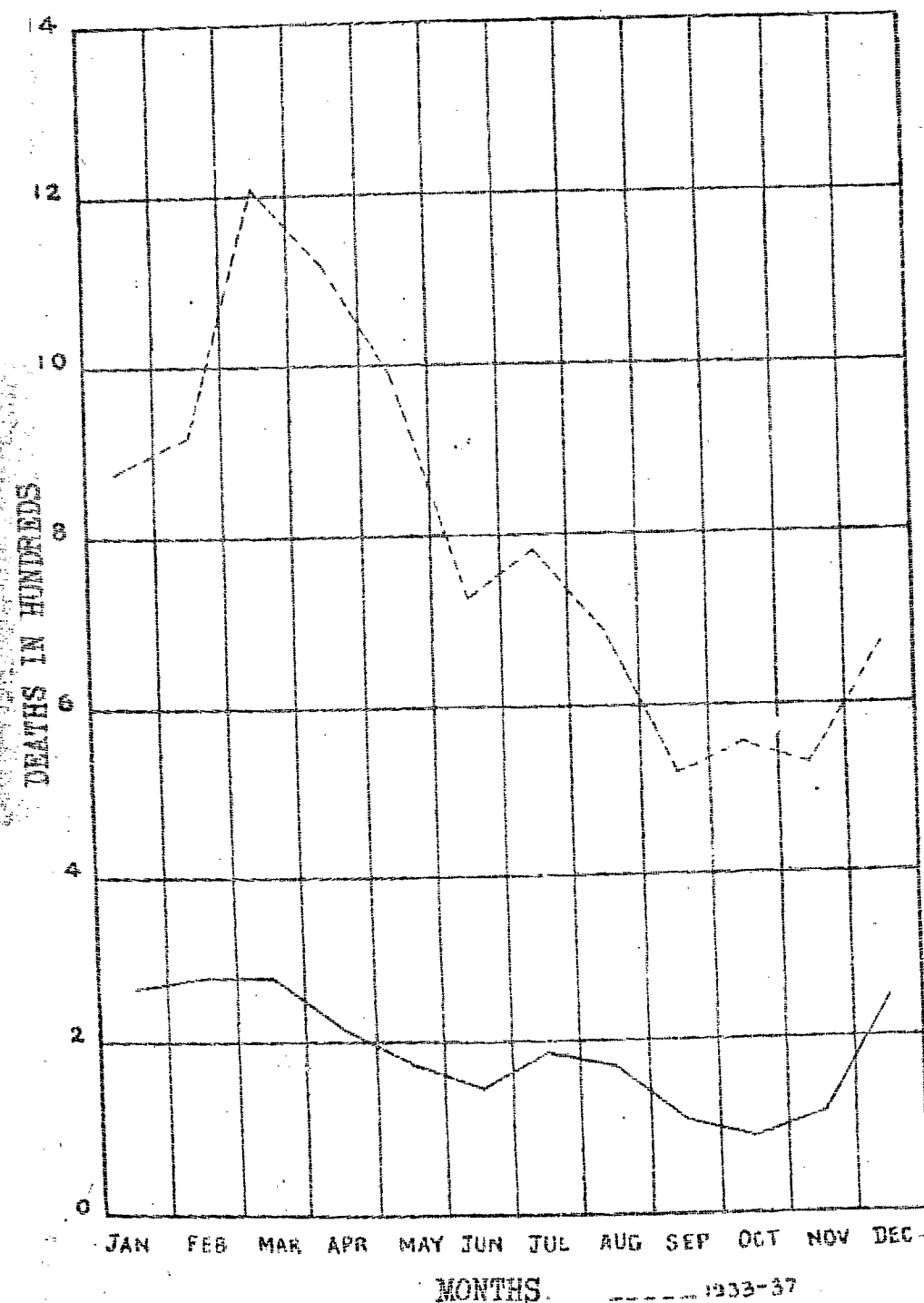
Deaths from SMALLPOX during the years 1929 to 1938.



1938.



MADRAS PROVINCE.
MEAN MONTHLY DEATHS FROM SMALLPOX IN 1933-1937
AND MONTHLY DEATHS IN 1938.



It will be observed from the above statement that the deaths from smallpox have been steadily decreasing since 1934. This decline is due to the intensive vaccination and revaccination campaign carried on from year to year and also due to the continuous propaganda work that is being done to keep the public informed in matters pertaining to the prevention of this disease.

Though all the districts were affected the districts of East Godavari (Plains and Agency), the Nilgiris, Bellary, Kistna and Tinnevely reported only stray cases. The mortality rates from smallpox were less than 0.10 per mille in all the districts except Chingleput and South Arcot which recorded death-rates of 0.24 and 0.12 per mille, respectively. The maximum number of deaths was recorded in the first quarter and the mortality gradually decreased in the subsequent quarters.

Thirty-one municipalities recorded 735 deaths from smallpox giving a death-rate of 0.20 per mille as compared with 0.11 in the previous year. Madras City alone accounted for about 76 per cent of the total smallpox deaths. The other municipalities which returned high mortality were Saidapet (23), Nellore (19), Salem and Karnool (18 each).

41. The following statement sets forth the distribution of smallpox mortality in the different age periods during the past ten years:—

Year.	Under 1 year.		1 year and under 10 years.		Above 10 years.		Total number of deaths from smallpox.
	Number of deaths from smallpox.	Percent-age to total.	Number of deaths from smallpox.	Percent-age to total.	Number of deaths from smallpox.	Percent-age to total.	
1929 ...	3,431	35.3	2,917	30.0	3,360	34.7	9,708
1930 †	2,324	33.5	1,865	26.9	2,753	39.6	6,942
1931 *	1,610	40.2	907	22.6	1,488	37.2	4,005
1932 ...	1,455	27.1	1,686	31.4	2,222	41.5	5,363
1933 ...	3,081	28.7	3,009	28.0	4,655	43.3	10,745
1934 ...	5,593	30.9	5,516	30.5	6,979	38.6	18,088
1935 ...	3,338	27.1	3,751	30.4	5,241	42.5	12,330
1936 ...	1,232	26.9	1,327	28.9	2,022	44.2	4,581
1937 ...	877	27.7	713	29.1	1,056	43.2	2,646
1938 ...	596	26.2	583	25.6	1,094	48.2	2,273

* The figures for this year are exclusive of those for five districts.

† Do. do. do. do. do.

Since 1929 the proportion of deaths from smallpox under one year of age has steadily declined, while the proportion of deaths for ages of 10 years and above has steadily increased. The proportion of deaths in the age period one and under ten years having remained round about 30 per cent till 1935 is since showing a tendency to fall. While the considerable reduction in the mortality due to smallpox in all the age groups, is attributable to the intensive campaign of vaccination and revaccination carried on during the last few years, the incidence of the disease persisting in a larger degree in the older ages above 10 years, points out that, if the immunity of the population at all age groups is to be kept properly balanced and maintained at a satisfactory level, revaccination should be carried out from time to time with as much care, promptness and attention, as are bestowed in the case of infantile and primary vaccination. As the immunity to smallpox conferred by vaccination varies according to the time that has elapsed since the last vaccination, infantile vaccina-

tion should be followed by revaccination before school age and again between 10 and 20 years of age.

42. In accordance with the instructions issued by the Government of India, the details regarding the vaccinal conditions of smallpox cases treated in infectious diseases shed and isolation hospitals are furnished below :—

(a) Vaccinated in infancy as evidenced by one or more cicatrices...	1,405
(b) Stated to have been successfully vaccinated in infancy but no vaccination cicatrix present...	486
(c) Stated to be unvaccinated or unsuccessfully vaccinated and no vaccination cicatrix present	260
(d) Previously unvaccinated but vaccinated during the incubation period of smallpox	40
(e) Stated to have been successfully vaccinated	...
Total	2,191

PLAGUE.

43. A statement of comparative mortality from plague for each quarter during the past five years is furnished below :—

	1934.	1933.	1932.	1931.	1930.
First quarter, ...	1,077	276	136	302	435
Second quarter ...	55	17	29	120	91
Third quarter ...	622	92	205	298	301
Fourth quarter ...	604	260	245	407	328
Total	2,358	645	615	1,127	1,155

As usual the second quarter showed the lowest mortality.

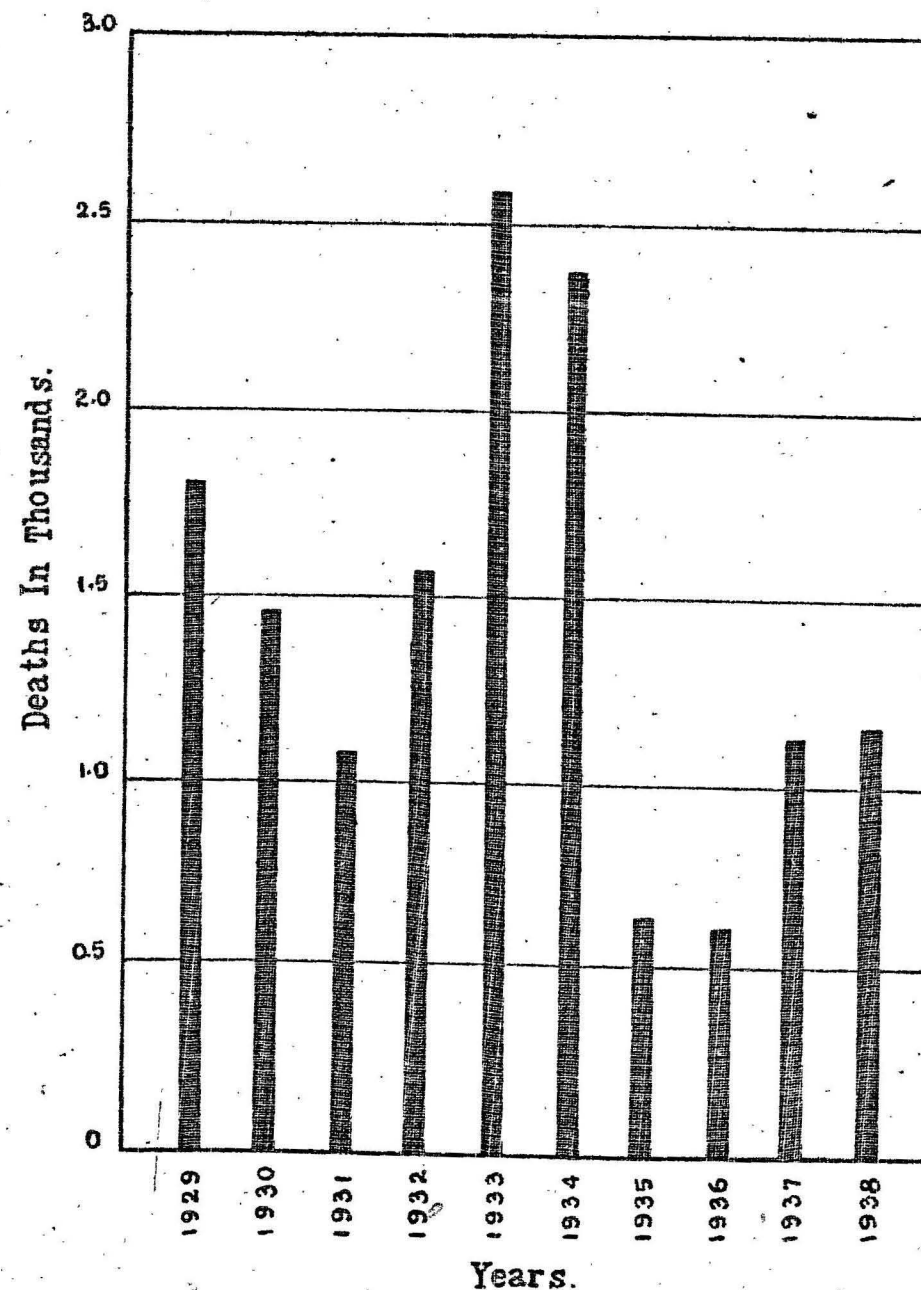
1,155 deaths were recorded from plague during the year as against 1,127 deaths during the previous year. The death-rate from plague was the same (0.03) as in the previous year, the quinquennial average also being 0.03. The largest number of deaths was reported from Salem (540 deaths) and Madura districts (444 deaths). Thus these two districts were responsible for 85 per cent of the total plague mortality. Only a single death from plague was registered in Bellary district. Rat falls were reported from five villages, but the smears proved negative to plague. This is the first time for the last 11 years that this district has remained practically free from plague. In Salem, Hosur was the taluk worst affected. Infection spread also to Krishnagiri and Darmapuri taluks during the year. In Madura, the infection was confined to Cumbum valley where 85 villages reported infection during the year.

Seven municipalities reported plague. The total deaths recorded were 33. Periyakulam Municipality although in the midst of an endemic area of plague remained free from infection for 5 years ending with 1937. Plague broke out during the year under report, infection being first noticed in bandicoots. There were 19 attacks and 9 deaths in this municipality.

44. Plague control was as usual under the special staff appointed for the purpose in the infected area. The measures adopted were anti-plague

MADRAS PROVINCE.

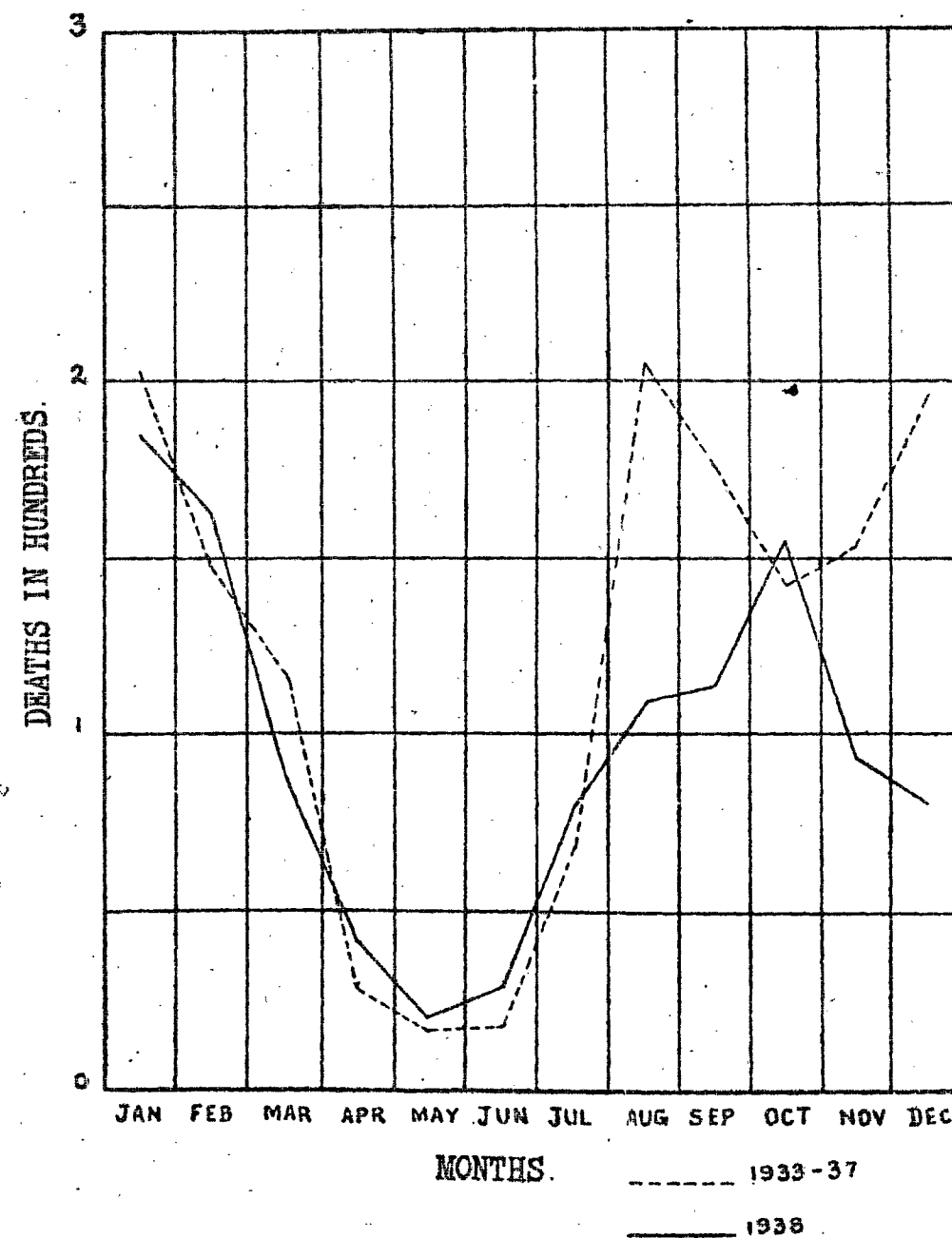
Deaths from PLAGUE during the years 1929 to 1938.



MADRAS PROVINCE. 2)

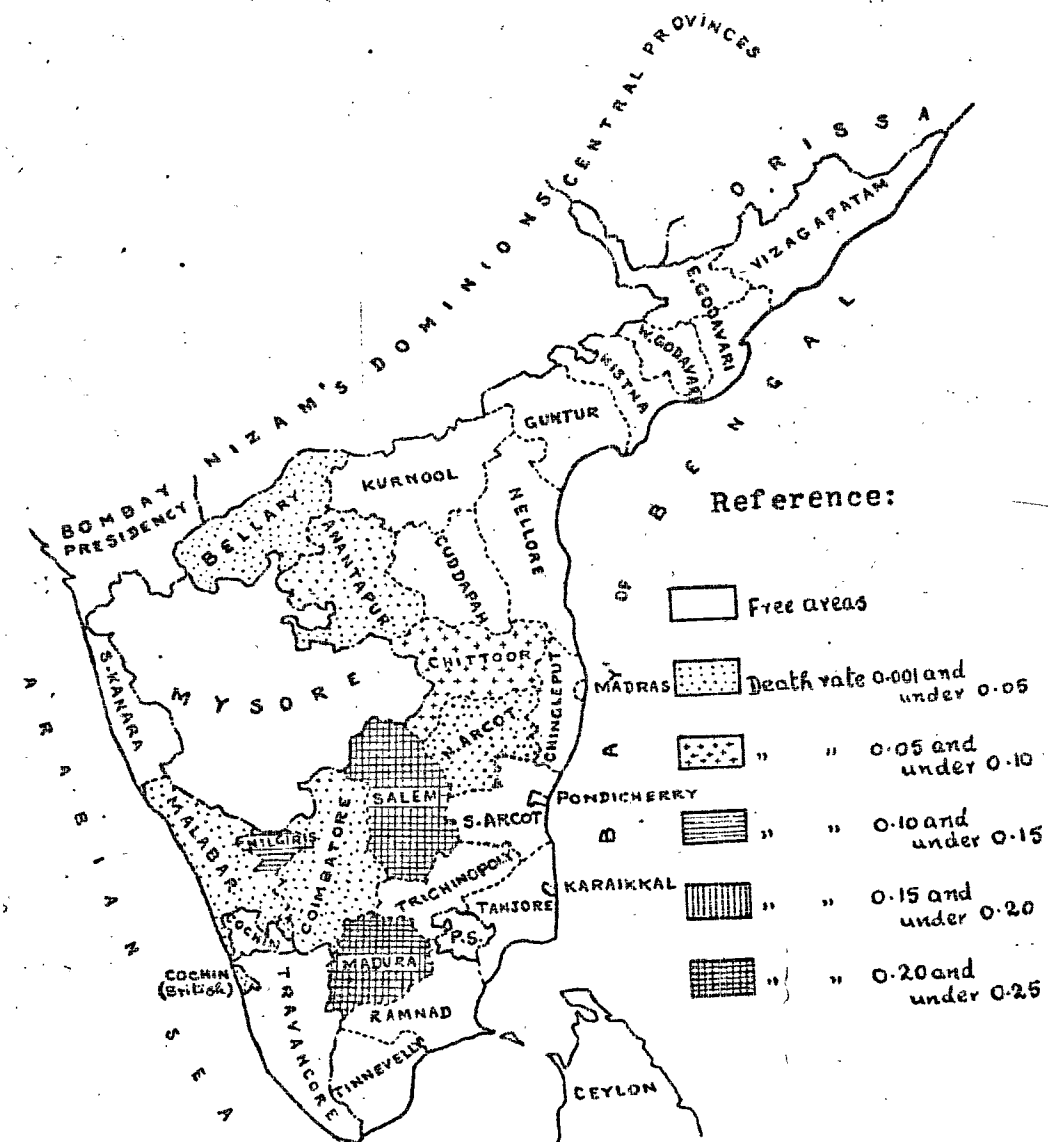
MEAN MONTHLY DEATHS FROM PLAGUE IN 1933-37

AND MONTHLY DEATHS IN 1938.



MADRAS PROVINCE. MORTALITY FROM PLAGUE.

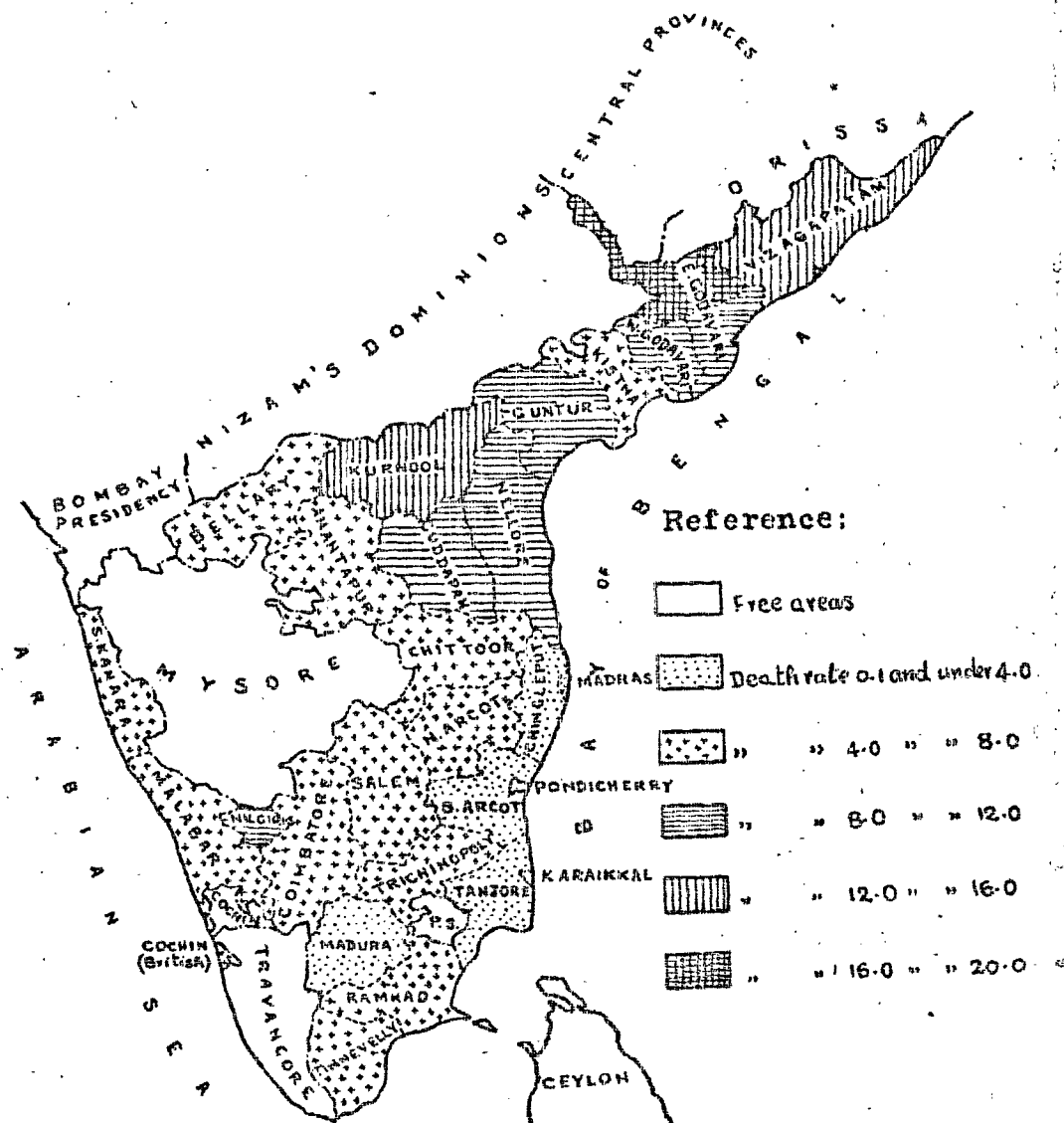
1938.



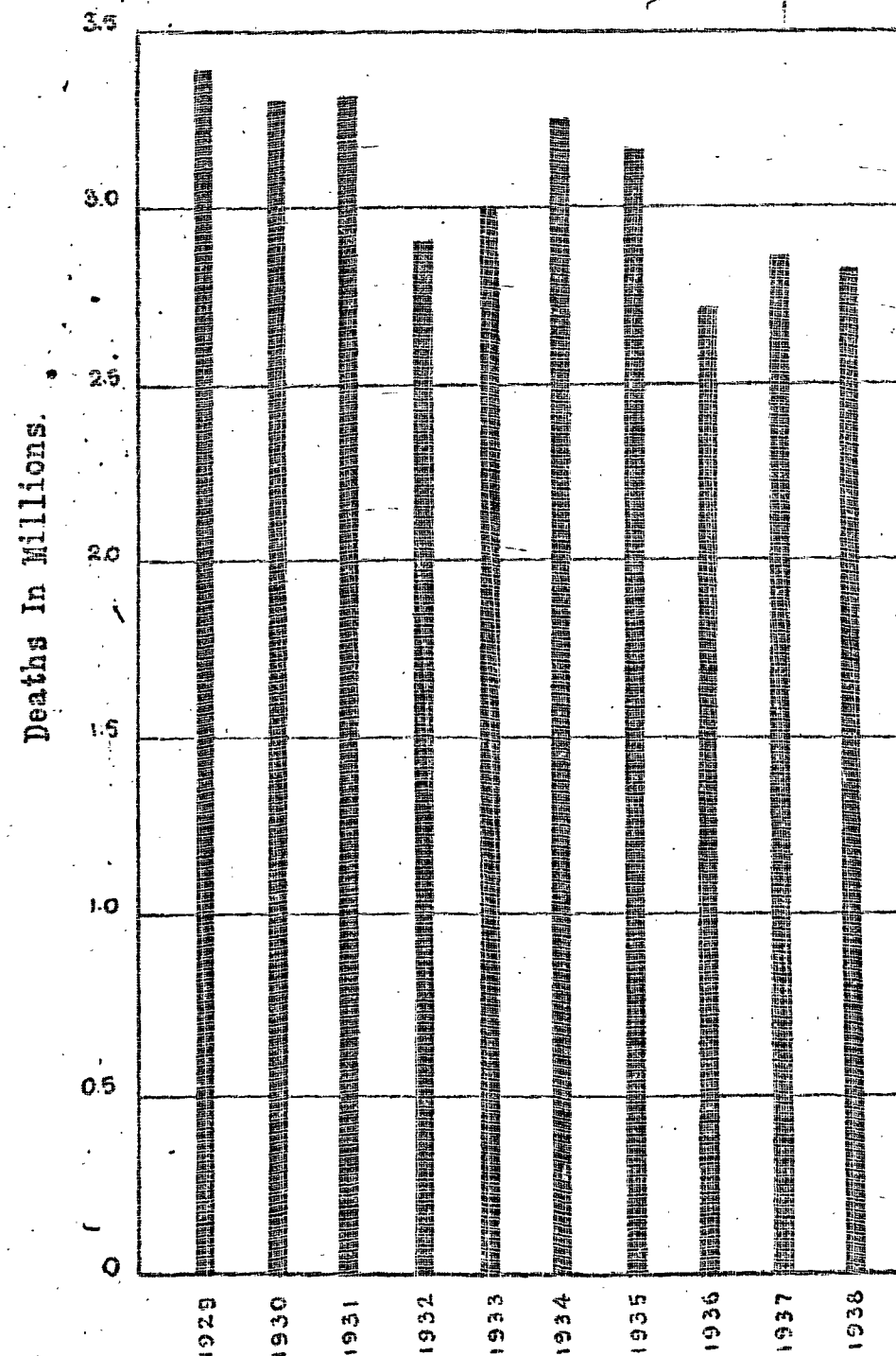
Map IV
MADRAS PROVINCE.

MORTALITY FROM FEVERS.

1938.



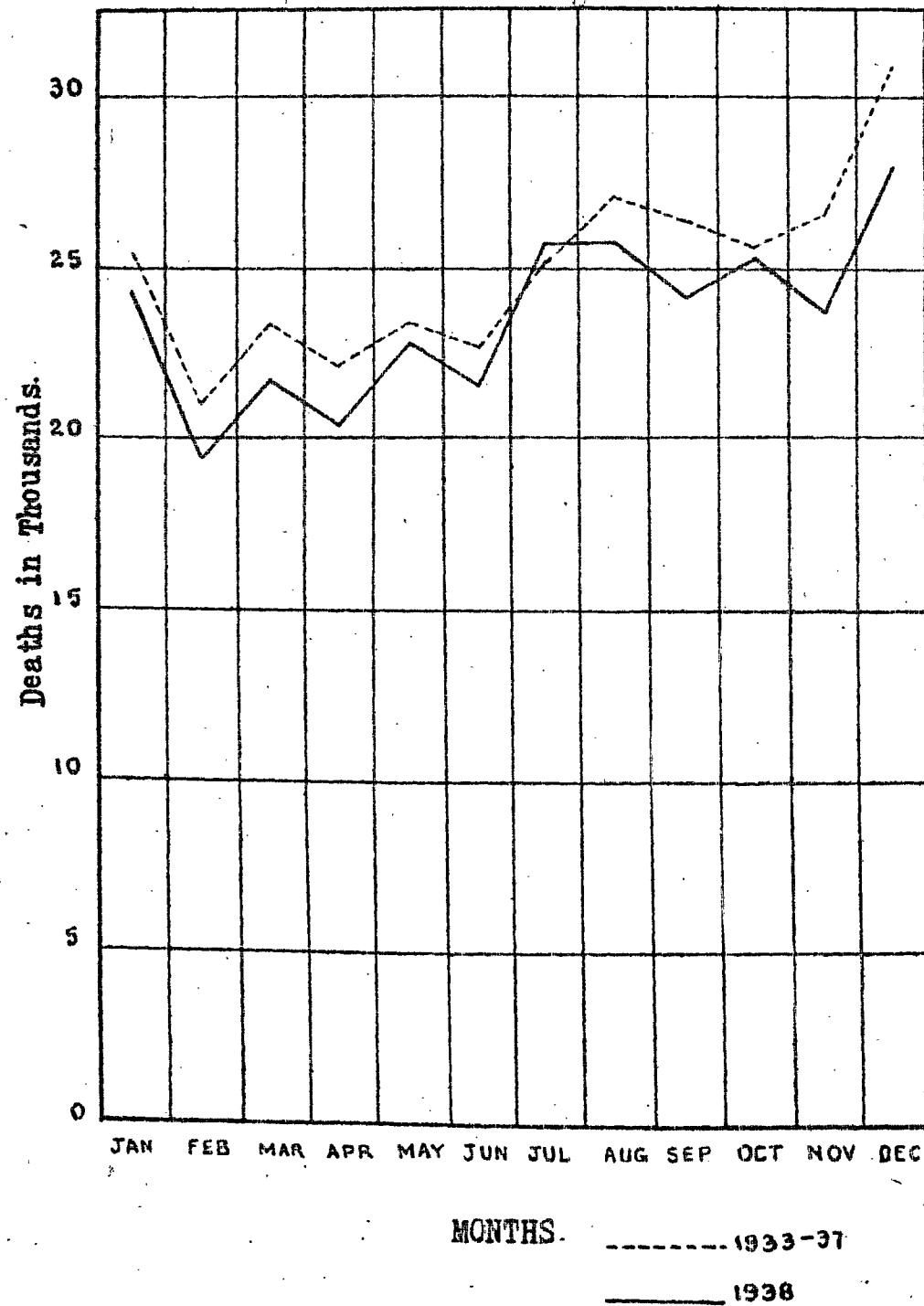
MADRAS PROVINCE
Deaths from FEVERS during the years 1929 to 1938.



MADRAS PROVINCE.

MEAN MONTHLY DEATHS FROM FEVERS IN 1933-37

AND MONTHLY DEATHS IN 1938.



MADRAS PROVINCE.

1030.

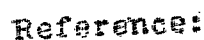
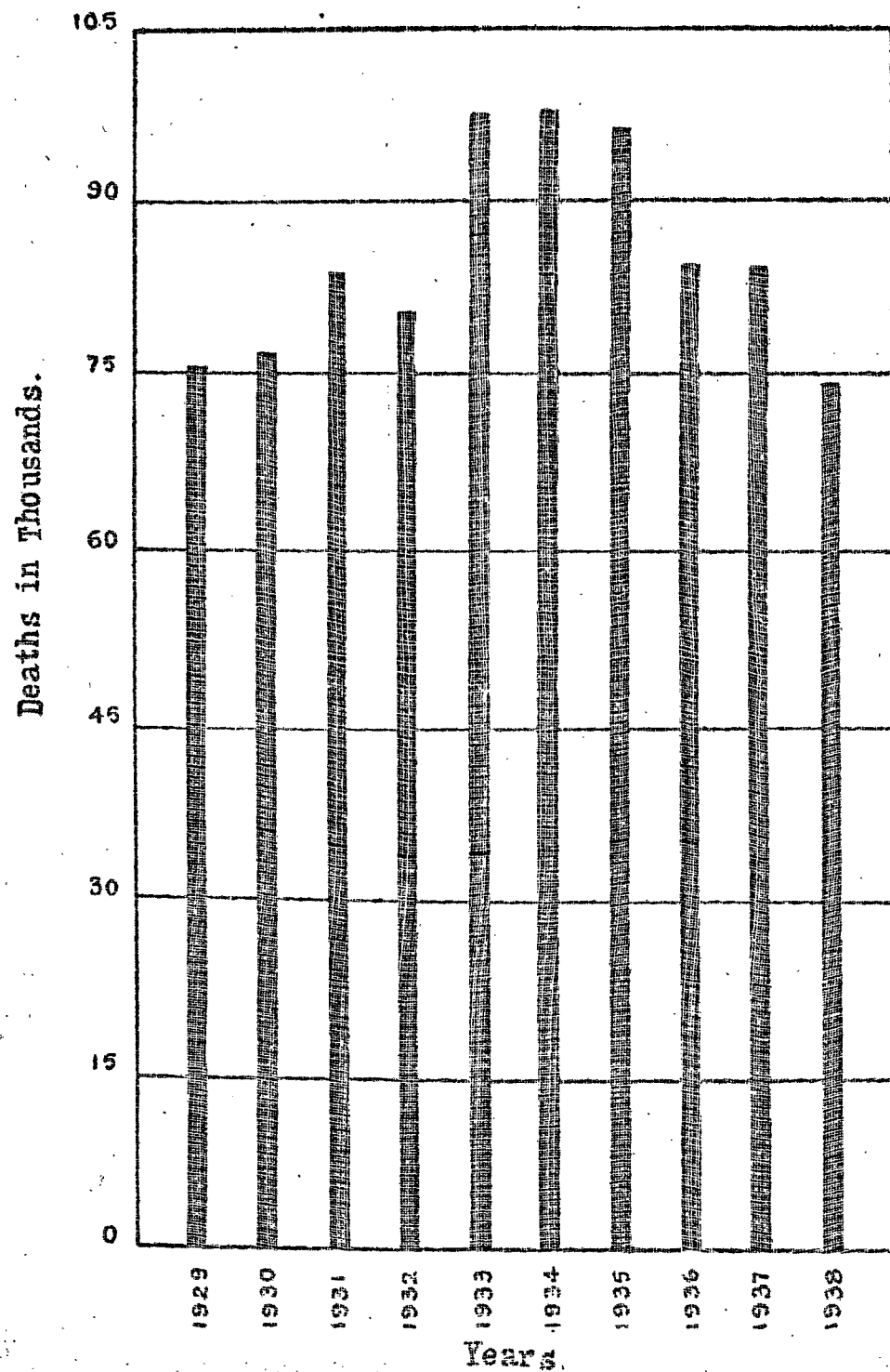


Diagram	Death rate
	1.0 and under 1.5
	1.5 and under 2.0
	2.0 and under 2.5
	2.5 and under 3.0
	3.0 and under 3.5
	3.5 and under 4.0

MADRAS PROVINCE

Deaths from DYSENTERY and DIARRHOEA

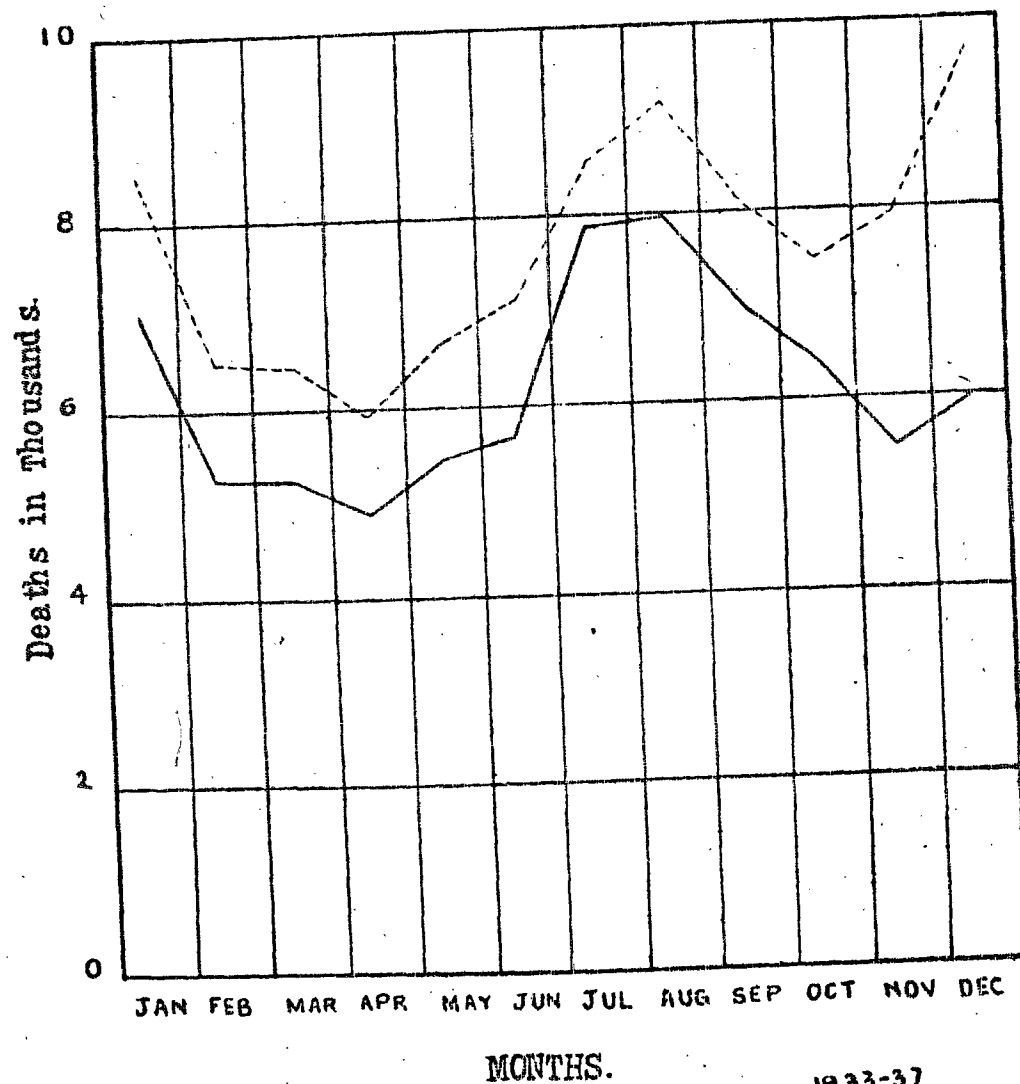
During the years 1929 to 1938. 28



MADRAS PROVINCE.

MEAN MONTHLY DEATHS FROM DYSENTERY AND DIARRHOEA IN 1933-37

AND MONTHLY DEATHS IN 1938.



MONTHS.

----- 1933-37

———— 1938

15

inoculations on a mass scale, evacuation of infected localities whenever necessary and cyanogas fumigation of all residences. On the whole 159,510 anti-plague inoculations were done during the year as against 151,225 for last year. These measures proved effective in practice, in almost all the areas.

45. In G.O. Ms. No. 1625, P.H., dated 2nd May 1938, Government sanctioned experimental routine cyanogas fumigation scheme in seven districts, viz., Anantapur, Bellary, Coimbatore, Nilgiris, Salem, Madura, and North Arcot, and in six municipalities, viz., Bellary, Bodinayakanur, Calicut, Hospet, Tirupattur and Vaniyambadi. The cost of the scheme is shared equally by the local body and the Provincial Government. Very satisfactory results have been reported from the working of the scheme. It is said to have been specially responsible for the prompt control of plague in Periyakulam and Tiruppur municipalities.

FEVERS.

46. Statement IX of Appendix I gives number of deaths registered under fevers and the mortality rates in each district. During the year under report 282,708 deaths were recorded under this head, giving a death rate of 6.43 per mille as against 6.52 per mille in the previous year and the quinquennial rate of 6.74 per mille. Fevers accounted for nearly 27 per cent of the total number of deaths in the Province. The districts which recorded high fever mortality rates were East Godavari Agency (16.15), Kurnool (13.36), Vizagapatam (13.25), Cuddapah (11.36) and East Godavari, Plains (10.07). These districts have recorded high fever mortality rates in the previous years also and the high rates might be due to large areas in the districts being malarious. As in the previous year the districts of Tanjore (2.35), Madura (3.50), Chingleput (3.59) and South Arcot (3.64) returned low fever death-rates. The incidence of fever mortality reached its maximum in the last quarter.

10,294 deaths were registered under "fevers" in the municipalities giving a mortality rate of 2.79 per mille as against 2.90 per mille in 1937. The municipalities that recorded high rates were Narasaraopet (9.93), Guntur (6.75), Tadpatri (6.58), Nellore (6.06) and Karur (6.05), while thirteen municipalities returned rates less than 1.00 per mille.

In the rural towns, 15,114 deaths were recorded under "fevers", giving a death rate of 6.04 per mille as compared with 15,510 deaths in 1937, giving a rate of 6.19 per mille.

DYSENTERY AND DIARRHOEA.

47. There has been a considerable fall in the number of deaths recorded under "dysentery and diarrhoea" from 84,276 in the previous year to 74,064 during the year under report, giving mortality rates of 1.92 and 1.68 per mille, respectively. The maximum mortality was recorded in the third quarter and the minimum in the second. A close correspondence is observed in the increase and decrease in the monthly deaths from "cholera," and "dysentery and diarrhoea." The number of deaths and death-rates from dysentery and diarrhoea are furnished in Statement X of Appendix I. The districts that returned high mortality rates from these causes were the Nilgiris (2.98), Coimbatore (2.58), Chittoor (2.36),

Anantapur (2.10) and Guntur (2.06), while the districts of Salem and Cuddapah recorded the lowest rate of 1.05.

In municipalities 10,634 deaths from dysentery and diarrhoea were registered during the year, giving a mortality rate of 2.88 per mille as compared with a mortality of 11,327 giving a rate of 3.06 per mille in the previous year. Chicacole (8.99), Ongole (6.36), Vizagapatam (5.90), Tiruppur (5.87), Tiruvannamalai (5.44), Anakapalle (5.22) and Gudiyattam (5.02) recorded high mortality rates.

4,951 deaths were registered under dysentery and diarrhoea in rural towns giving a death-rate of 1.98 as against 5,627 deaths with a rate of 2.24 in the previous year.

RESPIRATORY DISEASES.

48. 96,420 deaths from respiratory diseases were recorded during the year giving a mortality rate of 2.19 per mille as against 95,906 deaths with a rate of 2.18 per mille in 1937, the quinquennial average rate being 2.26.

As in the previous year, 9 per cent of the total deaths were due to respiratory diseases. The maximum incidence was recorded in December and the minimum in April. The mortality rate from this group of diseases in urban areas was 4.60 per mille and that in rural areas was 1.80 per mille. The high rate in urban areas is in all probability due to overcrowding and congestion which favour the spread of respiratory diseases. Statement XI of Appendix I gives the total number of deaths and death-rates from respiratory diseases in each district. High mortality rates from this group of diseases were recorded in the districts of the Nilgiris (4.47), Madura (3.53) and Coimbatore (3.32). These districts reported high rates in the previous year also.

23,463 deaths from respiratory diseases were registered in the municipalities giving a rate of 6.86 per mille as compared with 23,600 deaths with a rate of 6.38 per mille in the previous year. The highest mortality rates under this head were recorded in Palni (18.18), Madras (11.42), Madura (10.26), Anakapalle (9.89), Bellary (9.48), Kodaikanal (8.43), Ongole (8.04) and Adoni (8.00). The municipalities which returned low rates were Chitala (0.95), Peddapuram (1.15) and Dindigul (1.97).

In the rural towns 5,001 deaths were recorded during the year under this head giving a rate of 2.00 per mille as against 4,870 deaths with a rate of 1.94 per mille in 1937.

PULMONARY TUBERCULOSIS.

49. Statistics of Pulmonary Tuberculosis are not available for non-municipal areas, as tuberculosis is not a separately registrable cause of death in non-municipal areas. In municipalities 6,929 deaths from Pulmonary Tuberculosis were registered, giving a mortality rate of 1.83 per mille as against 1.79 per mille in 1937. This disease was responsible for 6.4 per cent of the total number of deaths recorded in the municipalities.

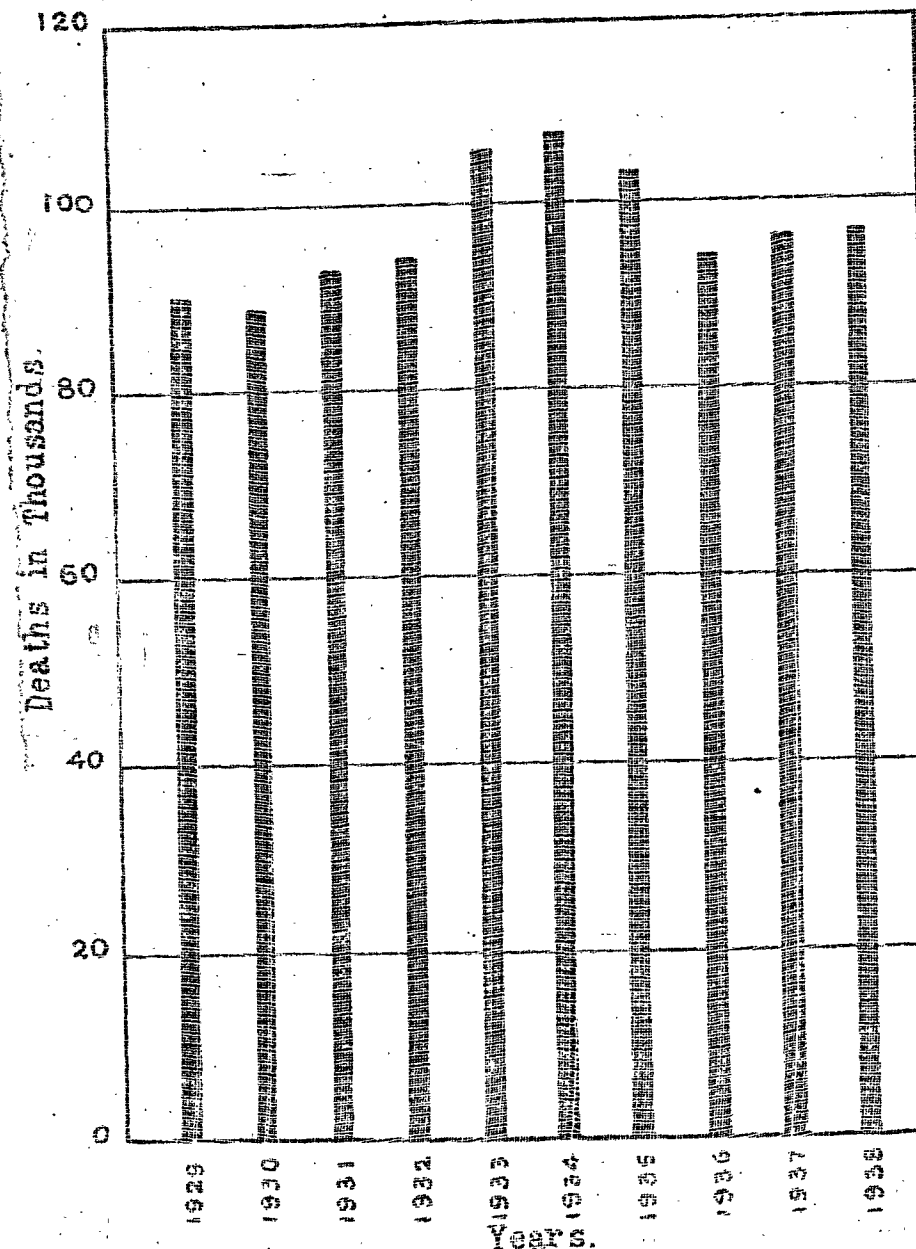
RABIES.

50. The number of deaths from rabies registered during the year was 1,109 (149 in urban areas, and 960 in rural areas) as against 826 in the previous year.

MADRAS PROVINCE.

Deaths from RESPIRATORY DISEASES

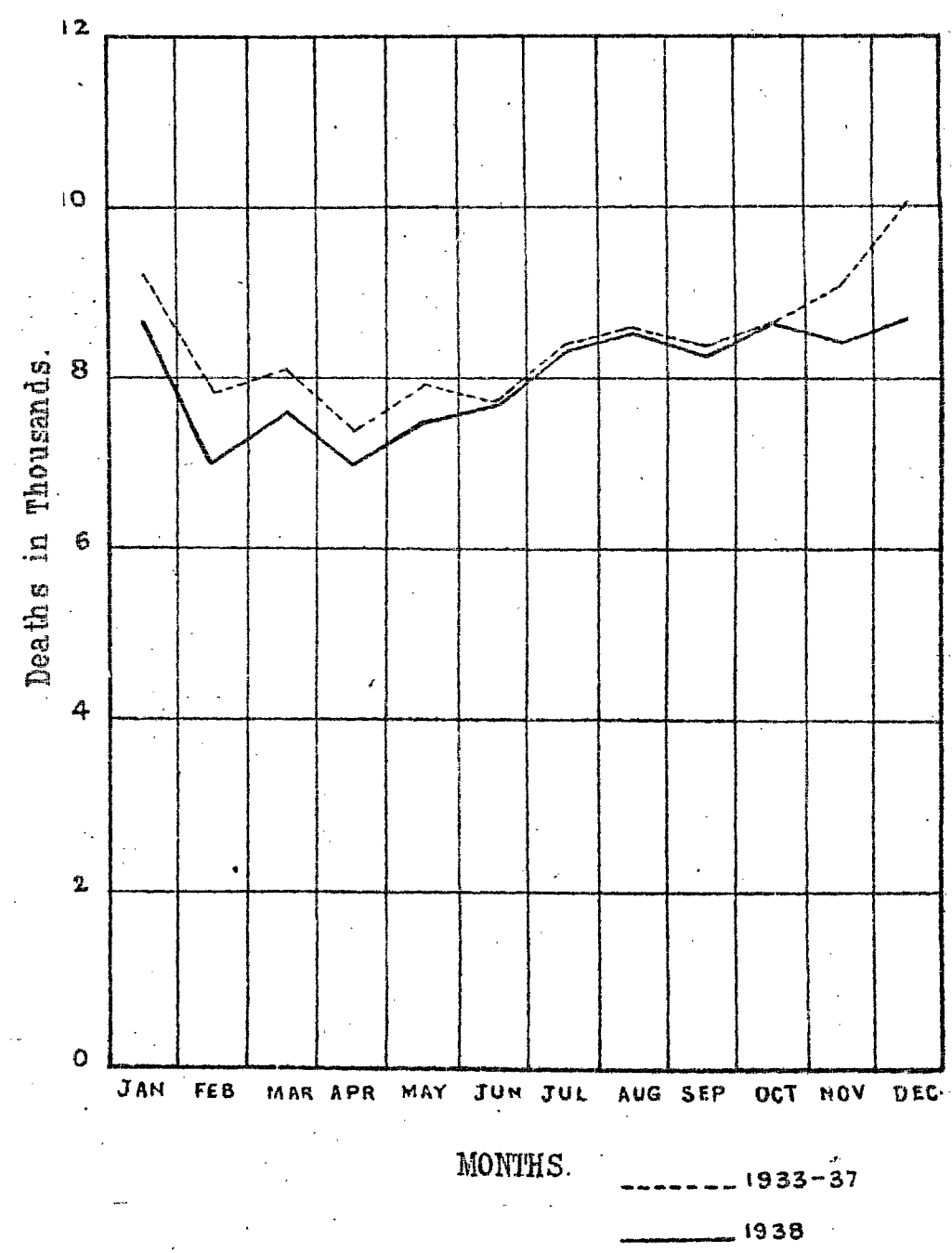
During the years 1929 to 1938.



MADRAS PROVINCE.

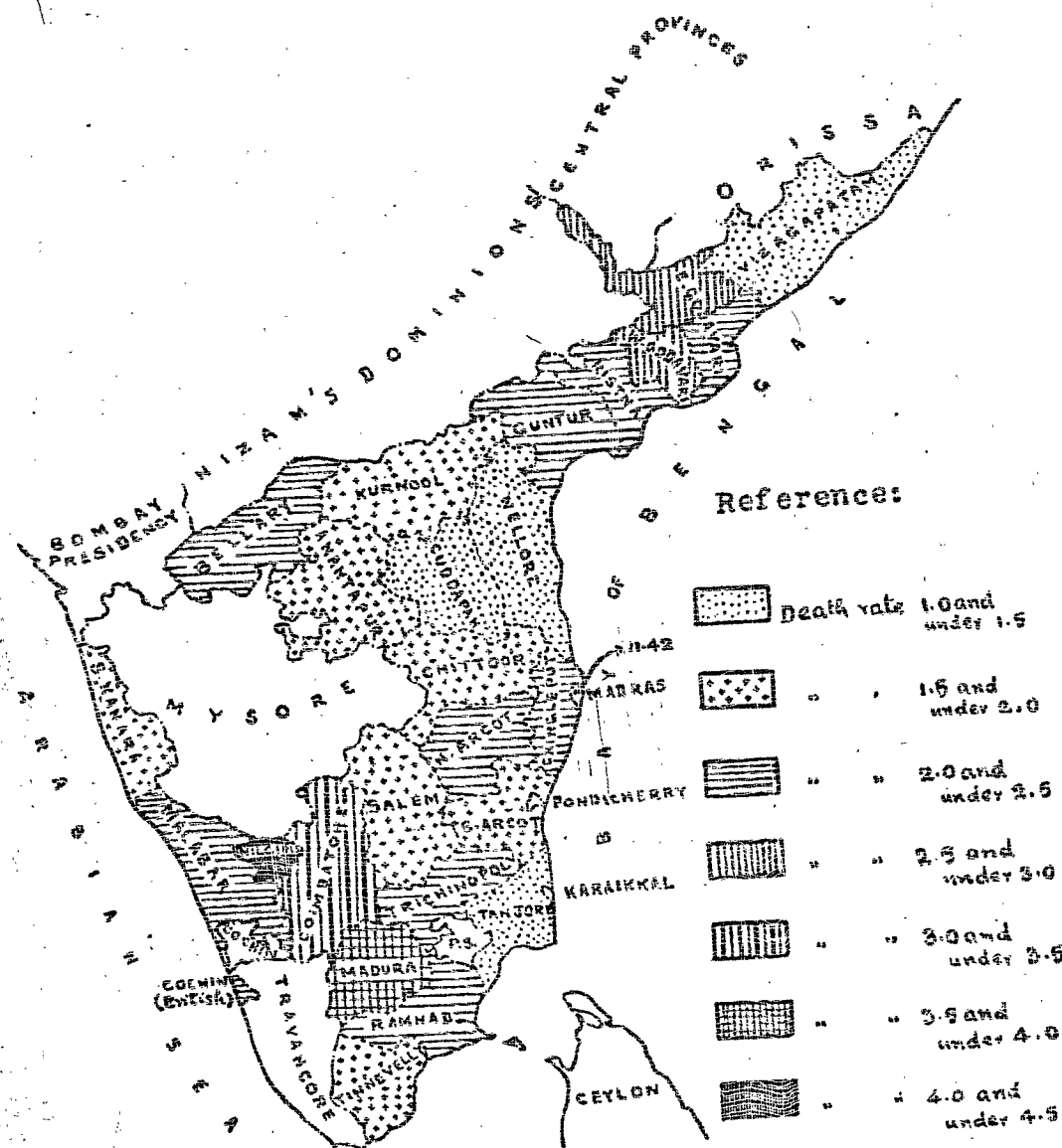
MEAN MONTHLY DEATHS FROM RESPIRATORY DISEASES
IN 1933-37

AND MONTHLY DEATHS IN 1938.



MADRAS PROVINCE. MORTALITY FROM RESPIRATORY DISEASES.

1938.



TYPHOID.

51. There is at present no record of the prevalence of this disease, especially in the rural areas. In Malabar district 585 attacks and 84 deaths were reported. The District Health Officer reports that the incidence increases with the onset of the monsoon and lasts till October. About 2,500 doses of anti-typhoid vaccine were supplied and mass inoculation of contacts was done free of cost. Similar protection of contacts was afforded in the case of some typhoid cases in some municipalities. In G.O. No. 3098, P.H., dated 31st August 1938, Government sanctioned the continuance of the supply of typhoid vaccine to local bodies on concessional rates for a further period of two years from March 1938.

DIPHTHERIA.

52. The occurrence of this disease is not often recognized as such, so that very few cases come to the notice of the Health Department. During the year there were 9 attacks and 1 death in Coonoor municipality. Throat swabs were taken from 490 contacts, 25 of whom were found to be carriers. All of them were isolated and treated. Three hundred and forty-eight contacts were given preventive inoculation. In Ootacamund municipality there were 13 attacks and 3 deaths. Throat swabs were taken from 187 contacts, 11 of them were found positive and given prophylactic serum.

CEREBRO-SPINAL MENINGITIS.

53. An epidemic of this disease broke out in the Egmore Division of Madras City in the second week of October 1938, resulting in 41 attacks and 22 deaths. Necessary preventive measures were taken promptly by the Corporation Health Department as soon as the nature of the disease was established. A bacteriological unit of the King Institute, Guindy, was detailed to work in the affected areas for a survey of contacts and rapid diagnosis of cases. The epidemic was soon brought under control.

YAWS.

54. The prevalence of this disease on a large scale was reported from the districts of Madura, Kurnool and Tinnevely. A few cases were noticed in Tiruppur, Tuticorin, Coonoor and Coimbatore municipalities.

In Madura district the disease was first noticed in Kachakatti village in July 1937. Eighty-nine cases were treated that year by special staff. In September 1938, there was a recrudescence giving rise to 40 cases till February 1939. Of these 19 were recurrence in treated cases and the rest new attacks. All these were given the full treatment.

In Kurnool, the disease is said to be prevalent among the Chenchus, an aboriginal tribe in the Nallamalai Hills.

In Tinnevely district the disease was noticed in T. Kallikulam village. About thirty cases were discovered, confined to fishermen. Most of the cases were in children. All the cases were given treatment by special staff.

ANTHRAX.

55. An outbreak of malignant pustular form of Anthrax was reported from Muttrampet village of Villupuram taluk, South Arcot district. The infection was confined to a cheri of 60 houses. There were 5 attacks and 3

leaths The source of infection was traced to the cutting up of carcasses of infected animals and a clear history of anthrax in cattle could be had. The Veterinary Department took necessary steps to prevent the spread of infection among animals. The skins of the carcasses were traced and the authorities duly informed.

OTHER CAUSES OF DEATHS.

56. As there are only a few specific causes of deaths provided for in the death registers maintained in the villages, more than half the total number of deaths (52 per cent) are classed under "Other causes of leaths." Five lakhs thirty-five thousand four hundred and forty-nine leaths were registered under this head. With the present agency for registration of births and deaths in villages it is not possible to secure a more accurate classification of causes of death in the immediate future, though efforts are being made to improve matters. An attempt has however been made to collect figures regarding detailed causes of deaths in fifteen municipalities with first-class Health Officers and the figures are consolidated in Annexure A. It is seen that only 6 per cent of the total number of deaths are classed under "Other causes of death."

PLAGUE RESEARCH.

57. Nineteen villages and hamlets around Cumbum town were fumigated during the year. Six of these places were fumigated when they were threatened with plague, two of which have since been free from plague for over a year, three for 8 to 10 months, and one for 2 months. Infected villages yielded varying results, in proportion to the extent of the spread of rat plague and the intensity of work. If it were possible to refumigate these villages every quarter continuously for a few years, there is reasonable prospect of eradicating the endemicity of plague.

Two lakhs five thousand nine hundred and ninety-eight rat holes and 6,372 cracks in walls in 25,471 houses were fumigated during the year. 5,963 house rats, 284 bandicoots, 8,876 house mice, 96 musk rats and 22 snakes were picked up dead or dying during these operations. Eleven thousand seven hundred and eighty-six rodents were examined in the laboratory, of which 42 proved positive to plague. Ninety-eight carcasses from various villages were examined and 57 were positive. Bone marrow material was employed for diagnosing infection in decomposed carcasses.

58. The problem of killing rats and fleas in thatch roofs was specially studied during the year. The usual type of mud houses in the Cumbum Valley can in no sense be rendered gas-tight, but the permeation of gas in the interstices of the thatch is enough to destroy the rats and fleas harboured therein. It is enough if the doors and windows are tightly closed, all small openings packed with wet mud and any gap between wall and roof stuffed with gunny rolls. A concentration of 3 to 4 oz. of HCN (12 to 16 oz. cyanogas) per 1,000 cubic feet and an exposure of 3 to 4 hours are found sufficient for fumigating these houses. To fumigate entire houses in this fashion is of course a rather costly procedure, but in all infected houses the method will amply repay the cost.

59. A small two-roomed, mud-walled house, incorporating certain devices to eliminate rat harbourages, has been constructed in the premises of the laboratory at Cumbum. The efficiency of the device

34

introduced is being observed by artificially introducing rats, and so far they have stood the tests.

60. Rat flea surveys of selected villages immediately before and after fumigation of rat holes, have shown that while rat densities were reduced by 40 to 80 per cent the flea indices showed no marked reduction. This is possibly due to the concentration of wild fleas from sources other than rat holes on the surviving rats.

61. Comparative studies of the nests of the different species of rats prevailing in the area, were continued during the year, and considerable useful data have been collected. This has helped to prove the preferential environments favouring the prolific breeding of the different species of fleas relative to their specific hosts. Thus while *astia* fleas preponderate in underground nests, *cheopis* fleas show no such preference at all or more often show a tendency to the reverse. Admixture of cotton in the nests of rats tends to favour the multiplication of *cheopis* fleas. Nests of bandicoots were found to contain 93 per cent *astia* and 7 per cent *cheopis* fleas, while those of other field rodents like gerbilles had only *astia* fleas.

Fumigation of rat nests under air-tight conditions effects thorough destructions of fleas from eggs to imago. Nests recovered from fumigated rat holes have however often yielded adult fleas on sufficient incubation showing thereby that the flea eggs are not all destroyed during routine cyanogas fumigation operations.

62. Control of goods traffic from infected areas.—All suspected goods from infected areas were as a routine submitted to cyanogas fumigation before being allowed to pass. These operations were done by the District Plague staff with the co-operation of the Research Unit. Such measures to control the spread of infection are now being generally attempted in other plague areas, as well, but the experience in Cumbum Valley may still be stated for general information. The thoroughness of this measure depends to a large extent on continuous and efficient supervision, and where this is not always possible, attempt must really be made to fumigate as often as possible (weekly or at least fortnightly) all wholesale stores of grains, etc., within the infected zone, restricting the fumigation operations at the control gates to such consignments as have escaped treatment at their source and to personal effects of passengers.

FILARIASIS.

63. The filariasis survey of Saidapet was continued up to about the end of June 1938 when it was temporarily suspended. During this period 2,524 people belonging to 545 families residing in 247 houses were examined for clinical signs of filariasis. 178 persons had one or other of the more common manifestations of filarial disease. In addition to this, about 437 persons showed enlarged groin glands suggestive of filarial origin. 1,240 culex mosquitos from 316 houses were dissected and of these 345 (27.8 per cent) were found infected with the developmental stages of the larvæ of *Wuchereria bancrofti* (*filaria bancrofti*).

On the suspension of work at Saidapet, the Poonamalle Health Unit area, and later, the divisions in Madras City adjoining Saidapet were taken up for filarial surveys. These surveys are as yet incomplete to draw any comparative inferences, though a high degree of human and mosquito infection has been observed in the areas so far dealt with.

GUINEA-WORM.

64. During August-September of the year, the Research Health Officer was deputed to Mysore for training in guinea worm control and investigation methods in Chitaldrug district under the Director of Public Health, Mysore. On his return after the training, he made a survey of guinea-worm infection in the famine camps of Bellary district. One thousand and twenty-two persons representing a random sample of the population of 14 villages were examined at the various camps. 153 persons (15 per cent) composed of 95 males out of 508 and 58 females out of 514 were found either with present or recent infection.

LEPROSY CAMPAIGN.

65. The new phases of activity in the leprosy campaign during 1938 were the investigation of the factors contributing to the endemicity of the disease, and dietetic, therapeutic and animal inoculation experiments.

The areas selected for the investigation of endemicity were Cuddalore and Villupuram in South Arcot district, Virasettipalli in Chittoor district and Peddapuram and Cocanada in East Godavari district. In a preliminary survey conducted in a population of about 78,000 in 82 villages in the above areas, 1,503 cases of leprosy have been detected. An intensive survey will probably result in the discovery of an additional one thousand cases.

The dietetic experiments demonstrate that skimmed milk is a useful adjunct in the treatment of lepromatous type of cases in children. It has also been found that wheat diet is useful in relieving nerve pains in the great majority of cases in adults. Several new drugs were tested during the year but no conclusive results have been obtained. The results of the animal inoculation experiments which have been carried out in collaboration with the Director, King Institute, Guindy, will be embodied in his report. Besides the investigations referred to above, a centre for the study of the methods of leprosy control in a rural area was completed towards the close of the year.

66. In school surveys which form part of leprosy campaign 24,139 pupils were examined in 157 schools and nearly 400 cases of definite infection and 500 suspicious cases were detected.

67. Approximately 4,000 cases were treated in 1938 in the twelve leper asylums in the Province; 337 of these cases were discharged as "disease arrested." These figures are exclusive of statistics relating to Tirumani Leper Settlement. In view of the fundamental change ordered by Government in the matter of admissions in the asylum, admissions will in future be restricted to infectious cases amenable to treatment and this will be the basis of Government grants to the institutions.

As a result of intensive propaganda, there is increased recognition on the part of the public, of the value of treatment in the early stages of leprosy. The number of clinics functioning during the year and the number of fresh cases admitted for treatment were 456 and 33,500 respectively, the corresponding figures for the previous year being 442 and

13,038. The total number of injections administered during the year was nearly a million.

The Chief Leprosy Officer is maintaining records of non-infectious cases of leprosy who are permitted to continue in Government service provided that they are under treatment and surveillance.

68. Twenty-two Health Officers underwent post-graduate training in leprosy in 1938.

Progress in leprosy relief work has, to a large extent, been rendered possible through the assistance given by the British Empire Leprosy Relief Association.

MALARIA CONTROL.

69. A rapid malaria survey in Shevaroy (Salem district) was carried out during the year. It was felt that a detailed investigation by a special unit would be necessary for chalking out a systematic line of work. For the present an extension of the scheme of free distribution of quinine in this area was recommended, provided the supervising staff was employed by the local body.

A scheme of permanent anti-malarial measures for Uttangarai (Salem) was drawn up and discussed at the conference of the officers of the Revenue, Public Health, Public Works and Local Board Departments. The scheme is under the consideration of the Government.

70. *Anti-malarial measures*.—Anti-malarial measures in Krishnalevipeta (Vizagapatam Agency) were continued with good results. Necessary data are being collected for formulating a general scheme of anti-malarial work in the Agency. A very limited anti-malarial staff was sanctioned in the Papanasam Hydro-electric project scheme. The question of increasing the staff is under consideration.

Routine weeding of irrigation channels in Siruguppa (Bellary district) was carried on. An approved scheme of anti-malarial works was carried out in Hospet municipality and the results were satisfactory.

The anti-malarial works carried out from the Government of India grant in 1935-36 were maintained in Ramnad (Rameswaram), Nellore, and Chingleput districts. The special staff employed by the Chingleput District Board was recently abolished, and the work of maintenance suffers.

Oiling and filling up of ponds, pits and marshes were carried out in Vizagapatam municipality, Rameswaram Island (Ramnad) and Vriddhalaham (South Arcot). Anti-larval measures were started in Kodur and Kothakodur of Nellore district.

The Rockefeller Foundation Organization and the Malaria Institute of India unit in co-ordination with the Public Health Department carried out some preliminary investigations, and as a result an organized scheme of malaria investigation and control in three selected areas of the Province at Pattukkottai, Wynaad and Ennore with the aid of a half contributory grant from the Indian Research Fund Association, has been started.

(i) At Pattukkottai (Tanjore district), irrigation malaria is the problem. *A. culicifacies* seems to be the main carrier—the important breeding places being irrigation channels, burrow pits and wells. Fixing

of water-tight calco gates for the irrigation channels has been taken up. The Public Works Department has filled up or drained most of their burrow pits and issued orders for the prevention of formation of burrow pits in future. In a demonstration area irregular and badly aligned field channels have been properly realigned, with the hope of extending this work of water-tidiness to other localities and getting the co-operation of the ryots. A central larvicidal fish nursery is being constructed for rearing larvicidal fish required for distribution in wells.

(ii) In Wynaad, foot-hill malaria is the problem. *A. fluviatilis* appears to be the only carrier, the breeding places being paddy field drains and hill streams. Planting of *Tithonia diversifolia*, screw pine, etc., to give shade in the course of water channels has been started, on an experimental scale. Herbage packing has also been attempted in Sultan's Battery and Kalpatta.

(iii) In Ennore, *A. culicifacies* breeds in casuarina pits. Distribution of gambusia was started. Certain practical difficulties were noticed during the trials which have indicated that this method of control may not be enough by itself. Therefore, further study is being carried on to chalk out additional lines of attack.

71. *Quinine distribution*.—For the rural population scattered over a wide area, free quinine distribution scheme serves as the main relief. The coastal area of Vizagapatam district and parts of Nellore and Anantapur districts suffered from epidemic outbreaks in 1938. Free quinine distribution was extended in time. Nearly 1,500 villages are being benefited by the provincial scheme of free quinine distribution. A quantity of about 1,800 lb. of quinine was distributed during the year and about 140,000 persons actually received the treatment among over a million and a half benefited by the scheme. The Government of India free gift of quinine was also distributed. Quinine was also sold at reduced rates. New additional agencies, e.g., the village headmen and the Board or Government School-masters were appointed in some places for selling quinine. Yet the benefits of quinine distribution have not been fully availed of by the public and more propaganda is needed to make the drug popular.

72. *Anti-mosquito campaign*.—The "malaria sense or rather the mosquito sense" of the public has been awakened throughout the Province. A general note on the institution of anti-mosquito measures in municipalities was circularized. Successful results have accrued wherever anti-mosquito campaigns were organized and supervised properly.

FAIRS AND FESTIVALS.

73. There were 785 festivals during the year, of which 748 were major and 37 minor. Fifty-five festivals were celebrated in municipal areas and the rest in rural areas. The local bodies concerned undertook the responsibility for the sanitary arrangements which were carried out under the control and supervision of the respective health staff. In municipalities without Health Officers, District Health Officers were consulted.

The arrangements were entirely financed by local bodies out of their general revenues. In the case of cattle fairs, the local body concerned had a substantial income from the fairs. In the case of festivals, the

income was negligible, except in those instances where pilgrim-tax was levied. In 118 cases local bodies secured contributions from the temple authorities concerned towards the cost of the arrangements.

With the experience of the past 14 years, the sanitary arrangements on these occasions have become almost standardized. The health staff are able to deal with the large congregations in a satisfactory manner. In a few instances, local bodies did not carry out in full the recommendations made by the Health Department, on the usual plea of financial difficulties. The importance of attending to such gatherings has been stressed on them and they are being persuaded to sanction the recommendations in full. In one or two instances, delay in sanction handicapped the health staff in carrying out the arrangements in time. It is expected that with the passing of the Public Health Act, most of these defects will be rectified.

74. All the festivals have been conducted successfully and what is more important without epidemics, the solitary exception being Bhadrachallam. Cholera broke out at Bhadrachallam towards the close of the festival. Although it was brought under control in the festival area as quickly as possible, the returning pilgrims slowly spread the infection to East and West Godavari districts from where it travelled to the neighbouring districts also. To prevent a recurrence of such untoward developments, proposals have been made for more effective arrangements at this festival.

The great Mahodayam festival which generally comes off once in about 20 to 30 years took place on 31st January 1938 in several sea-side centres in the Province, the most important among them being Point Calimere in Tanjore district, Rameswaram and Dhanushkodi in Ramnad district, and Mahabalipuram in Chingleput district. Elaborate sanitary arrangements were made by the local bodies concerned under the control of the health staff. The festival passed off without any outbreak of cholera though the disease was prevalent in an epidemic form in Tanjore district at the time of the festival.

75. It is pleasing to record that there was the closest co-operation between the Police, the Railway Authorities and the health staff in all festivals. In almost all major festivals, the services of scouts and other volunteers were fully utilized by the health staff in the control of the sanitary arrangements.

RURAL SANITATION CAMPAIGN.

76. There are six rural sanitation units, four permanent and two temporary. The unit in Tinnevely district was transferred to Malabar in April 1938 and the unit in Ramnad district to Guntur in October 1938. At the end of the year, the six units were working in the districts of Tanjore, Malabar, Kurnool, Nellore, the Nilgiris and Guntur. The District Boards of Nellore, Kurnool and Guntur have appointed soil sanitation maistris to assist the unit staff in the matter of construction of public and private latrines.

77. The activities of the Rural Sanitation Campaign were directed mainly towards the control of the hookworm infection and the prevention of soil pollution.

Hookworm survey.—Routine examination of stools was continued during the year under report. On the whole, 9,567 specimens were

examined, of which 3,702 specimens were positive to hookworm, giving an infection rate of 38.7 per cent, the rate in individual districts varying from 10.6 per cent in Nellore to 81.7 per cent in Tanjore.

Propaganda.—All the units except the one at Kurnool are equipped with portable cinema equipments and films. Ninety-six cinema shows, 671 magic lantern demonstrations and 1,195 talks with hookworm charts were conducted by the staff of the six units to a total audience of about 2½ lakhs. About 27,000 pamphlets also were distributed.

Mass treatment.—One hundred and ninety-seven thousand eight hundred and ninety-five treatments were given, of which 54,284 were given by the Rural Sanitation Health Officers and the rest by the Medical Officers in charge of hospitals and dispensaries.

Provision of latrines.—Five hundred and forty-four latrine seats were put up and 106 latrine seats were either repaired or reconstructed. Most of the work was done in the districts of Kurnool, the Nilgiris, Nellore and Ramnad. The local bodies in these districts co-operated with the units by providing necessary funds.

The units endeavoured their best in introducing borehole latrines in private premises. Squatting slabs for borehole latrines were given either at half-cost or at concession rates in the districts of Ramnad, Guntur, Malabar, Tanjore, the Nilgiris, Nellore and Kurnool; the other half of the cost of the slabs was met either by the local bodies or from the funds of the Government of India grant for Rural Development vested in District Collectors.

78. The activities in the Province during the year comprise 169,021 treatments, 10,194 lectures, 2,795 magic lantern demonstrations, 137 cinema shows and 383 exhibitions to a total audience of about 15 lakhs. 679 public latrine seats and 12,255 private latrine seats were constructed and 1,856 seats were either repaired or reconstructed during the year. The total amount allotted by all the local bodies for rural sanitation work was Rs. 1,32,342.

The interest evinced by the local bodies in the matter of soil sanitation work in the districts of Coimbatore, East Godavari and West Godavari as judged by the number of public and private latrines constructed is commendable. The local bodies in East Godavari district alone have spent Rs. 14,795-3-0 for this work.

79. Public latrines constructed from the Government of India grant for Rural Development during the years 1935-36 and 1936-37 were satisfactorily maintained in all the districts except Chittoor, North Arcot, Trichinopoly, Madurai, Kistna, Bellary, Vizagapatnam and Kurnool. It need hardly be stressed that the local bodies in these districts should maintain them properly by appointing the requisite number of maidris and scavengers, and should also take steps to extend this scheme gradually throughout the district.

HEALTH PROPAGANDA.

80. The materials required for carrying out propaganda work are held in stock in the Propaganda section of the office of the Director of Public Health, and are supplied on indents from local bodies, health staff and others. The leaflets, pamphlets and posters are sold and magic lantern

slides and cinema films are lent out on hire. The temporary reduction in the hire charges of cinema films from Rs. 5 to Rs. 2 per reel per week has been made permanent with effect from 16th December 1938. This reduction, it is hoped, will be an inducement for the local bodies and voluntary agencies to utilize the cinema equipment to a greater extent in future.

81. One hundred and eleven leaflets and pamphlets and 24 posters on different subjects have so far been issued. During the year under report, new propaganda literature was prepared and issued as per details given below:—(1) A set of 37 posters on child welfare and maternity in the form of a story entitled "Sita and Nagamma" has been issued in English, Tamil, Telugu, Malayalam and Kanarese; (2) twenty-four Health Maxims in Tamil; (3) a set of three book-marks in cards and paper in different colours on "FOOD AND NUTRITION."

During the year, four cinema films, a set of magic lantern slides on rural reconstruction, and artistic models were purchased, added to the existing stock, and loaned to voluntary associations and local bodies. Sixty slides each of 6½" × 4½" on six different subjects, 10 in each subject were prepared, attractively coloured and were displayed in a special illuminated cabinet at the All-India Khadi and Swadeshi Exhibition, 1938-39, at Madras.

82. The District Boards of Nellore, Cuddapah, Chittoor, Coimbatore, Guntur, Godavari East, and Tanjore have mobile propaganda units equipped with cinema machines, magic lanterns, etc. The motor van in Nellore district was under repairs during the year. It is proposed to have an additional unit in Tanjore district and also to start similar units in the districts of Salem and South Kanara. Ballad singers for health propaganda were continued to be employed in Kistna district.

83. Since the opening of a Broadcasting station at Madras by the All-India Radio, the Public Health Department participated in the broadcasting programmes by contributing short talks on public health subjects. During the year, 27 talks on public health subjects were broadcast through the All-India Radio Station at Madras. Weekly bulletins on the public health conditions of the Province and special publicity as to the condition of public health at places where important festivals were held so as to warn intending pilgrims about the prevalence of any epidemic, were regularly published in the daily local newspapers and through the Broadcasting Station, Madras.

84. The health weeks were celebrated in most of the districts and municipalities in the Province. They afforded considerable opportunity to focus public attention and for carrying out intensive propaganda on public health matters. A separate report on the health weeks will be submitted to Government. The Public Health Department participated in the All-India Khadi and Swadeshi Exhibition at Congress House held from the middle of December 1938 to the middle of January 1939. The health show was very popular and educative.

The various activities under propaganda during the year were as follows:—29,115 lectures with magic lantern demonstrations, 26,462 lectures, 144,672 short talks, 1,737 cinema shows, 606 health dramas, and

1,919 health exhibitions. It was estimated that a total audience of 9,500,000 attended these functions.

The health propaganda work in municipal towns shows a general improvement, when compared with the previous year. It has, however, to be remarked that the output of propaganda work in the municipalities of Anantapur, Chicacole, Chirala, Chittoor, Narasarnpet, Ongole, Palamecottah, Tadpatri, Villupuram and Walajapet was poor. It is hoped that these municipalities will realize the importance of health propaganda and pay greater attention in future to this branch of public health work.

85. The financial statement required in G.O. Ms. No. 748, P.H., dated 20th March 1929, is furnished in Annexure C.

POONAMALLEE HEALTH UNIT.

86. The health unit which was sanctioned for five years from October 1935 has now completed the third year of its existence. It continues to do very useful work and the results obtained are satisfactory and encouraging. The villagers have now begun to realize the value of intensive health work done by the unit and are gradually becoming "health conscious." The cost of the unit is met partly from the Government of India grant for Rural Development and partly by the Rockefeller Foundation of America.

87. Maternity and child welfare work is an important branch of the health unit work and is very much appreciated by the public. In connection with ante-natal and infant welfare work, 314 clinics were held at six centres with an attendance of 1,982 ante-natal cases, 3,610 nursing mothers, 2,045 infants, and 2,875 pre-school children. During the year, 25,701 house visits were made by the woman medical officer and the health visitors. The health unit midwives conducted 1,352 deliveries, representing 70.1 per cent of the live births as against 67.4 in the previous year. Taking into consideration, the number of labour cases conducted by two other qualified midwives in the area, the percentage of cases that received skilled aid at birth comes to 80.7. Besides attending to confinements, the midwives made 17,839 ante-natal and 10,838 post-natal visits as compared with 17,110 ante-natal and 9,671 post-natal visits in the previous year.

88. With a view to educating the people in matters of health, the staff conducted 66 cinema shows, 281 magic lantern demonstrations, 466 lectures without lanterns, and 9,675 informal talks on various health subjects. The total attendance is estimated at 153,881. Thirteen health exhibitions were held in connection with Health Week celebrations and festivals and 24,950 leaflets on health subjects were distributed.

89. The health inspectors inspected 9,296 houses during the year and had 2,070 backyards cleaned, 973 fly-breeding places and 462 mosquito-breeding places cleared, 115 borehole latrines put up and 137 soakage pits constructed. As an off-shoot of this work, school boys were made to interest themselves in keeping their houses and backyards clean.

90. In order to provide wholesome drinking water to villagers six borewells were constructed during the year. There was great demand for such

borewells and the villagers offered their voluntary services for the construction of borewells. The cost of borewells was met from the contribution of Rs. 5,000 from the Chingleput District Board.

91. During the year hookworm treatment was given to 1,213 individuals by the health unit staff and 728 cases were referred for treatment at the dispensaries. The construction of borehole latrines in private houses was encouraged by selling concrete slabs at one-third cost.

92. The birth-rate based on estimated population was 40.48 per mille as against 39.53 in the previous year. There has been a definite fall in the death-rate from 26.05 per mille in 1937 to 23.51 in 1938, the quinquennial average rate being 24.89. The infantile mortality rate has also considerably decreased from 184.57 per 1,000 live births in the previous year to 159.75 during the year under report. There was a fall in the maternal mortality rate from 6.74 per 1,000 births in 1937 to 4.98 in 1938. The infantile and maternal rates are the lowest recorded since the health unit was started. The epidemic of cholera of the previous year continued during the year and caused 3 attacks and 4 deaths. Disinfection of houses, chlorination of all drinking-water sources and 508 anti-cholera inoculations were promptly done and the epidemic was soon brought under control. There were 42 cases of smallpox with 8 deaths, some being imported cases. Vaccination was carried out in an intensive scale, the total number performed during the year being 10,483.

93. The uniformly good work turned out by the health unit has begun to attract the attention of those interested in rural development and public health improvements. The unit is also serving a useful purpose as a demonstration centre and training ground for public health workers and for those who are being trained in public health work.

PORT HEALTH ADMINISTRATION.

94. On 1st April 1938, the Government of India took over direct control of the two other major ports of Cochin and Vizagapatam. The Public Health Administration of minor ports continued to be under the control of the Director of Public Health. The Assistant Directors of Public Health inspected the following ports in the course of their routine inspections: Vizagapatam, Cuddalore, Negapatam, Tuticorin, Calicut, Cannanore, Mangalore.

The condition of accommodation and other conveniences in ports with overseas passenger traffic was attended to and defects set right through the Municipal Health Officers concerned.

A brief summary of the health work at the ports is appended in Annexure H, as desired by the Public Health Commissioner with the Government of India.

RURAL WATER-SUPPLY.

95. During the previous year the Government announced their policy of giving protected water-supply to every village in the Province in the course of ten years. For this purpose, the Government have constituted a non-lapsing initial grant of Rs. 15 lakhs. A comprehensive programme indicating the order in which the villages have to be provided with protected water-supply within the ten year period has been drawn up for

approval of Government. In the classification of villages, priority has been given to villages which suffer from perennial or partial scarcity of water; next in order come villages which are centres of important fairs and festivals; next those in which water-borne diseases are endemic and epidemic and lastly those villages where the existing water-supplies, though sufficient, require protection. Orders approving the programme have been received in the case of five districts, viz., Tanjore, Trichinopoly, Ramnad, West Godavari and Anantapur districts. Government approval is awaited as regards the programmes for the other districts excepting in the case of Malabar in respect of which the programme has, on account of the peculiar conditions of the district, been deferred pending the results of experimental investigation regarding the nature of protection of the water-supplies to be provided.

A disconcerting feature in giving protected water-supplies in certain districts, notably Nellore and some of the Coelad districts, is the presence of fluorides in toxic doses in ground water. Intensive investigation on this subject is being carried out by the Director of the King Institute.

In the execution of the programme of rural water-supplies, difficulty has been experienced on account of lack of equipment for the sinking of bore wells. Government have since sanctioned the manufacture of fifteen handboring sets and there is every reason to hope that when these are ready the work could be carried out more expeditiously than in the past.

MATERNITY AND CHILD WELFARE.

96. Maternity and child welfare work in this Province has again progressed steadily during the year under report.

Maternity and child-welfare services.—Forty women medical officers, 42 health visitors, and 439 midwives worked in approved schemes under local boards and municipalities as against 32 women medical officers, 17 health visitors, and 351 midwives in 1937. Seven women medical officers attended the post-graduate course held during the year.

The Corporation of Madras has accepted the proposals of the ad hoc committee appointed to reorganize its maternity and child welfare work. The step taken by them brings their work more into line with the policy adopted by Government and the increase in the strength of the medical and health visiting staff by 8 women medical officers and 12 health visitors is bound to improve results.

Uniformity in methods of work and in the maintenance of records, registers and returns would not only facilitate review of work undertaken and assessment of its value, but also render the centres of the Corporation which have extensive facilities for the purpose more suitable for the training of pupil-health visitors, and of women medical officers during their post-graduate course in maternity and child welfare.

The municipality of Ellore has not yet appointed a woman medical officer to a vacancy caused in 1936.

97. *Allotment by local bodies.*—Local boards and municipalities have allotted Rs. 1,06,947 and Rs. 3,12,460, respectively, for maternity and

child welfare work as against Rs. 99,931 and Rs. 2,92,646 in 1937, while the Corporation of Madras has increased its allotment to Rs. 1,51,567 from Rs. 1,51,616 in the preceding year. One hundred and eight thousand, seven hundred and twenty-one mothers, 8,731 ante-natal cases, 53,946 labour cases, 46,339 infants and 37,439 pre-school children came under the care of the staff. In all 9,257 clinics were held at which the attendance was 66,106 ante-natal cases, 83,638 infants, 96,981 pre-school children and 53,638 nursing mothers. Women medical officers, health visitors and midwives each paid 47,915, 304,707 and 756,362 home visits respectively. Health talks were given in 529 girls' schools at which the audience was 30,348.

98. *The training school for Health Visitors.*—An important step taken by Government during the year was the opening of a training school for health visitors, as the Madras Branch of the Indian Red Cross Society closed the institution they had for the same purpose. There is no doubt that work organized by the department can be improved by the employment of field workers specially trained to meet the purpose for which they are required. The course has been extended by two months and the curriculum of studies has been revised and includes three months' nursing practice at the Prince of Wales Children's Hospital, an experience and training much to be desired for health visitors. The pupils are also sent for practical work at the rural centres in the health unit at Poona-mallee and to the child welfare centres of the Madras Corporation. Seven pupils were admitted in July 1938 and all of them were granted Government stipends. They will complete their course in June 1939.

99. *Investigation of maternal mortality and morbidity.*—The recommendation of the Director of Public Health for the closer investigation of maternal mortality has been given effect to, and forms approved by the committee appointed by Government for the purpose, have been recommended for use in the large maternity hospitals in the City. Forms for use in child welfare centres, dispensaries and district hospitals have also been specified. The data which can thus be collected will be of great help for future investigations.

100. Briefly reviewing the work of this section for the past five years it is noted that not a single step taken by the department in a new branch of its activities has had to be retraced and that progress has been steady throughout. The care and foresight with which principles governing organization and administration were in the first instance laid down, and the consistency with which they have been later upheld have created confidence and stabilized work to a remarkable extent. The recommendations made by the Public Health Advisory Committee, 1939, follow closely the principles enunciated, and already followed, by this Government as regards organization, administration, staff to be employed in the services, and other matters relating to the conduct of child welfare work. It is thus clear that the time of experimentation is past, and that the existing policy should be implemented and pushed forward with all the means at the disposal of both Government and local bodies.

DEPUTATION OF RURAL MEDICAL PRACTITIONERS FOR PUBLIC HEALTH WORK.

101. In 1934, the Government sanctioned a scheme under which the services of Rural Medical Practitioners are to be utilized for public health work. This was put into force in all districts except Malabar and the Nilgiris, in the former case due to want of finance and in the latter case due to the absence of Rural Medical Practitioners. As a trial, two centres were selected for each district and the practitioners concerned were entrusted with public health work in their headquarters and in villages within 5 miles radius of it. In 1936, Government ordered the continuance of the scheme on trial for a further period of two years.

The Rural Medical Practitioners have been attending to Vital Statistics, Maternity and Child Welfare, Rural Sanitation, Festivals and Propaganda in their respective jurisdictions. In some cases they have attended to vaccination work also. On the whole, the results have proved fairly satisfactory. The question of putting the scheme on a permanent basis and extending it gradually to all the Rural Medical Practitioners in the Province is separately under the consideration of Government.

To enable the Rural Medical Practitioners to discharge their public health work more satisfactorily and in pursuance of a resolution passed at the Conference of Public Health Ministers, it was decided that they should be given a special course of training on public health. A syllabus is accordingly drawn up for giving the necessary training. The first batch is to be taken up early in January 1939. The scheme, if worked in a compact and workable jurisdiction with proper personnel who had the necessary training in public health work and who have the aptitude and enthusiasm for such work, will certainly enhance the quality of the public health in the rural areas.

MEDICAL INSPECTION OF SCHOOLS.

102. Except in Madras City, there was no organization for regular school medical inspection in the rest of the Province. Health Officers however inspect schools as part of their routine duties and in connexion with applications for sanitary certificates for purposes of recognition by the Education Department. A scheme for systematic school medical inspection including facilities for treatment was submitted to Government and is under their consideration.

FACTORIES.

103. The expansion of industries during the course of last two decades has brought an increase in the number of factories, workshops and work places in the Province. The development of electric power by giving scope for starting a number of large as well of small scale industries has contributed to the augmentation of the number of factories to a considerable extent. Hence the number of factories which come under the purview of the Health Officers has increased to a considerable extent during the course of a few years. While the number of registered factories during 1935 was about 1,500 it has increased to 1,774 during the year under report.

104. *The separation of industrial and residential areas.*—There are statutory provisions both in the Local Boards Act and in the District Municipalities Act to regulate the establishment of factories in order that such factories, workshops, or workplaces may not prove to be sources of nuisance to the neighbourhood. Local bodies have to permit the construction of factories, workshops or workplaces and before granting such permission have to consult the Inspector of Factories and also the Health Officer of the local area. The Government also have directed Municipal Councils and Panchayats to set apart industrial areas in their jurisdiction, in consultation with their Health Officers and the Director of Town Planning so as to check the indiscriminate growth of factories in the midst of residential areas.

These rules were not effectively enforced by local bodies. Hence power has now been taken under the Public Health Act for reservation of areas for residential purposes and for control of buildings erected therein. In these areas no fresh factory, workshop or workplace can come into existence and the operations of existing factories will be suitably controlled.

105. *Inspections and sanitary control.*—The health and safety of the workers in large factories which come under the scope of the Indian Factories Act are safeguarded by the provisions contained in the Indian Factories Act and the rules framed thereunder. The sanitary conditions of the factories, workshops and workplaces are receiving the constant attention of the provincial health staff. The Health Officers, who are additional Inspectors of Factories in their jurisdiction, inspect all the registered factories periodically and bring to the notice of the Factory Inspector any sanitary defects noticed and get matters rectified. The smaller factories which are administered by the Local Boards Act are also inspected by the health staff. During the course of their inspections, improvements are suggested and defects in sanitary conditions attended to through the Executive Officers of the respective Local Boards.

Out of a total of 1,774 factories the District Health Officers inspected 531 and the Municipal Health Officers 308 during the year.

MINES.

106. Mining was carried on in the districts of Anantapur, Chingleput, Coimbatore, Cuddapah, Kistna, Kurnool, Nellore, The Nilgiris, Salem, Trichinopoly and Vizagapatam. The District Health Officers of these districts inspected altogether 60 mines during the year and sent their inspection notes to the Collectors. The reports of the District Health Officers of Chingleput, Coimbatore, Kistna, Salem and Nellore, who are also ex-officio Inspectors of Mines, were sent to the Chief Inspector of Mines, Dhanbad. The sanitary defects pointed out in these reports are being gradually remedied by the owners of the mines.

FOOD ADULTERATION.

107. The Prevention of Adulteration Act was extended to 7 more municipalities and 4 more panchayats during the year, thus bringing the total number of local bodies working the Act to 93 including Madras

City. In this year, a large number of municipalities have sent samples in excess of their prescribed monthly quota; in particular, Madura has increased it to 50 samples. About 8,000 samples were analysed during the year and 35 per cent of which were found adulterated.

108. During the year, rules for the prevention of adulteration of coffee were issued in G.O. No. 3330, P.H., dated 19th September 1938. The most commonly sampled articles being as usual ghee, milk, butter and gingelly oil. Though gross adulteration continues in the first 3 commodities the percentage of adulteration is perceptibly less than it was in previous years. There was a general improvement in the average fine imposed.

HOUSING.

109. *Municipal areas.*—The construction and reconstruction of buildings in municipal areas are controlled by the provisions contained in the Madras District Municipalities Act and the Madras Town-Planning Act. The local Government have framed rules for the control of building sites and for the construction of buildings, wells, house drains, cesspools, septic tanks and latrines connected therewith. These rules are comprehensive enough to guide the local authorities in regulating the construction of buildings in the municipal areas in an orderly manner so as to ensure that the areas converted into buildings are developed in such a manner as to secure proper sanitary conditions, amenity and convenience to the present and future inhabitants of the place.

110. *Non-municipal areas.*—According to the provisions contained in the Local Boards Act and the Madras Town-Planning Act the local Government may extend any of the provisions of the Madras City Municipal Act, Madras District Municipalities Act or the Madras Town-Planning Act to any local area and may declare such extension to be subject to such restrictions and modifications as they think fit. Advantage has been taken of these provisions by some of the non-municipal local authorities and the provisions of the Madras District Municipalities Act in regard to buildings and the Madras Town-Planning Act have been extended to certain panchayats also. During the year 1937-38, the Town-Planning Act was in force in 139 towns.

111. But the progress so far made has touched only the fringe of the problem of housing in rural areas. Time has come for a bolder policy to be adopted to put a stop to the haphazard method of constructing houses to exercise effective control over insanitary buildings and to relieve congestion and overcrowding both in municipal and non-municipal areas.

Provision has been made in the Madras Public Health Act, 1939 (Madras Act III of 1939), for the improvement of housing conditions in the Province. The following are some of the important provisions: (1) Reservation of areas for residential purposes, (2) control over insanitary buildings, (3) abatement of overcrowding, (4) prohibition of occupation in urban areas of new buildings without adequate water-supply and sufficient means of drainage and (5) for provision of sanitary conveniences in buildings intended for human habitation.

112. *Co-operative building societies.*—The formation of co-operative building societies is being encouraged by Government by advancing loans and there are several such societies in existence at present.

FAMINE.

113. There was famine in the districts of Anantapur, Kurnool and Bellary. About 31 famine works were started in these districts for affording relief to the suffering poor. Temporary Health Inspectors were appointed in all the districts to supervise the sanitary arrangements in these areas. The Director of Public Health inspected the famine camps and gave necessary instructions to the Public Health and Medical staff. Though stray cases of cholera occurred in a few villages near some of the famine camps in Bellary and Anantapur districts, the vigilant and effective precautionary measures adopted by the staff prevented the spread of the disease into the camps. No abnormal mortality from any disease was reported from the famine-stricken areas. On the whole, the public health in the famine camps was satisfactory. The relief works were closed by the middle of October 1938.

SANITARY WORKS (CIVIL).

114. The following is a summary of a report furnished by the Sanitary Engineer to Government of Madras, regarding sanitary works in the Province :—

Water-supply—(i) *Municipalities.*—The water-supply scheme for Virudunagar came into operation during the year, bringing the total number of municipalities with protected water-supply to 43 from 42 in the previous year. New schemes for water-supply, improvements or extensions or both to the existing ones, were under execution in sixteen municipalities. The plans and estimates for the water-supply schemes in four municipalities were under preparation. The investigation of water-supply schemes for Tanjore was completed, while that for Tirupati-Tiruchanur was in progress.

(ii) *Rural areas.*—The water-supply schemes for Arkonam, Tiruvallur, Batlagundu, Manapparai, Karamadi and Sembiam were under execution. The investigation of the schemes for Arantangi, Sivaganga and Pithapuram was completed.

115. *Drainage.*—No new drainage scheme came into existence during the year. Drainage schemes for nine municipalities were under execution. Plans and estimates for drainage schemes in nine municipalities and in Madanapalle were being prepared. The investigation of the schemes for Chidambaram and Cocanada was completed, while that for Udampet, Calicut, Saidapet and Rasipuram was in progress during the year.

PUBLIC HEALTH ACT.

116. Statutory provisions relating to Public Health administration were vague and unsatisfactory and were embodied in more than one Act. They were also enacted at a time when the problem of public health was not so much to the forefront as at present. In the interests of efficient administration it was thought necessary that there should be a compact

Public Health Act embodying all the important public health provisions under the various Acts with suitable modifications and additions. Such a compact Public Health Bill was prepared by this office and after careful scrutiny by Government was published and introduced in the Madras Legislative Assembly. It has now been passed into law. The Madras Public Health Act, 1939 (Madras Act III of 1939), is a very important measure, the first of its kind in India. It contains several provisions which are considered essential for the advancement of public health in this Province.

VACCINATION.

117. The statistics of vaccinations done during the ten years period 1929-1930 to 1938-39 are given in the sub-joined statement.

Years.	Primary vaccination.			Re-vaccination.			Total.		
	Operations.	Successful.	Case success rate per cent.	Operations.	Successful.	Case success rate per cent.	Operations.	Successful.	Case success rate per cent.
1929-30 ...	1,486,255	1,314,603	95.9	653,066	186,222	32.1	2,139,321	1,500,825	76.9
1930-31 ...	1,465,862	1,311,491	97.0	669,271	185,784	31.9	2,134,833	1,497,275	77.4
1931-32 ...	1,508,024	1,385,151	98.4	597,813	192,655	37.0	2,105,837	1,577,806	81.8
1932-33 ...	1,406,717	1,295,209	98.6	1,352,558	452,899	38.6	2,759,275	1,748,108	70.3
1933-34 ...	1,297,829	1,137,091	96.7	3,254,926	876,647	33.5	4,552,755	2,013,738	53.1
1934-35 ...	1,381,176	1,191,073	95.5	3,842,744	826,435	26.5	5,223,920	2,017,508	46.3
1935-36 ...	1,419,663	1,226,315	95.5	2,857,227	571,856	24.9	4,276,890	1,798,171	60.2
1936-37 ...	1,403,254	1,195,078	94.6	2,085,722	374,082	22.2	3,488,976	1,569,160	53.0
1937-38 ...	1,466,503	1,271,203	96.7	2,193,219	368,095	20.8	3,659,722	1,639,298	53.3
1938-39 ...	1,481,847	1,296,892	97.9	2,590,448	458,320	32.6	4,072,295	1,753,212	53.8

There was an increase of nearly 413,000 in the number of vaccinations done in 1938-39 as compared with the previous year. Although the increase was contributed mostly by re-vaccinations, the increase in primary and secondary vaccinations is not insignificant.

118. As in previous years, vaccination work was suspended during the hot months and this period was utilized by the health staff for intensive vital statistical work and the detection of unregistered unprotected cases.

119. *Vaccination in districts.*—The total number of vaccinations done in rural areas during 1938-39 was 3,154,847 which is made up of 1,320,089 primary vaccinations and 1,834,758 re-vaccinations. There was an increase of 155,459 in the total vaccinations compared with the previous year.

The number of children under one year of age successfully vaccinated was 561,872 as against 569,226 in the previous year. The ratio of successful infantile vaccination to total births varied from 27.1 in West Godavari district to 57.9 in Madura district.

The rate of successful vaccination per mille of population ranged from 29.0 in Guntur to 54.9 in the Nilgiris.

Vaccination is compulsory throughout the province, the only exceptions being the Agency areas and about 100 villages in Kallakurichi taluk of

South Arcot district and Attapadi valley in Walluvanad taluk in Malabar district.

120. *Vaccination in municipalities.*—The total number of vaccinations performed in municipal areas was 841,538 which is an increase of 232,688 compared with the corresponding figure of the previous year. Primary vaccinations done during the year amounted to 152,222 and re-vaccinations 689,306.

The number of children under one year of age successfully vaccinated was 94,270 against 92,224 in the previous year. The proportion of successful infantile vaccination to total births varied from 20.3 per cent in Tiruvannamalai to 98.5 per cent in Sivakasi.

The ratio of successful vaccinations to the total population ranged from 25.7 in Cannanore to 148.9 per 1,000 population in Udipi.

121. *General.*—The statistics of successful vaccinations are classified below according to the different agencies:—

Staff.	Number of successful vaccinations.		Total.	Percentage of success.	
	Primary vaccinations.	Re-vaccinations.		Primary vaccinations.	Re-vaccinations.
Vaccinators—					
Local Fund ...	1,133,030	316,584	1,449,614	97.7	24.1
Government ...	7,562	2,315	9,877	91.9	28.6
Municipal ...	147,905	116,938	264,843	99.4	21.1
Cantonment ...	4,553	12,242	16,795	94.2	39.7
Medical subordinates and Port Health Officers.	58	5,697	5,745	100.0	58.8
Railways ...	1,654	869	2,523	98.0	19.9
Poonamallee Health Unit ...	1,905	1,657	3,462	97.7	21.9
Cauvery-Mettur Project ...	226	14	240	93.3	4.8
Dispensaries ...	99	14	113	95.0	37.5
Total ...	1,296,892	458,320	1,753,212	97.9	23.6

It should not be inferred from the above statistics that, out of the total number of 4.07 million vaccinations done during the year, 1.75 million vaccinations only were successful and the remaining 2.32 million cases were failures. Cases of re-vaccinations done in floating populations and in persons who get themselves vaccinated shortly before embarking from the ports are not available for verification and are therefore to be necessarily excluded as the results of vaccination are not known. The statistics in the tabular statement relate only to those cases actually verified by the staffs.

There is a close approximation in the success rates among the primary vaccination done by the several agencies, the exception to this being the figures relating to Government vaccinators' work. These men work in the agency areas which do not have facilities of rapid postal communications; further the villages are in most instances very sparsely populated and situated at considerable distances from each other. Deterioration of the lymph to some extent is inevitable on account of the

above factors and this explains the lower success rate in the vaccination done by Government vaccinators.

Another feature noticed in the above table is the disparity in the success rate among the re-vaccinations done by the several agencies; in this connection, it may also be pointed out that similar disparities obtain in the re-vaccinations done in the same districts or towns and by the same vaccinators. The reasons for these are two fold, viz., first that the vaccinated persons already possess varying grades of immunity and secondly, that, in the existing circumstances, the verifying staffs are not in a position to examine the reactions within the first few days of re-vaccination; these reactions really indicate successful re-vaccination; but the duration of these being short, they disappear by the time the cases are verified. As a result, a large proportion of cases which should really be classified as successful is treated as failures.

122. A summary of the vaccination establishments in the different cadres is given below:—

Year.	Health Inspectors.	Vaccinators.			Total.
		I class.	II class.	Probationary.	
1937-38	286	267	554	1	928
1938-39	286	276	557	1	833
Increase	..	+8	+3	..	+11

It is gratifying that the recommendations repeatedly made from this office have resulted in the virtual extinction of the probationary grade of vaccinators and an increase in the establishment of first-class vaccinators.

123. A comparative statement of expenditure incurred on the several agencies relating to vaccination is given below:—

Establishment.	Expenditure		Average cost of each successful case.	
	1937-38.	1938-39.	1937-38.	1938-39.
(1)	(2)	(3)	(4)	(5)
	RS.	RS.	RS. A. P.	RS. A. P.
Rural areas—				
Government establishments—				
Vaccinators and Health Inspectors.	1,80,800	1,84,900	...	...
Local Fund	4,15,600	4,11,600	...	...
Total for Rural areas	5,96,400	5,96,500	0 8 10	0 8 6
Municipal	1,06,500	1,15,100	0 7 8	0 6 11
Canterment	5,800	4,900	0 7 1	0 4 9
Poonamallee Health Unit	4,700	1,500	1 14 6	0 7 2
Total	7,12,900	7,18,000	0 7 0	0 6 7

One-third of the expenditure on the establishment of Health Inspectors is debited to vaccination.

The average cost of each successful case was lowest in Malabar (Re. 0-4-9) and highest in the Nilgiris (Rs. 1-2-4). In municipalities, it varied from Re. 0-1-11 in Kurnool to Rs. 1-6-6 in Coonoor.

124. *Vaccination Inspections.*—The number of cases inspected by the District Health Officers varied from 337 in Nellore district to 7,759 in Kurnool district. 23 Municipal Health Officers, 15 Medical Officers and 36 Health Inspectors failed to verify the prescribed minima.

125. An abstract of the information furnished by the Health Officers regarding the vaccinal condition of nearly 5,000 cases of smallpox reported in the year under review is given below:—

	Number of cases.	Number of deaths.	Mortality rate.
	(1)	(2)	(3)
			PER CENT.
Unvaccinated or unsuccessfully vaccinated	2,033	524	25.78
Successfully vaccinated	2,897	58	1.87

Further testimony of the advantage of vaccination against smallpox is unnecessary.

PUBLIC HEALTH ESTABLISHMENT AND PERSONAL PROCEEDINGS.

126. The strength of the Public Health Department on 31st December 1938 was:—

1. Director of Public Health .. 1
2. Assistant Directors of Public Health .. 4 These include the post of the Professor of Hygiene.
3. Assistant Director of Public Health .. 1
4. First-class Health Officers .. 61 These include the two temporary posts of Health Officers sanctioned during the year for Anti-malarial operations at Pattukottai and Kalpatta, and the post of the Health Officer and the two Assistant Health Officers of the Madras Corporation, which are not included in the Madras Public Health Service.
5. Second-class Health Officers .. 58 These include the two posts of Municipal Health Officers for Vaniyambadi and Tiruppur and one post for Sembiam Panchayat sanctioned during the year on a temporary basis.
6. Health Inspectors .. 279 These include one permanent post of Health Inspector, Singara, two temporary posts of Health Inspectors at Papanasam, Hydro-electric Scheme, one temporary post at Mettur Township and three temporary posts of Health Inspectors sanctioned for anti-malarial work at Pattukottai, Kalpatta and Ennore.

7. Government Vaccinators ..	17 ²	
8. Entomological Assistants ..	3	These include two temporary posts sanctioned for anti-malarial work.
9. Supervisor ..	1	Sanctioned for anti-malarial work.
10. Women Medical Officers ..	2	One as Warden of the Health Visitors' School and the other in the Poonamallee Health Unit.
11. Compounders ..	2	
12. Health Visitors ..	4	Employed in the Poonamallee Health Unit.
13. Midwives ..	9	

127. The posts of two first-class Health Officers, three Health Inspectors, two Entomological Assistants and one Supervisor were sanctioned on a temporary basis in connection with anti-malarial operations at Pattukottai, Kalpatta and Ennore. Three temporary posts of second-class Health Officers for the municipalities of Vaniyambadi and Tiruppur, and Sembiyam Panchayat were also sanctioned. Six posts of Assistant District Health Officers and of 6 peons which were on a temporary basis for a number of years were sanctioned on a permanent basis from 1st April 1938. All the other temporary posts were continued except the post of second-class Health Officer sanctioned for anti-malarial work in Bellary district. One first-class Health Officer who was on Rockefeller Foundation Fellowship finished his course of studies and returned to duty.

128. A Conference of Health Officers in the Province was held in Madras during March 1938 to discuss the various public health problems of the Presidency.

129. The combination of functional distribution of work with territorial jurisdiction for purposes of routine inspection for Assistant Directors of Public Health continued to be in force with gratifying results.

130. During the year one first-class Health Officer and seven Health Inspectors retired, two second-class Health Officers and three Health Inspectors died and one Assistant Director of Public Health, three first-class Health Officers and six Health Inspectors were punished.

131. Lieut.-Col. C. M. Ganapathy, M.C., I.M.S., was on leave from 29th March to 6th October 1938. During his absence the Surgeon-General with the Government of Madras was in charge till 31st August 1938, and Sri R. Adishesha Ayyar, Assistant Director of Public Health, acted as Director of Public Health from 1st September 1938.

CONCLUDING REMARKS.

132. The report reveals the attempt of the Public Health Department to help in the amelioration of the existing conditions and also its progressive realisation of the responsibility to the public for whose benefit it exists. What is being done now is not enough and the Public Health Department will have to work unceasingly until complete control of all avoidable and preventable diseases has been attained and kept up to that pitch for all time. Any beneficial improvement in the health of the people must necessarily depend on their full co-operation and the measure of success achieved will be in proportion to the amount of assistance that will be forthcoming.

133. In spite of the fact that the number of deaths from cholera for the year under review is the smallest during the last five years, the disease still remains the "bete noire" of the Public Health Department. With the present scheme for the provision of protected rural water-supply for the whole province and the growing consciousness of the public to health matters, it is hoped that the time is not far off when, short of complete eradication, cholera will be brought under controllable dimensions. It is now the aim of the Public Health Department that an outbreak of cholera among pilgrims should be treated as an exception during fairs and festivals.

134. Deaths from smallpox also indicate a progressive decline consequent on the introduction of compulsory vaccination and re-vaccination. Much leeway still remains to be made up before one can confidently assert that the whole population is immunized; and yet the figures for vaccination and re-vaccination, since their introduction as a compulsory measure, reveal that about a third of the population is protected. One of the reasons that can be put forward for a much larger number not being immunized is the diversion of the regular vaccination staff to epidemic work, which naturally interferes with their legitimate duties. Consequently it appears essential that the permanent vaccination staff should not be utilized for epidemic work for long periods and their return to their normal duties expedited by the entertainment of extra temporary staff to tackle epidemics as soon as convenient.

135. With regard to lack of accurate registration of vital statistics, the Public Health Department has to depend to a considerable extent in the rural areas on unqualified registering agencies. It is considered that with the newly introduced system of training of all Rural Medical Practitioners in Public Health and their consequent employment in health work, even though as part-time officers, would help to reduce the number of ill-defined, obscure and unscientific diagnoses now extant.

136. The Maternity and Child Welfare work, although progressing, requires considerable enlargement. It may be difficult for the local bodies to carry on this activity single handed and therefore some financial help from the Government would give the necessary impetus for its more rapid extension.

137. In spite of all the public health activities, unless and until the economic standard of the generality of people is raised, carrying with it the implication of improvement in their nutrition, the population at large specially the rural, will not be able to withstand the ravages of epidemic diseases. By scientific methods, the incidence of diseases can and will be reduced or controlled, but the improvement of human conditions for resisting them must go hand in hand with public health measures.

138. Experiments are under weigh for evolving methods of control of Malaria of different varieties, namely, the coastal type at Ennore, the irrigation type at Pattukottai, and the foothill type in Wynad.

139. As regards the Public Health Act, its successful administration will have necessarily to depend on two important factors:—

- (a) the willing co-operation of the public;
- (b) the manner in which the Public Health Department will work the Act.

It is unnecessary to emphasize that the present stage of development of the Public Health Department has been based practically on the methods of persuasion hitherto employed by its members. Now that the Public Health Act confers more powers, with their inevitable concomitant of greater responsibility on the officers and staff of the Health Department, it ought to be easy to develop further those very persuasive measures which have been the making of the department.

140. The members of the Public Health Department have carried out their duties satisfactorily.

MADRAS,
13th June 1939.

C. M. GANAPATHY, Lieut.-Col., I.M.S.,
Director of Public Health.

ANNEXURE A.X

Detailed Return of Births and Deaths in the 15 Municipalities of Bellary, Calicut, Coimbatore, Coonoor, Cuddalore, Kumbakonam, Madurai, Mangalore, Nagapattinam, Salem, Tanjore, Tirunelveli, Trichinopoly and Vellore during the year 1938.

Age at the time of death.	(1)	Population according to the census of 1931.	Infectious diseases.								Fever.					Respiratory diseases.	
			Cholera.	Plague.	Smallpox.	Measles.	Chickenpox.	Typhoid or enteric fever.	Diphtheria.	Others.	Malaria.	Influenza.	Relapsing fever.	Kala Azar.	Rheumatic fever.		Other fevers.
1. Under one year.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2. Under one month, not exceeding one month.	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3. Over one month and not exceeding 6 months.	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4. Over 6 months and not exceeding 12 months.	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total under one year.	5	27,045	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
One year and under 5 years.	6	122,087	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
5 years and under 10 years.	7	184,923	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10 years and under 15 years.	8	127,112	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
15 years and under 20 years.	9	115,008	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...
20 years and under 25 years.	10	232,203	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
25 years and under 30 years.	11	196,934	19	...	...	...	...	...	...	...	...	...	...	...	...	...	...
30 years and under 35 years.	12	114,286	11	...	...	...	...	...	...	...	...	...	...	...	...	...	...
35 years and under 40 years.	13	63,755	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
40 years and under 45 years.	14	49,326	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...
45 years and upwards.	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total for all ages.	16	1,152,231	81	1	56	39	5	508	28	47	305	111	...	...	39	1,114	2,688
Rate per 1,000 of population.	17	...	0.07	0.001	0.05	0.03	0.004	0.44	0.02	0.04	0.27	0.10	...	...	0.03	0.97	2.25

ANNEXURE A—cont.

Detailed Return of Births and Deaths in the 15 Municipalities of Bellary, Calicut, Cochin, Coimbatore, Conjeevaram, Cuddalore, Kumbakonam, Madurai, Mangalore, Negapatnam, Salem, Tanjore, Tinnevely, Trichinopoly and Vellore during the year 1938—cont.

Age at the time of death.	Respiratory diseases—cont.		Alimentary system.		Disease of the liver.		Circulatory system.			Genito-urinary diseases excluding venereal diseases.		Venereal diseases.	
	Pneumonia.		Dysentery.		Cirrhosis.		Heart disease.			Bright's disease.		Syphilis.	
	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1 Under one year.	7	58	..	1	10	1	..	1	..	5	..	10	..
2 Under one year.	11	79	1	13	81	1	1	..	..	5	..	4	..
3 Over one month and not exceeding 6 months.	237	297	62	159	67	14	9	1	..	6	..	6	1
4 Over 6 months and not exceeding 12 months.	330	210	161	217	23	26	24	1	..	7	1	1	..
Total under one year.	575	644	224	860	181	43	54	3	..	20	1	23	1
One year and under 5 years.	1,187	393	697	212	86	282	101	10	..	23	33	18	..
5 years and under 10 years.	289	47	119	37	30	14	29	9	..	14	24	5	..
10 years and under 15 years.	165	12	51	11	10	10	10	17	1	12	19	6	..
15 years and under 20 years.	199	15	35	23	30	4	11	30	..	15	7	..	..
20 years and under 30 years.	292	29	99	184	104	23	23	120	..	82	78	5	..
30 years and under 40 years.	268	48	123	110	117	50	36	113	..	74	77	32	..
40 years and under 50 years.	263	81	140	119	116	54	28	123	1	108	101	34	..
50 years and under 60 years.	214	98	132	122	148	37	28	134	..	98	139	36	..
60 years and upwards.	146	136	187	152	87	29	2	231	..	93	147	28	..
Total for all ages.	3,567	1,472	1,791	1,414	748	562	290	964	2	335	506	186	67
Rate per 1,000 of population.	310	123	155	123	685	448	0.85	0.84	0.002	0.46	0.52	0.16	0.03

ANNEXURE A—cont.

Detailed Return of Births and Deaths in the 15 Municipalities of Bellary, Calicut, Cochin, Coimbatore, Conjeevaram, Cuddalore, Kumbakonam, Madurai, Mangalore, Negapatnam, Salem, Tanjore, Tinnevely, Trichinopoly and Vellore during the year 1938—cont.

	Diseases of the nervous system.				Accidents of pregnancy and child-birth.			Deficiency diseases.			Malignant diseases.				Diabetes.
	Diseases of the nervous system.				Accidents of pregnancy and child-birth.			Deficiency diseases.			Malignant diseases.				
	Convulsions.	Febrile hæmorrhage (apoplexy).	Tetanus.	Epilepsy.	Others.	Fœtoperial sepsis.	Abortion.	Other accidents and diseases of pregnancy and parturition.	Beri-Beri.	Rickets.	Others.	Alimentary tract.	Gastro-urinary.	Breast.	
1	250	...	...	...	...	...	...	...	...	...	1	...	...	...	...
2	454	...	1	...	1	...	...	...	...	...	6	...	...	...	...
3	988	...	...	...	2	...	...	...	...	...	26	...	...	1	...
4	445	...	2	...	3	...	...	...	...	25	16	...	...	...	...
Total under one year		2,087	...	3	...	6	...	...	...	31	45	...	...	1	...
One year and under 5 years		606	1	7	8	13	...	...	...	144	22	...	...	...	...
5 years and under 10 years		29	4	19	2	8	...	...	...	137	22	...	...	...	...
10 years and under 15 years		1	2	17	15	11	6	...	...	5	10	...	...	...	...
15 years and under 20 years		1	3	18	11	16	83	10	89	10	10	...	...	...	...
20 years and under 30 years		...	12	25	16	27	189	23	205	21	21	...	...	...	...
30 years and under 40 years		1	27	25	8	40	56	13	123	24	24	...	...	...	...
40 years and under 50 years		...	34	21	15	83	9	3	9	19	19	...	...	...	...
50 years and under 60 years		...	50	7	5	111	...	...	...	16	16	...	...	...	...
60 years and upwards		...	94	5	2	247	...	...	...	8	8	...	...	...	...
Total for all ages		2,725	227	137	92	542	303	49	429	86	209	176	37	10	8
Rate per 1,000 of population		287	0.20	0.13	0.07	0.47	0.28	0.04	0.37	0.18	0.15	0.03	0.01	0.01	0.01

Detailed Return of Births and Deaths in the 15 Municipalities of Bellary, Calicut, Cocanada, Coimbatore, Conjeevaram, Cuddalore, Kumbakonam, Madurai, Mangalore, Neezavani, Salem, Tanjore, Tinnessly, Trichinopoly and Vellore during the year 1938—cont.

Age at the time of death.	Leprosy.	Alcoholism.	Congenital debility and malformation, and premature birth.	Rabies.	Wounds and accidents.	Snake-bite.	Killed by wild beasts.	Gunshot.	Poisons.	Old age.	All other causes.	Total deaths from all causes.	Rate per 1,000 of population.	Remarks.
	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
Under one year.	...	...	1,982	...	8	...	...	...	...	...	78	2,421	47.80†	
1	...	...	...	...	...	...	...	...	...	...	...	...	...	
2	...	...	775	...	2	...	...	...	...	...	69	1,465	28.80†	*Births ... 25,968 24,897 20,860 Total
3	...	...	234	...	2	...	...	...	2	...	120	2,318	45.54†	*Deaths ... 17,229 15,925 33,156
4	...	...	36	...	3	...	...	...	1	...	71	1,780	34.01†	Still-births. 1,476 1,189 2,865
Under one year.	...	...	3,037	...	13	...	...	...	3	...	338	7,932	155.93†	
One year and under 5 years	...	...	25	3	31	2	...	...	1	...	226	4,585	37.17	
5 years and under 10 years	...	...	...	7	49	4	...	...	...	...	71	1,017	7.54	
10 years and under 15 years	...	...	...	5	48	4	2	...	3	...	49	711	5.59	
15 years and under 20 years	...	...	...	2	47	1	...	18	7	...	61	1,110	9.65	
20 years and under 30 years	...	...	...	5	65	6	...	35	2	...	162	2,901	13.96	
30 years and under 40 years	...	...	...	4	86	5	...	21	4	...	213	2,750	16.19	
40 years and under 50 years	...	...	...	2	52	2	...	15	...	1	245	2,583	22.48	
50 years and under 60 years	...	...	...	2	47	...	...	10	...	5	264	2,886	34.20	
60 years and upwards	...	...	...	2	54	1	...	7	2	4,654	390	7,231	143.58	
Total of all ages	199	2	3,062	33	527	25	2	103	22	4,680	2,019	33,156	28.78	
Rate per 1,000 of population	0.08	0.02	2.86	0.08	0.46	0.02	0.002	0.00	0.02	4.05	1.75	28.78	...	

* Total births and deaths exclude "still-births."

* Rate per 1,000 live-births.

ANNEXURE B.

Statement showing the Number of Deaths and Death-rates from Cholera during 1928 in the Municipalities with and without protected Water-supply.

(a) *Municipalities with protected water-supply.*

Number.	Names of municipalities.	Number of deaths from cholera.	Rate per 1,000 of population.	Number.	Names of municipalities.	Number of deaths from cholera.	Rate per 1,000 of population.
1.	Adoni ...	2	0.06	25.	Nellore ...	10	0.22
2.	Anantapur ...	32	2.12	26.	Ootacamund ...	...	...
3.	Bellary ...	...	...	27.	Palni ...	...	...
4.	Bezwada ...	18	0.30	28.	Palacole ...	14	0.53
5.	Chidambaram ...	13	0.52	29.	Periyakulam ...	...	...
6.	Chingleput ...	...	...	30.	Proddatur ...	6	0.30
7.	Cocanada ...	5	0.08	31.	Rajahmundry ...	25	0.39
8.	Coimbatore ...	10	0.11	32.	Saidapet ...	21	0.64
9.	Conjeveram ...	2	0.03	33.	Salem ...	2	0.02
10.	Coonor ...	...	...	34.	Tadpatri ...	7	0.55
11.	Cuddalore ...	47	0.80	35.	Tanjore ...	2	0.03
12.	Cuddapah ...	12	0.53	36.	Tirupati ...	3	0.16
13.	Dindigul ...	...	...	37.	Tiruvannamalai ...	...	...
14.	Elore ...	6	0.10	38.	Trichinopoly ...	4	0.08
15.	Erode ...	...	...	39.	Tuticorin ...	...	...
16.	Gudiyattam ...	1	0.04	40.	Vellore ...	...	...
17.	Guntur ...	27	0.41	41.	Virudhunagar ...	...	...
18.	Kodrikanal ...	...	...	42.	Vizagapatam ...	1	0.02
19.	Kumbakonam ...	3	0.05	43.	Vizianagram ...	1	0.02
20.	Kurnool ...	17	0.48				
21.	Madras ...	36	0.06		Total ...	337	0.13
22.	Madurai ...	3	0.02				
23.	Masulipatam ...	3	0.05		Mean rate for 5 years ending with 1937.		0.35
24.	Nagapatam ...	4	0.08				

(b) *Municipalities without protected water-supply.*

1. Anakapalle ...	3	0.13	23. Palamcottah ...	...	...
2. Bimlipatam ...	...	...	24. Palghat ...	5	0.10
3. Bodinayakkanur ...	...	...	25. Peddapuram ...	2	0.12
4. Calicut ...	...	...	26. Pollachi ...	...	...
5. Cannanore ...	...	...	27. Sivakasi ...	...	...
6. Chittoor ...	...	...	28. Srirangam ...	1	0.04
7. Chittoor ...	...	...	29. Srivillipattur ...	...	...
8. Chirala ...	5	0.27	30. Tellicherry ...	...	...
9. Cochin ...	...	...	31. Tenali ...	2	0.08
10. Devakottai ...	...	...	32. Tinnevely ...	2	0.04
11. Dharmapuram ...	...	...	33. Tirupattur ...	...	...
12. Gndivada ...	16	0.79	34. Tiruppur ...	...	...
13. Hindupur ...	...	...	35. Tiruvattur ...	...	...
14. Hospet ...	...	...	36. Udaialpet ...	...	...
15. Karahudi ...	...	...	37. Udipi ...	...	...
16. Karur ...	...	...	38. Vaniyambadi ...	...	...
17. Mangalore ...	...	...	39. Villupuram ...	5	0.80
18. Mannargudi ...	5	0.23	40. Walajapet ...	...	...
19. Mayavaram ...	9	0.28			
20. Nandyal ...	38	1.73			
21. Narasaraopet ...	1	0.06			
22. Ongole ...	1	0.06			
			Total ...	96	0.09
			Mean rate for 5 years ending with 1937.		0.50

N.B.—Only 11 out of 43 municipalities have the whole water-supply protected, while the remaining 32 have only partial schemes.

ANNEXURE C.

Financial Statement showing the Working of the Health Propaganda
Section of the Office of the Director of Public Health during the
year 1938.

Serial number.	Details.	Amount.		
		RS.	A.	P.
1.	Establishment charges (including pay of officers, establishment, allowances, honorarium; etc.) ...	1,342	0	0
2.	Cost of printing posters and leaflets ...	5,689	8	0
3.	Miscellaneous charges including repairs, renewals of equipment, slides, purchase of materials for artist, etc.	1,051	0	0
4.	Total cost ...	8,082	8	0
5.	Sale-proceeds of posters and leaflets ...	2,983	10	9
6.	Value of posters and leaflets unsold ...	20,810	4	6
7.	Receipts from loan of magic lanterns, slides, films, etc. ...	1,817	6	5
8.	Total of items 5 to 7 ...	25,611	5	8
9.	Net gain ...	17,528	13	8
10.	Net extra expenditure deducting Rs. 8,000 being the grant originally made to the Madras Health Council. No extra expenditure.			
11.	Net extra expenditure according to the sanctioned scheme ...			Nil.
12.	Capital expenditure (purchase of films, etc.) specially sanctioned from time to time ...	537	0	0

ANNEXURE D.

Maternity and Child-welfare in Rural Areas (Districts exclusive of Municipalities) during 1938.

Number.	Names of districts.	Area in square miles.	Total revenue of District Board.	Amount spent on Maternity and Child-welfare work.	Percentage of total amount spent on Maternity and Child-welfare work.	Maternity and Child-welfare centres.		Medical women.			Number of Health visitors.		Midwives.				In Rural medical relief dispensaries.
						Local boards.	Aided and managed by private bodies.	Appointed for Maternity and Child-welfare work.	Available as consultants.	Per 1,000 births.	Local boards.	Private.	In full time domiciliary service.	Local boards.	Private.	In private practice.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	Anantapur	6,741	4,40,900	2,800	0.84	2	..	1	1	0.04	..	..	2	..	..	13	7
2	Bellary	5,519	4,16,150	11,110	1.78	17	..	1	2	0.08	..	..	17	..	..	11	12
3	Chingleput	1,371	6,42,070	3,144	0.56	..	..	1	4	0.04	..	..	1	6	1	49	14
4	Chittoor	5,914	5,59,900	11,090	0.73	11	5	2	2	0.02	1	..	1	9	..	27	14
5	Coimbatore	7,041	15,13,165	535	0.14	..	..	2	..	0.03	..	..	12	..	..	24	11
6	Ouddapah	5,918	8,73,770	5291	0.32	1	..	1	2	0.02	..	..	6	..	..	12	7
7	Godavari, East	2,527	10,52,545	8,902	1.18	6	..	1	..	0.02	..	..	6	..	..	32	28
8	Godavari Agency	2,361	8,07,267	8,902	1.18	9	..	1	..	0.02	..	..	10	..	..	24	11
9	Godavari, West	5,757	23,87,605	2,137	0.09	3	..	1	1	..	1	..	1	..	..	31	33
10	Guntur	3,438	38,53,410	6,781	0.01	8	..	1	..	..	..	..	8	..	..	18	19
11	Kistna	7,637	38,53,410	1,723	0.11	1	..	1	..	..	1	..	8	7	..	15	3
12	Kurnool	7,637	14,77,230	1,723	0.11	1	..	..	..	..	1	..	2	..	..	14	7
13	Madura	4,908	10,46,800	3,503	0.33	2	1	..	..	..	..	..	2	..	..	..	..
14	Malabar	7,978	..	400	..	..	..	..	..	..	..	..	2	..	..	..	..
15	Nellore	7,978	..	409	..	..	..	..	..	..	..	..	1	..	..	24	8
16	The Nilgiris	982	2,36,100	574	0.34	1	..	..	..	..	..	..	1	..	2	6	..
17	North Arcot	4,945	8,15,628	8,218	1.01	..	..	..	..	0.08	..	..	6	..	..	24	19

* From Dec. 1938.

† 6 (4) up to 31 Oct. 1938 and 2 throughout 1938.

‡ Up to June 1938.

ANNEXURE D—cont.
Maternity and Child-welfare in Rural Areas (Districts exclusive of Municipalities) during 1938—cont.

Number.	Names of districts.	Midwives.		(19)	Total.	(20)	Beds in hospitals.		(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
		Per 1,000 births.	Maternity.				Children's diseases.	Number.									
1	Anantapur.	22	0.49	3,011	6.65	6	0.12	...	44,931	369	7,651	170.29	511	11.30			
2	Bellary	18	0.46	2,831	7.25	...	...	...	89,789	232	6,699	171.78	238	5.94			
3	Chingleput	85	1.44	6,929	11.76	44	0.75	12	53,223	726	10,198	175.16	471	7.99			
4	Chittoor	47	0.85	3,532	6.59	31	0.57	14	53,926	427	8,018	143.67	439	8.07			
5	Coimbatore	47	0.51	4,523	4.88	6	0.06	...	82,243	454	16,786	171.25	507	5.47			
6	Cuddapah	50	0.65	1,877	4.65	4	0.11	5	35,791	272	5,325	148.60	359	9.35			
7	Godavari West	64	1.11	462	0.79	...	...	...	56,788	678	10,391	193.54	588	10.23			
8	Godavari Agency	45	1.01	3,702	8.27	103	2.30	...	9,451	160	1,614	153.83	83	9.68			
9	Guntur	65	0.82	3,488	4.52	25	0.32	45	44,363	331	8,917	223.50	507	11.33			
10	Kistna	45	0.80	3,700	7.39	23	0.53	24	73,323	801	15,284	139.61	514	7.05			
11	Kurnool	33	0.72	1,228	2.66	...	...	...	49,575	494	10,140	204.52	487	9.73			
12	Madura	23	0.36	2,374	4.01	18	0.25	...	45,472	586	7,870	173.08	362	7.85			
13	Malabar	2	0.01	1,777	1.41	...	...	...	71,277	474	11,320	158.81	449	6.26			
14	Nellore	49	0.89	4,054	7.36	23	0.42	...	129,030	2,523	16,989	137.34	764	6.05			
15	The Nilgiris	11	2.66	505	12.31	4	0.97	...	54,731	336	8,886	162.34	428	7.77			
16	North Arcot	49	0.53	3,619	39.15	14	0.15	...	4,071	66	12,436	155.74	40	9.67			
									91,136	1,222	12,436	155.74	616	6.65			

ANNEXURE D—cont.
Maternity and Child-welfare in Rural Areas (Districts exclusive of Municipalities) during 1938—cont.

Number.	Names of districts.	Area in square miles.	Total revenue of District Board.	Amount spent on Maternity and Child-welfare work.	Percentage of total amount spent on Maternity and Child-welfare work.	Maternity and Child-welfare centres.		Medical women.		Number of health visitors.		Midwives.				In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).	In hospitals and dispensaries (Govt., L.M. and Private).
						Aided and managed by private bodies.	Local boards.	Appointed for Maternity and Child-welfare work.	Available as consultants.	Per 1,000 births.	Local boards.	Private.	In full time domiciliary service.	Local boards.	Private.							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
17	Rannad ..	4,819	11,00,000	6,000	0.54	8	..	..	..	..	..	..	8	..	..	44	13	..	..	..	..	..
18	Salom ..	7,057	18,80,717	11,264	0.81	18	..	..	..	..	..	..	19	..	..	23	15	..	..	..	..	..
19	South Arcot ..	4,307	11,17,183	2,270	0.20	2	..	..	..	..	..	..	2	..	..	28	13	..	..	..	..	..
20	South Kanara ..	4,013	6,71,329	2,750	0.41	..	..	..	..	..	..	..	9	..	..	15	13	..	..	..	..	..
21	Tanjore ..	8,727	17,67,957	12,483	0.71	15	..	..	..	..	..	..	15	..	..	35	19	..	..	..	..	..
22	Tinnevely ..	4,912	10,03,464	615	0.06	2	1	..	..	..	..	..	2	..	..	32	10	..	..	..	..	..
23	Trichinopoly ..	4,314	9,52,502	4,981	0.52	3	..	..	..	..	..	..	8	..	..	18	24	..	..	..	..	..
24	Visagapatnam ..	8,000	..	..	..	5	..	..	..	..	..	..	5	..	..	83	1	..	..	..	..	..
Total for the Districts.		..	2,42,14,983	1,06,947	0.44	122	9	14	17	0.02	8	..	141	18	15	559	308	..	..	..	..	..
Total for the Municipalities.		..	2,61,30,919	3,12,460	1.20	78	20	20	81	6.27	34	6	268	26	191	211	..	..	..	..	..	..
Total for the Province.		..	5,03,51,802	4,19,407	0.83	200	29	40	98	0.08	42	6	439	44	203	770	308	..	..	..	..	..

NOTE.—Where information is not available no figures are given.

ANNEXURE D—cont.

Maternity and Child-welfare in Rural Areas (Districts exclusive of Municipalities) during 1938—cont.

Number.	Names of districts.	Midwives.		Number of cases receiving skilled aid at child birth.	Percentage of cases receiving skilled aid at child birth.	Beds in hospitals.			Live-births.	Still-births.	Number of infantile deaths.	Infantile mortality rate per 1,000 live births.	Maternal deaths.	Maternal mortality rate per 1,000 births.
		Total.	Per 1,000 births.			Number.	Per 1,000 births.	Children's diseases.						
		(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
17	Ramanad ..	65	1.07	3,669	60.39	..	..	..	60,225	625	7,792	122.35	493	8.10
18	Salem ..	62	0.69	6,981	6.61	9	0.10	..	90,097	441	18,929	154.75	663	7.33
19	South Arcot ..	48	0.53	3,526	4.88	4	0.05	7	79,752	692	11,229	140.80	718	8.93
20	South Kanara ..	37	0.72	3,265	6.36	..	..	..	60,082	1,252	7,507	149.99	580	11.49
21	Tanjore ..	69	1.06	5,007	7.68	24	0.37	..	64,202	1,159	10,719	166.96	1,045	15.99
22	Tinnevely ..	45	0.58	4,751	6.12	18	0.23	..	76,300	1,379	13,366	175.18	757	8.75
23	Trichinopoly ..	45	0.71	2,399	3.61	2	0.03	..	83,031	705	10,329	163.39	735	11.53
24	Vizagapatam ..	50	0.42	3,188	2.67	..	..	..	118,315	1,129	21,634	186.40	801	7.55
Total for the Districts.		1,041	0.66	79,840	5.07	364	0.23	107	1,552,697	17,583	266,383	165.19	13,284	8.47
Total for the Municipalities.		726	3.59	57,453	34.97	955	6.09	364	156,821	7,484	27,547	175.08	2,098	12.77
Total for the Province.		1,767	6.26	137,293	7.91	1,319	0.77	471	1,709,518	25,067	293,930	166.14	15,382	8.98

ANNEXURE E.

Maternity and Child-welfare—Municipalities in the year 1938.

ANNEXURE E.

Maternity and Child-welfare—Municipalities in the year 1938.

Number.	Names of municipalities.	(3)	(4)	(5)	(6)	Maternity and Child-welfare centres.		Medical women.			Number of Health Visitors.		Midwives.			
						Local Bodies.	Aided and managed by private bodies.	Appointed for Maternity and Child-welfare.	Available as consultants.	Per 1,000 births.	Local Bodies.	Private.	In full time domiciliary service.	In private practice.	In hospitals and dispensaries (Government, Local Fund and private).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
			RS.	RS.												
1	Anantapur district—															
2	Anantapur ..	2.27	92,795	1,404	1.51	1	1	1	1	1.45	1	1	2	1	1	1
3	Andhra Pradesh ..	1.90	1,57,048	625	0.39	1	1	1	1	1	1	1	1	1	1	1
4	Andhra Pradesh ..	1.50	95,297	288	0.85	1	1	1	1	1	1	1	1	1	1	1
5	Bellary district—															
6	Bellary ..	12.00	6,68,894	3,838	0.58	1	1	1	2	1.31	1	1	2	1	1	1
7	Bellary ..	4.48	1,48,318	728	0.43	1	1	1	2	0.61	1	1	2	1	1	1
8	Bellary ..	5.82	17,510	411	2.34	1	1	1	2	2.17	1	1	1	1	1	1
9	Chingleput district—															
10	Chingleput ..	4.00	3,77,945	1,950	0.58	1	1	1	1	1	1	1	4	3	1	1
11	Chingleput ..	7.50	1,23,373	1,075	0.87	1	1	1	1	1	1	1	3	3	1	1
12	Chittoor district—															
13	Chittoor ..	7.50	88,920	2,454	2.76	1	1	1	1	1.78	1	1	2	2	1	1
14	Chittoor ..	1.50	1,18,004	2,797	2.37	1	1	1	1	1.27	1	1	2	2	1	1
15	Coimbatore district—															
16	Coimbatore ..	8.00	8,90,044	9,851	1.11	3	1	1	1	0.21	2	1	13	12	2	2
17	Coimbatore ..	3.12	2,70,042	1,853	0.67	1	1	1	1	0.84	1	1	2	2	2	2
18	Dharapuram ..	1.94	66,645	441	0.66	1	1	1	1	1.34	1	1	1	1	1	1
19	Dharapuram ..	4.00	1,58,086	422	0.27	1	1	1	1	1.02	1	1	1	1	1	1
20	Pollachi ..	5.50	1,31,973	1,121	0.85	1	1	1	1	1	1	1	2	2	1	1
21	Tiruppur ..	3.00	71,000	1,014	1.43	1	1	1	1	1.70	1	1	1	1	1	1

18	Cuddapah district—																
19	Cuddapah ..	2.60	1,18,732	774	0.65	1	1	1	1	2	1.31	1	1	1	1	1	1
20	East Godavari district—	2.75	1,10,000	320	0.29	1	1	1	1	1	1.18	1	1	1	1	1	1
21	East Godavari ..	7.85	2,48,530	3,480	1.40	1	1	1	1	7	2.98	1	1	1	1	1	1
22	East Godavari ..	4.02	2,88,225	1,073	0.36	1	1	1	1	2	0.81	1	1	1	1	1	1
23	East Godavari ..	2.60	65,271	418	0.64	1	1	1	1	1	0.71	1	1	1	1	1	1
24	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1.62	1	1	1	1	1	1
25	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1.50	1	1	1	1	1	1
26	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1.51	1	1	1	1	1	1
27	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1.13	1	1	1	1	1	1
28	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
29	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
30	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
31	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
32	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
33	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
34	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
35	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
36	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
37	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
38	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
39	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
40	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
41	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
42	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
43	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
44	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
45	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
46	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
47	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
48	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
49	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
50	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1
51	Ellore ..	6.00	2,46,000	1,650	0.68	1	1	1	1	1	1	1	1	1	1	1	1

Unqualified.

Maternity and Child-welfare—Municipalities in the year 1938—cont.

Number.	Name of municipality.	Midwives—cont.			(18)	(19)	(20)	(21)	Beds in hospitals.			(24)	(25)	(26)	(27)	(28)	(29)	(30)	
		Total.	Per 1,000 births.	Number of cases receiving skilled aid at child birth.					Percentage of cases receiving skilled aid at child birth.	Number.									Children's diseases.
										Maternity	Per 1,000 Births.								
1	Anantapur district—																		
2	Anantapur ..	4	2.90	416	60.28	6	8.71	...	...	...	...	654	35	72	110.09	11	18.97		
3	Hindupur ..	2	2.92	239	84.94	2	...	...	...	...	...	663	21	93	140.27	12	17.54		
4	Tadpatri ..	2	3.90	309	60.35	2	3.90	...	...	...	...	492	13	70	140.28	10	19.53		
5	Bellary district—																		
6	Bellary ..	9	3.95	819	35.97	20	8.78	...	...	...	...	2,179	98	301	179.44	34	14.93		
7	Adoni ..	2	1.22	527	32.11	...	...	...	...	...	...	1,598	43	198	123.90	10	6.09		
8	Hospet ..	2	2.17	173	18.78	...	...	...	...	...	...	894	27	155	173.38	9	9.77		
9	Chingleput district—																		
10	Conjeevaram ..	4	1.39	1,426	48.80	13	4.52	...	...	...	...	2,690	185	371	137.92	57	19.83		
11	Saidapet ..	5	3.98	690	52.56	4	3.18	...	...	...	...	1,239	27	221	178.37	9	7.11		
12	Chingleput ..	5	3.99	756	90.65	12	14.99	...	...	...	...	781	103	91	124.49	20	23.98		
13	Chittoor district—																		
14	Chittoor ..	3	7.11	695	53.11	10	8.88	...	...	...	...	1,918	107	128	125.74	24	21.38		
15	Tirupati ..	4	5.07	342	43.35	30	10.14	...	...	...	...	734	55	124	168.94	13	16.48		
16	Coimbatore district—																		
17	Coimbatore ..	27	5.02	2,933	59.97	8	6.24	...	...	...	...	4,551	253	613	134.70	53	11.03		
18	Erode ..	6	5.05	612	51.56	18	15.16	...	...	...	...	1,123	64	125	111.31	13	12.35		
19	Dharapuram ..	1	1.82	238	31.62	2	2.65	...	...	...	...	748	7	102	136.86	5	6.92		
20	Pellissery ..	2	2.05	475	46.67	...	...	...	...	...	...	940	36	201	218.38	14	13.84		
21	Tiruppur ..	3	3.50	379	31.63	2	1.67	...	...	...	...	1,160	38	193	160.38	18	15.03		
22	Udumalpet ..	2	3.41	404	68.82	...	...	...	...	...	...	574	13	88	149.83	6	10.23		

18	Cuddapah district—	8	7-23	649	58-88	5-42	...	...	1,037	69	114	100-93	26	23-51
19	Cuddapah ...	2	2-38	301	35-45	...	...	...	828	21	109	131-48	14	16-49
20	East Godavari district—	...	...	...	...	...	...	...	...	...	...	...	...	...
21	Cocanada ...	8	3-82	12	5-73	6	2-86	...	2,004	91	524	261-48	25	11-93
22	Rajahmundry ...	16	3-06	1,103	47-00	28	1-08	...	2,224	123	544	244-60	31	18-21
23	Peddapuram ...	2	...	243	37-21	...	...	...	625	28	92	137-20	10	15-31
24	West Godavari district—	...	...	...	...	...	...	...	...	...	...	...	...	...
25	Ellore ...	4	1-63	720	29-20	8	3-25	...	2,424	87	252	103-86	28	11-38
26	Palacolo ...	...	...	...	...	...	...	...	454	15	95	209-25	10	21-32
27	Guntur district—	...	...	...	...	...	...	...	...	...	...	...	...	...
28	Guntur ...	65	18-20	2,525	62-22	84	20-88	72	3,724	289	818	219-68	80	19-94
29	Tenali ...	3	2-12	451	31-83	6	4-23	...	1,351	66	280	192-45	9	6-35
30	Chirala ...	2	2-72	345	48-88	4	5-43	2	700	36	84	120-00	16	21-74
31	Ongole ...	4	4-79	375	44-91	5	8-10	...	731	104	143	195-82	19	22-75
32	Narsaraopet ...	...	...	223	36-14	...	...	...	572	45	165	270-98	6	9-72
33	Kistna district—	...	...	...	...	...	...	...	...	...	...	...	...	...
34	Bezwada ...	8	2-99	408	15-26	24	8-98	...	2,582	91	515	199-46	28	10-43
35	Masulipatam ...	9	3-42	1,337	50-84	20	7-60	16	2,505	125	531	211-98	32	13-17
36	Gudriwada ...	...	...	...	...	...	...	...	912	63	230	241-23	11	11-29
37	Kurnool district—	...	...	...	...	...	...	...	...	...	...	...	...	...
38	Kurnool ...	11	6-20	1,213	68-34	38	20-28	12	1,704	71	224	131-46	26	14-65
39	Nandyal ...	8	8-21	312	32-03	2	2-05	16	934	50	127	137-44	13	13-35
40	Madras district Madras ...	82	...	...	...	...	...	...	80,985	1,821	6,881	222-11	284	9-79
41	Madras district—	...	...	...	...	...	...	...	...	...	...	...	...	...
42	Madura ...	46	4-50	5,043	52-64	110	11-47	55	9,029	551	1,686	186-73	136	14-20
43	Dindigul ...	9	4-15	1,093	46-42	4	1-85	...	2,105	62	347	164-85	24	11-08
44	Bodinayakanur ...	1	0-96	187	17-89	...	...	...	1,043	2	153	146-09	13	12-44
45	Periyakulam ...	3	2-67	245	21-78	2	1-78	...	1,038	86	228	209-37	9	8-00
46	Palni ...	...	...	...	...	...	...	...	791	17	161	193-34	14	17-54
47	Kodalkanal ...	7	18-67	304	81-07	...	...	...	380	15	55	152-78	2	5-33
48	Malabar district—	...	...	...	...	...	...	...	...	...	...	...	...	...
49	Calicut ...	13	4-86	1,258	32-07	47	12-03	12	3,720	186	474	127-42	48	12-29
50	Palghat ...	8	3-76	373	17-53	11	6-17	...	2,046	83	292	142-72	18	8-45
51	Cannanore ...	7	7-11	607	61-62	...	...	...	949	46	135	143-74	12	12-18
52	Tellicherry ...	5	5-01	518	51-90	6	6-01	...	918	80	141	153-59	13	16-63
53	Cochin ...	12	12-23	645	65-75	4	4-08	...	943	38	128	135-74	11	11-21
54	Nellore district Nellore ...	25	9-16	2,021	74-05	...	...	...	2,462	237	518	95-10	57	20-89
55	Nilgiris district—	...	...	...	...	...	...	...	...	...	...	...	...	...
56	Ootacamund ...	10	9-16	800	73-32	33	30-21	6	1,057	84	147	139-07	8	7-33
57	Coonoor ...	5	5-25	416	75-50	8	14-52	8	598	12	92	170-69	5	9-07
58	North Arcot district—	...	...	...	...	...	...	...	...	...	...	...	...	...
59	Vellore ...	31	7-52	1,950	66-43	70	20-26	34	3,238	217	470	145-15	50	14-47
60	Tiruvannamalai	2	1-48	345	25-57	...	...	...	1,281	68	199	155-35	14	10-38

ANNEXURE E—cont.

Maternity Relief and Child-welfare—Municipalities in the year 1938—cont.

Number.	Names of municipalities.	Area in square miles.	Total revenue of Municipality.	Amount spent on Maternity and Child-welfare.	Percentage of total amount spent on Maternity and Child-welfare.	Maternity and Child-welfare Centres.		Appointed for Maternity and Child-welfare.	Available as consultants.	Medical women.		Number of health visitors.		Midwives.			
						Local Bodies.	Aided and maintained by private bodies.			Per 1,000 births.	Local Bodies.	Private.	In full time domiciliary service.	Local Bodies.	Private.	In private practice.	In hospitals and dispensaries (Government, Local Fund and private).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
52	North Arcot district—cont.																
53	Gudiyattam	3.50	92,932	...	...	1	1	...	2	2.43	...	...	1	...	1	...	2
54	Vaniyambadi	1.75	1,78,230	330	0.13	...	...	...	2	2.18	...	...	...	...	...	...	2
55	Tirupattur	1.02	40,000	324	0.81	...	...	...	...	...	...	...	...	...	...	...	...
56	Walajpet	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
57	Ramanad district—																
58	Vinudhanagar	2.68	1,66,100	782	0.44	1	...	...	1	0.84	1	...	2	...	2	...	2
59	Srivilliputtur	1.85	50,145	467	0.93	...	...	...	1	2.49	...	...	1	...	1	...	2
60	Karalkudi	6.49	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
61	Sivakasi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
62	Devakottai	5.00	4,13,957	9,667	2.83	3	1	1	1	...	2	1	10	...	10	...	2
63	Salem district—Salem																
64	South Arcot district—																
65	Cuddalore	12.06	1,48,550	5,070	3.41	5	1	1	1	0.83	...	...	5	...	2	...	2
66	Chidambaram	2.00	96,020	628	0.65	1	...	...	...	...	...	...	2	...	...	...	...
67	Villupuram	2.33	83,846	375	0.45	...	...	...	1	1.61	...	...	1	...	1	...	2
68	South Kanara district—																
69	Mangalore	6.25	3,04,570	4,977	1.63	...	1	1	1	0.78	...	...	8	...	16	...	3
70	Udupi	3.70	28,000	...	...	...	...	...	2	2.69	...	...	...	...	4	...	3
71	Tanjore district—																
72	Tanjore	8.30	4,75,020	600	1.28	1	1	...	...	0.86	...	...	1	...	10	...	2
73	Kumbakonam	4.42	3,46,218	1,416	0.41	2	...	...	...	...	...	...	6	...	1	...	8
74	Negapatam	5.44	1,90,210	1,464	0.77	2	...	...	3	...	...	...	4	...	1	...	2

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70	Mayavaram	4.70	1,51,032	757	0.49	...	...	...	1	0.92	...	...	2	...	2	...	1
71	Tiravur	4.75	78,007	18	0.02	...	...	...	...	0.98	...	...	...	...	4	...	1
72	Mannargudi	4.20	60,230	1,050	1.74	1	...	...	1	...	...	...	...	...	...	...	1
73	Tinnevely district—																
74	Tuticorin	3.07	4,40,600	3,085	0.66	...	1	...	3	1.35	...	...	3	...	2	...	3
75	Tinnevely	3.58	2,56,054	2,312	0.90	...	...	...	5	0.92	...	...	2	...	...	...	4
76	Palamcottah	3.46	91,086	972	1.07	...	1	...	...	4.06	...	...	3	...	...	...	1
77	Trichinopoly district—																
78	Trichinopoly	8.90	8,71,305	6,145	0.71	3	4	1	7	1.41	1	...	3	...	11	...	5
79	Srirangam	5.07	1,23,583	821	0.66	...	...	...	1	1.06	...	...	2	...	...	...	1
80	Karur	2.33	1,40,466	563	0.40	...	...	...	...	...	...	...	...	...	...	...	1
81	Vizagapatam district—																
82	Vizagapatam	6.13	5,14,628	2,337	0.45	1	...	...	...	...	...	...	5	...	2	...	5
83	Vizianagram	3.50	3,31,250	1,831	0.57	1	...	...	...	...	...	...	2	...	3	...	4
84	Arakapalle	...	...	...	...	1	...	...	...	...	...	...	1	...	...	...	...
85	Chicacole	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
86	Bimlipatam	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
87	Total for the Municipalities	...	2,61,36,919	3,12,460	1.20	78	20	26	81	...	34	6	268	26	191	211	...

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ANNEXURE B—cont.

Maternity and Child-welfare—Municipalities in the year 1938—cont.

Number.	Name of municipality.	Midwives—cont.		Number of cases receiving skilled aid at child birth.	Percentage of cases receiving skilled aid at child birth.	Beds in hospitals, exclusively for			Live births.	Still births.	Number of infantile deaths.	Infantile mortality rate per 1,000 births.	Maternal deaths.	Maternal mortality rate per 1,000 births.
		Total.	Per 1,000 births.			Maternity.	Children's diseases.							
								(18)						
	North Arcot district—cont.													
52	Gudiyattam ..	3	8.65	268	32.56	4	4.86	...	1,325	47	242	182.54	28	16.78
53	Vaniyambadi ..	3	3.27	28	3.95	2	2.18	...	782	41	120	153.45	9	10.94
54	Tirupattur ..	1	2.50	...	...	...	...	...	858	60	88	114.22	14	15.25
55	Walajpet ..	...	...	...	...	...	...	...	384	15	48	125.60	5	13.02
56	Raman district—	6	4.22	378	19.55	10	7.03	...	1,375	47	248	180.38	21	14.77
57	Virudhunagar ..	1	0.84	401	33.75	...	...	...	1,161	27	133	161.93	14	11.78
58	Srivillipattur ..	5	6.22	342	42.54	4	4.28	...	753	46	121	159.83	13	16.17
59	Karaikudi ..	...	...	...	...	...	...	...	517	6	44	85.11	7	13.33
60	Sivakasi ..	...	...	...	...	...	...	...	644	33	74	114.91	14	19.50
61	Devakottai ..	22	...	2,120	52.00	21	5.00	...	4,095	156	551	134.55	46	10.82
62	Salem district—Salem	9	3.71	1,205	49.49	14	5.77	...	2,317	108	333	145.72	32	13.20
63	South Arcot district—	2	2.40	505	60.55	2	2.40	...	778	56	131	168.88	14	16.79
64	Cuddalore ..	4	6.05	128	19.35	...	...	...	635	26	67	105.31	5	7.59
65	Vilupuram ..	...	...	...	...	...	...	...	...	...	...	...	...	...
66	South Kanara district—	27	10.47	1,527	61.90	50	19.38	...	2,502	78	250	99.92	35	13.57
67	Mangalore ..	7	9.39	500	67.20	12	16.13	...	705	39	80	113.49	14	18.82
68	Udipi ..	18	4.59	1,186	41.33	41	14.49	...	2,631	154	419	152.28	86	21.24
69	Tanjore district—	19	6.82	1,629	58.49	24	8.02	...	2,664	231	321	124.79	39	12.93
70	Kumbakonam ..	8	4.38	548	45.39	12	6.23	...	1,733	89	324	180.31	33	20.78
71	Mayavaram ..	...	...	474	43.84	...	...	...	...	...	...	...	...	...
72	Tiruvavur ..	5	7.32	303	30.04	...	...	...	...	...	...	...	...	...
73	Mannargudi ..	8	2.97	648	64.16	4	3.96	...	946	64	64	117.34	13	11.88
74	Tinnevely district—	...	...	...	...	...	...	...	...	...	...	...	...	...
75	Tatticorin ..	8	2.25	1,208	54.22	28	12.61	...	2,153	58	440	203.01	35	15.75
76	Tinnevely ..	6	3.77	1,013	46.59	...	...	...	2,084	86	462	231.69	33	10.13
77	Palamcottah ..	4	3.25	594	48.25	6	4.37	...	1,124	107	177	157.47	29	23.56
78	Trichinopoly district—	...	...	...	...	...	...	...	...	...	...	...	...	...
79	Trichinopoly ..	25	4.42	2,470	43.64	20	3.53	...	5,498	192	743	135.70	79	13.96
80	Srirangam ..	3	3.10	443	47.13	8	6.38	...	888	52	124	139.63	2	21.27
81	Karur ..	1	1.20	260	31.33	...	...	...	805	25	150	186.34	8	9.64
82	Vizagapatam district—	...	...	...	...	...	...	...	...	...	...	...	...	...
83	Vizagapatam ..	12	5.15	1,171	50.30	40	17.18	...	2,250	43	551	241.67	14	6.01
84	Vizianagaram ..	9	4.81	736	39.36	10	6.35	...	1,322	48	370	203.07	14	7.49
85	Anakapalle ..	1	1.05	...	...	...	...	...	318	36	215	234.20	15	15.72
86	Chitacole ..	1	1.52	...	...	...	...	...	644	13	106	164.60	10	15.22
87	Bimlipatam ..	...	...	...	...	...	...	...	353	15	81	229.46	2	5.43
88	Total for the Municipalities ..	726	3.59	57,458	54.97	955	6.09	...	156,321	7,484	27,547	175.68	2,098	12.77

ANNEXURE G—cont.

Details of Maternity and Child-welfare Work in Municipalities—cont.

Serial number and Names of Municipalities.	Brought under care.					Home Visits.				Clinics.					Mothers' classes.		Other activities.			
	Total number of cases.	Anti-natal meth- ods.	Labour cases.	Infants.	Pre-School.	Woman Medical Officers.	Health Visitors.	Midwives.		Number held.	Attendance.			Number held.	Attendance.	Number.	Lectures, etc.	Schools visit- ed for health education.		
								Ante-natal.	Post-natal.		Anke-natal.	Infants.	Pre-School.						Nursing mothers.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
82. Dindigul ...	2,090	1,857	793	189	107	...	4,135	7,980	5,432	48	131	190	109	247	23	229	12	457	1	50
83. Bodinayakanur ...	There in no centre.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
34. Periyakulam ...	618	545	245	241	...	...	...	2,484	4,040	...	...	...	...	...	304	3,053	10	1,571	...	...
35. Calicut ...	456	455	456	...	...	...	...	2,322	4,393	1	122	1,235	7,874	...	...	...	9	545	...	...
36. Cannanore ...	683	125	608	71	126	...	...	703	1,815	...	...	...	...	...	...	...	...	...	...	...
37. Tellicherry ...	683	125	608	71	126	...	...	703	1,815	...	...	...	...	...	...	...	...	...	...	...
38. Cochin ...	881	643	164	347	945	1,098	3,049	6,334	2,145	400	1,010	880	2,106	2,012	68	1,588	9	300	3	500
39. Ootacamund ...	712	633	297	347	133	672	...	1,980	1,600	108	226	3,732	8,569	9,226	43	1,134	17	505	18	981
40. Coonoor ...	276	233	182	218	63	...	...	3,020	1,400	...	...	...	...	...	72	804	3	160	...	...
41. Vellore ...	1,600	837	663	218	63	...	...	1,015	1,407	...	...	...	...	...	...	...	...	...	...	...
42. Tiruvannamalai ...	512	317	163	...	...	...	...	490	280	...	...	...	...	...	...	...	...	...	...	...
43. Tiruppur ...	28	...	587	...	...	...	...	456	650	...	...	...	...	...	41	576	...	...	...	...
44. Virudhunagar ...	474	411	63	...	...	...	...	348	1,313	...	...	...	...	...	66	551	9	8,065	...	...
45. Sivakasi ...	807	736	217	202	...	451	1,710	2,707	1,197	82	1,401	390	460	371	66	551	20	1,163	45	3,690
46. Karukudi ...	109	227	140	530	515	636	4,045	10,336	10,410	254	1,263	1,347	4,436	1,762	120	1,334	...	...	42	3,557
47. Srirangam ...	2,750	230	874	220	240	2,422	...	11,913	2,531	180	1,478	340	275	530	...	...	8	1,630	...	...
48. Cuddalore ...	1,445	410	243	...	...	1,09	...	963	2,531	...	...	...	...	...	...	...	...	...	...	...
49. Villupuram ...	388	338	143	...	...	1,356	...	1,353	3,505	104	210	...	...	...	80	255	...	...	...	...
50. Chidambaram ...	1,445	302	609	650	...	...	...	2,370	3,505	...	...	...	...	...	...	...	...	...	...	...
51. Mangalore ...	500	302	609	650	...	...	...	150	720	...	...	...	...	...	...	...	...	...	...	...
52. Udipi ...	140	120	80	...	...	...	...	908	2,080	...	...	...	...	...	...	...	...	...	...	...
53. Tanjore ...	...	904	685	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
54. Kumbakonam ...	861	173	238	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
55. Negapattinam ...	511	511	239	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
56. Mayavaram ...	723	678	498	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
57. Mannargudi ...	553	553	535	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
58. Pattinam ...	859	738	329	...	...	...	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
59. Tiruvelly ...	559	457	323	...	...	2,525	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
60. Palamcottah ...	559	457	323	...	...	2,525	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
61. Palamcottah ...	559	457	323	...	...	2,525	...	2,127	3,139	...	...	...	...	...	...	...	...	...	...	...
62. Trichinopoly ...	1,224	772	1,429	627	...	45	3.7	718	8,308	66	184	106	...	...	64	270	955	...	...	...
63. Srirangam ...	500	370	354	...	...	...	...	1,049	7,048	...	...	...	...	...	...	...	...	...	...	...
64. Vizagapatnam ...	1,383	815	558	...	...	...	...	2,140	3,450	...	...	...	...	...	...	...	...	...	...	...
65. Vizagapatnam ...	2,436	1,624	260	...	...	...	...	260	1,080	...	...	...	...	...	...	...	...	...	...	...
66. Anakapalli ...	133	252	133	...	...	...	...	252	201	...	...	...	...	...	...	...	...	...	...	...
Total for Municipalities ...	69,041	54,074	39,640	30,968	3,620	29,838	144,625	168,122	317,653	7,077	61,360	72,430	37,246	48,915	2,063	97,162	1,403	30,000	915	11,111
Total for Districts ...	39,760	83,237	13,847	15,941	23,819	18,077	16,082	100,084	110,457	1,700	4,502	9,459	19,490	9,723	565	15,161	414	16,749	417	1,111
Grand total for the Province ...	108,791	87,311	53,486	46,939	37,439	47,915	304,707	638,206	428,156	9,267	61,066	83,653	96,381	63,638	2,927	40,323	1,419	76,809	532	9,999

* For baths and feeding. † For four months.

63. Srirangam	500	370	354	...	...	...	...	1,048	7,048	...	...	...	...	...	...	...	...	...	...	...	...	...
64. Vizagapatnam	1,383	815	558	...	60	...	...	2,140	3,490	...	...	...	...	...	...	...	...	...	...	...	...	...
65. Vizurgram	2,490	1,624	253	...	515	...	...	250	1,080	...	958	2,791	601	1,909	48	2,227	...	...	...	...	...	...
66. Anakapalli	133	252	133	...	445	...	...	252	201	...	1	137	6,304	13,896*	214	...	...	...	...	...	...	...
Total for Municipalities	69,041	54,074	39,619	...	39,968	...	29,838	144,625	168,122	317,659	7,077	61,550	72,539	77,246	48,915	2,083	27,162	1,002	30,000	315	19,011	...
Total for Districts	89,780	83,237	13,847	...	23,819	...	18,077	16,082	169,084	110,497	1,700	4,592	9,419	19,190	9,723	505	13,161	414	16,740	417	11,334	...
Grand total for the Province	108,721	87,311	53,466	...	46,389	...	47,915	304,707	628,206	428,156	9,287	6,106	83,953	96,431	58,638	2,927	40,325	1,419	76,849	532	30,145	...

ANNEXURE H.

Summary of the working of the minor Ports in the Madras Province in 1938.

No. of Vessels	Name of Port.	Incoming vessels.			Out-going vessels.			Infectious diseases.			Action taken.	Rats on steamers.
		Number.	Crew.	Passen- gers, inspected by P.H.O.	Number.	Crew.	Passen- gers, inspected by P.H.O.	Cholera	Small- pox.	Plague.		
1	Barnva	105	12,084	6,933	105	12,084	8,873	...	...	...	...	...
2	Calingsapatam	115	12,463	3,186	115	12,403	2,845	...	...	...	...	...
3	Bimlipatam	33	2,116	22	32	2,116	23	...	...	...	...	...
4	Coovada	243	18,143	13,406	241	18,199	8,058	...	...	...	...	...
5	Masilpatam	131	4,788	51	132	4,733	51	...	...	...	...	...
6	Cuddalore I.	189	19,351	262	193	19,608	93	...	...	...	...	...
7	Porto Novo	6	749	60	5	741	28	...	...	...	...	...
8	Tarangubar	19	510	...	25	555	...	...	...	...	...	...
9	Negapatam	139	18,898	44,038	138	17,110	31,108	...	...	...	4 chicken-pox cases landed and sent to Isolation Hospital	...
10	Tranulavasal	152	1,000	...	189	2,809	...	...	...	...	...	...
11	Toppethurai and Pt. Calh. mere.	...	...	...	...	...	...	...	...	...	...	...
12	Muthupet	...	...	...	...	...	...	...	...	...	...	...
13	Adirampatnam	...	...	...	...	...	...	...	...	...	...	...
14	Annapattanam and Krishna- rajapatnam.	25	136	...	29	140	...	...	...	...	...	...
15	Tondi	105	1,142	...	105	1,142	...	...	...	...	...	...
16	Devipattam	60	417	17	53	383	25	...	...	...	...	...
17	Dhanushkodi	355	40	130,834	305	40	122,940	...	...	...	...	...
18	Kilakkarai	210	1,794	97	214	2,061	25	...	...	...	...	...
19	Kuluskharai- pattam.	282	1,898	...	258	1,370	...	...	...	...	...	...
20	Tuticorin	681	35,636	43,710	974	35,519	54,884	...	...	...	...	...

21	Calicut	...	487	23,381	87	...	487	28,389	177	...	1*	...	* The patient was segregated in the Government Hospital and preventive measures taken.
22	Baypur	...	47	587	...	...	47	587	...	...	...	...	...
23	Triticheerry	...	160	9,900	...	...	160	9,900	...	...	...	...	...
24	Guzanore	...	459	14,837	487	...	462	14,089	407	...	...	...	...
25	Ponnani	...	119	7,304	...	...	119	7,394	1	...	...	...	...
26	Manalore	...	3,067	32,800	7,469	...	3,092	32,800	8,968	...	...	...	...
27	Maipo	...	616	9,021	7,738	...	606	9,229	6,889	...	...	...	...
28	Esperoottal...	...	303	1,711	...	...	304	1,705	...	...	...	...	...
29	Gangoli	...	1,083	11,883	674	...	1,071	11,531	780	...	...	...	...
30	Dauder and Shirur.	...	274	1,726	...	...	273	1,703	...	...	...	...	...

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ANNEXURE J.

			Number of births.		Percentage of quarterly births to total.
First quarter (90 days)	January ..	..	125,255	359,751	21.04
	February ..	..	108,018		
	March ..	..	126,478		
Second quarter (91 days)	April ..	..	130,512	423,152	24.75
	May ..	..	142,940		
	June ..	..	149,700		
Third quarter (92 days)	July ..	..	162,398	473,078	28.02
	August ..	..	158,730		
	September ..	..	157,950		
Fourth quarter (92 days)	October ..	..	157,752	447,564	26.19
	November ..	..	147,762		
	December ..	..	142,050		
Total ..			1,709,545	1,709,545	100.00

ANNEXURE K.

Age.	Rural areas.			Urban areas.			Total (Rural and Urban).		
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
Under 1 week ..	32.98	26.90	59.88	29.45	22.24	51.69	33.73	26.21	59.94
1 week and under one month ..	17.37	14.42	31.79	13.52	11.85	25.37	17.74	14.03	31.77
1 month and under 6 months ..	10.62	17.23	27.84	27.34	28.59	55.93	24.34	18.14	42.48
6 months and under 12 months ..	15.36	10.83	26.19	21.24	18.09	39.33	18.76	17.17	35.93
Total under one year ..	59.53	73.98	133.51	91.16	78.69	169.85	80.40	72.57	152.97

Age.	Rural areas.			Urban areas.			Total (Rural and Urban).		
	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
1 year and under 5 years ..	29.83	29.97	59.80	33.16	33.02	66.18	36.30	36.91	73.21
5 years and under 10 years ..	7.68	7.65	15.33	7.37	7.37	14.74	7.64	7.61	15.25
10 do. ..	4.65	4.70	9.35	4.53	4.37	8.90	4.63	4.54	9.17
15 do. ..	3.19	7.80	10.99	7.85	11.55	19.40	6.55	13.81	20.36
20 do. ..	7.37	9.54	16.91	11.10	13.19	24.29	7.90	10.24	18.14
25 do. ..	10.17	11.51	21.68	14.23	14.61	28.84	10.75	11.78	22.53
30 do. ..	14.92	14.23	29.15	23.02	16.55	39.57	17.40	14.57	31.97
40 do. ..	29.44	24.16	53.60	37.13	25.12	62.25	33.34	25.44	58.78
50 do. ..	10.10	10.33	20.43	11.07	11.46	22.53	10.51	10.11	20.62
60 years and above ..	23.62	22.92	46.54	27.51	25.00	52.51	24.07	23.95	48.02
Total ..	23.62	22.92	46.54	27.51	25.00	52.51	24.07	23.95	48.02

Note.—The death-rates for all periods under one year have been calculated per 1,000 live-births.

APPENDIX I

No. I.—Statement showing the births registered in the Districts in the Province of Madras during the year 1938.

APPEN

VITAL STATISTICS OF THE

No. I.—Statement showing the Births registered in the

Number.	Population as per Census of 1931.			Districts.	Population for which Birth and Death returns were received.		
	Males.	Females.	Total.		Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	539,534	510,877	1,050,411	Anantapur	539,534	510,877	1,050,411
2	493,018	476,756	969,774	Bellary	493,018	476,756	969,774
3	837,161	817,954	1,655,115	Chingleput	835,961	817,815	1,653,776
4	788,325	708,778	1,447,103	Chittoor	788,325	708,778	1,447,103
5	1,218,224	1,226,840	2,445,064	Coimbatore	1,218,224	1,226,840	2,445,064
6	483,914	465,483	949,397	Cuddapah	483,914	465,483	949,397
7	828,489	851,564	1,680,053	Godavari, Plains.	828,489	851,564	1,680,053
8	120,795	119,734	240,529	Godavari, East.	120,795	119,734	240,529
9	602,827	620,729	1,223,556	Godavari, West	602,827	620,729	1,223,556
10	1,028,993	1,000,667	2,035,660	Guntur	1,028,993	1,000,667	2,035,660
11	635,704	618,504	1,254,208	Kistna	635,704	618,504	1,254,208
12	520,238	504,723	1,024,961	Kurnool	520,238	504,723	1,024,961
13	341,223	306,007	647,230	Madras	341,223	306,007	647,230
14	1,081,437	1,114,310	2,195,747	Madura	1,081,437	1,114,310	2,195,747
15	1,716,138	1,817,806	3,533,944	Malabar	1,716,138	1,817,806	3,533,944
16	744,322	741,900	1,486,222	Nellore	744,322	741,900	1,486,222
17	91,928	77,402	169,330	Nilgiris, The	90,824	77,133	168,017
18	1,131,810	1,135,379	2,266,989	North Arcot	1,131,810	1,135,379	2,266,989
19	872,177	966,778	1,838,955	Ramnad	872,177	966,778	1,838,955
20	1,211,743	1,222,229	2,433,972	Salem	1,211,743	1,222,229	2,433,972
21	1,225,072	1,229,435	2,454,507	South Arcot	1,225,072	1,229,435	2,454,507
22	663,950	708,291	1,372,241	South Kanara	663,950	708,291	1,372,241
23	1,143,738	1,242,182	2,385,920	Tanjore	1,143,738	1,242,182	2,385,920
24	987,159	1,059,748	2,046,907	Tinnevely	987,159	1,059,748	2,046,907
25	934,367	978,378	1,913,245	Trichinopoly	934,367	978,378	1,913,245
26	1,577,947	1,680,362	3,267,309	Vizagapatam	1,577,947	1,680,362	3,267,309
	98,891	97,867	194,168	Vizagapatam Agency.	...	...	...
	21,866,834	22,315,183	44,182,017	Grand total for the Province.	21,767,729	22,217,408	43,985,197
	3,108,112	3,082,597	6,190,709	Total of town circles in the Province.	3,108,112	3,082,597	6,190,709
	18,758,722	19,232,586	37,991,308	Total of rural circles in the Province.	18,659,617	19,134,811	37,794,488

DIX L

GENERAL POPULATION.

Districts in the Province of Madras during the year 1938.

Number.	Number of births registered (exclusive of still-births).			Ratio of births per 1,000 of population.			Mean ratio of births per 1,000 during the previous five years.			Number.
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	23,789	22,948	46,747	22.66	21.85	44.50	21.09	20.15	41.24	1
2	22,022	21,418	43,440	22.71	22.09	44.79	20.58	19.08	40.19	2
3	31,999	30,884	62,883	19.35	18.97	38.02	18.88	17.98	36.86	3
4	28,437	27,241	55,678	19.65	18.82	38.48	18.14	17.56	35.65	4
5	51,330	49,509	101,339	21.20	20.25	41.45	19.54	18.53	38.03	5
6	19,109	18,547	37,656	20.13	19.54	39.68	18.85	18.04	36.89	6
7	21,646	20,995	42,641	18.84	17.85	36.89	19.46	18.57	38.02	7
8	4,767	4,584	9,451	19.22	19.47	39.29	19.83	18.91	38.75	8
9	21,292	22,952	44,244	19.86	21.77	40.81	21.56	20.45	42.06	9
10	42,824	40,577	83,401	21.04	19.93	40.97	19.83	18.81	35.65	10
11	28,533	27,041	55,574	22.75	21.56	44.31	21.91	20.92	42.84	11
12	21,533	23,562	45,100	23.94	22.99	46.92	21.33	20.65	41.96	12
13	16,001	14,984	30,985	24.72	23.15	47.87	23.56	22.50	46.05	13
14	43,633	42,061	85,694	19.87	19.15	39.02	18.73	17.79	36.52	14
15	67,425	64,831	132,256	19.08	18.55	37.42	19.19	18.32	37.52	15
16	29,320	27,803	57,223	19.72	18.77	38.60	18.08	17.57	36.18	16
17	2,861	2,306	5,167	17.03	16.70	33.73	17.20	16.68	33.98	17
18	50,435	48,578	99,014	22.25	21.43	43.68	20.47	19.69	40.06	18
19	33,045	31,645	64,690	17.97	17.21	35.18	16.54	15.85	32.39	19
20	48,050	46,052	94,102	19.74	18.92	38.66	18.47	17.69	36.16	20
21	42,520	40,558	83,482	17.33	16.68	34.01	16.70	15.84	32.54	21
22	27,135	26,154	53,289	19.77	19.06	38.83	19.54	18.50	38.00	22
23	37,957	35,847	73,804	15.91	15.02	30.93	15.78	15.01	30.80	23
24	41,735	39,035	81,671	20.29	19.51	39.90	20.05	19.16	39.26	24
25	36,072	34,120	70,192	18.85	17.83	36.69	17.96	17.12	35.08	25
26	63,714	60,618	124,332	19.50	18.55	38.05	20.26	19.34	39.64	26
	...	...	...	...	...	...	...	...	...	
	873,709	885,836	1,709,545	19.86	19.00	38.87	19.18	18.29	37.47	
	128,278	122,759	251,032	20.72	19.83	40.55	19.66	18.71	38.38	
	745,433	713,077	1,458,513	19.72	18.87	38.59	19.16	18.22	37.33	

No. I (a) Statement showing the still-births registered according to classes and sex in the municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 1748, P.H., dated 18th July 1934).

Serial number.	Municipalities.	Still-births.										Percentage of total to live births.	
		Hindus.		Muham- madans.		Indian Christi- ans.		Other classes.		Total.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Total.
Anantapur District.													
1	Anantapur	15	12	3	3	...	...	...	...	18	17	35	5.4
2	Hindupur	11	5	2	3	...	...	...	...	13	8	21	3.2
3	Tadpatri	2	4	5	1	...	1	...	...	7	6	13	2.6
Bellary District.													
4	Bellary	33	28	13	13	1	3	...	1	53	47	98	4.5
5	Adoni	20	9	11	2	1	...	...	...	32	11	43	2.7
6	Hospet	11	7	5	4	...	...	...	...	16	11	27	3.0
Chingleput District.													
7	Conjeeveram ...	101	76	4	1	2	1	...	...	107	78	185	6.9
8	Saidapet	13	12	1	...	1	...	...	...	15	12	27	2.2
9	Chingleput	57	40	1	1	3	...	1	...	62	41	103	14.1
Chittoor District.													
10	Chittoor	55	45	4	3	...	...	...	...	59	48	107	10.5
11	Tirupati	29	22	...	2	...	...	...	2	29	26	55	7.5
Coimbatore District.													
12	Coimbatore	122	103	5	10	7	5	1	...	135	118	253	5.6
13	Erode	33	23	4	...	2	2	...	...	39	25	64	5.7
14	Dharmaparam ...	3	3	1	...	...	...	...	...	4	3	7	0.9
15	Pollachi	18	11	4	2	1	...	...	...	23	13	36	3.8
16	Tiruppur	13	21	1	3	...	...	...	...	14	24	38	3.8
17	Udamalpet	7	1	1	2	2	...	...	...	10	3	13	2.3
Cuddapah District.													
18	Cuddapah	24	21	8	14	1	1	...	...	33	36	69	6.7
19	Proddatur	12	5	2	...	...	2	...	...	14	7	21	2.5
East Godavari District.													
20	Cocanada	34	54	1	2	...	...	...	...	35	56	91	4.5
21	Rajahmundry ...	59	55	3	3	1	2	...	...	63	60	123	5.4
22	Peddapuram	14	12	1	1	...	...	...	...	15	13	28	4.5
West Godavari District.													
23	Ellore	21	12	2	2	...	...	...	...	23	14	37	1.5
24	Palacole	8	6	...	...	1	...	...	...	9	6	15	3.2

No. I (a)—Statement showing the still-births registered according to classes and sex in the municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 1748, P.H., dated 18th July 1934)—cont.

Serial number.	Municipalities.	Still-births.										Percentage of total to live births.	
		Hindus.		Muham- madans.		Indian Christi- ans.		Other classes.		Total.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Total.
Guntur District.													
25	Guntur	109	100	22	20	18	20	...	...	149	140	289	7.8
26	Tenali	33	15	1	5	5	7	...	...	39	27	66	4.9
27	Obbala	13	20	...	1	1	1	...	...	14	22	36	5.1
28	Ongole	46	35	6	2	7	7	1	...	60	44	104	14.2
29	Narasaraopet	17	14	6	3	1	1	...	...	24	21	45	7.9
Kistna District.													
30	Bezwada	45	26	6	3	6	5	...	...	57	34	91	3.5
31	Masulipatam	56	41	12	7	3	6	...	...	71	54	125	5.0
32	Gadivada	35	16	...	3	4	4	1	...	40	23	63	6.9
Kurnool District.													
33	Kurnool	29	19	18	10	...	...	...	...	42	29	71	4.2
34	Nandyal	16	15	10	6	1	2	...	...	27	23	50	5.4
Madras.													
35	Madras	616	468	81	76	25	24	5	6	727	594	1,321	4.3
Madara District.													
36	Madara	280	214	17	17	9	10	4	...	310	245	551	6.1
37	Dindigul	18	26	2	5	6	5	...	...	26	36	62	2.9
38	Koduvayakkanur	1	1	...	...	...	...	...	...	1	1	2	0.2
39	Periyakulam	14	13	2	1	4	2	...	...	20	16	36	3.3
40	Palni	8	8	...	1	...	...	...	...	8	9	17	2.2
41	Kodaikanal	1	3	...	...	6	4	1	...	8	7	15	4.2
Malabar District.													
42	Calicut	41	33	65	42	4	1	...	...	110	76	186	5.0
43	Palghat	35	32	6	10	...	...	...	...	41	42	83	4.1
44	Cannanore	9	9	14	13	1	...	...	...	24	22	46	4.0
45	Tellicherry	28	15	16	17	2	2	...	...	46	34	80	8.7
46	Cochin	6	6	4	3	6	11	...	2	16	22	38	4.0
Nellore District.													
47	Nellore	99	97	22	8	7	3	...	1	128	109	237	9.5
Nilgiris, The.													
48	Ootacamund	9	9	3	1	5	4	2	1	19	15	34	3.2
49	Coonoor	2	4	1	...	1	3	1	...	5	7	12	2.2
North Arcot District.													
50	Vellore	111	61	19	19	4	3	...	...	134	83	217	6.7
51	Tiruvannamalai	34	21	9	4	...	...	...	...	43	25	68	5.3
52	Gudiyattam	24	21	1	...	...	1	...	...	25	22	47	3.5
53	Vaniyambadi	6	12	12	11	...	...	...	...	18	23	41	5.2
54	Tirupattur	26	20	6	6	1	1	...	...	33	27	60	7.0
55	Walajapet	8	3	2	1	1	...	...	...	11	4	15	3.9

No. I (a)—Statement showing the still-births registered according to classes and sex in the municipalities in the Province of Madras during the year 1938 prescribed in G.O. Ms. No. 1748, P.H., dated 18th July 1934)—cont.

Serial number.	Municipalities.	Still-births.										Percentage of total live births.	
		Hindus.		Muham- madans.		Indian Christi- ans.		Other classes.		Total.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		Total.
Ramnad District.													
56	Virudunagar ...	29	17	...	1	...	...	...	...	29	18	47	3.2
57	Srivilliputtur ...	9	14	2	...	2	...	...	...	13	14	27	2.2
58	Karaikudi ...	20	19	4	2	1	...	...	...	25	21	46	3.2
59	Devakottai ...	14	18	...	1	...	...	...	...	14	19	33	5.0
60	Sivakasi ...	5	2	...	...	1	...	...	...	6	2	8	1.4
Salem District.													
61	Salem ...	79	63	7	6	1	...	...	...	87	69	156	8.4
South Arcot District.													
62	Cuddalore ...	50	42	1	2	2	1	5	6	58	50	108	4.7
63	Chidambaram ...	29	24	2	...	...	1	...	...	31	25	56	4.7
64	Villupuram...	12	9	1	1	...	...	2	1	15	11	26	4.7
South Kanara District.													
65	Mangalore ...	23	24	7	9	7	8	...	...	37	41	78	3.7
66	Udipi ...	17	12	3	...	5	2	...	...	25	14	39	5.7
Tanjore District.													
67	Tanjore ...	72	67	2	1	8	4	...	...	82	72	154	5.7
68	Kumbakonam ...	111	87	6	5	10	2	...	...	127	94	221	8.7
69	Negapatam ...	34	33	8	11	...	3	...	...	42	47	89	6.7
70	Mayavaram...	20	22	1	...	...	...	...	...	21	22	43	4.7
71	Tiruvarur ...	12	9	1	...	...	...	...	...	13	9	22	2.7
72	Mannargudi ...	30	22	...	...	2	...	5	5	37	27	64	10.7
Tinnevely District.													
73	Tuticorin ...	23	19	4	1	8	3	...	...	35	23	58	2.7
74	Tinnevely ...	47	24	7	7	1	...	...	...	55	31	86	4.7
75	Palamecottah ...	52	37	8	7	2	1	...	...	62	45	107	9.7
Trichinopoly District.													
76	Trichinopoly ...	65	61	24	10	15	15	...	2	104	88	192	8.7
77	Srirangam ...	25	27	...	...	...	...	...	...	25	27	52	5.7
78	Karur ...	14	8	...	2	1	...	...	...	15	10	25	3.7
Vizagapatam District.													
79	Vizagapatam ...	20	25	2	1	...	...	...	...	22	26	48	2.7
80	Vizianagram ...	24	22	2	...	...	...	...	...	26	22	48	2.7
81	Anakapalle ...	18	17	1	...	...	...	...	...	19	17	36	3.7
82	Chicacole ...	7	5	...	1	...	...	...	...	7	6	13	2.7
83	Bimlipatam ...	5	10	...	...	...	...	...	...	5	10	15	4.7
Grand total ...		3,362	2,273	533	437	217	187	29	26	4,141	3,373	7,514	4.7

Districts.	Area in square miles.	Average population per square mile.	Number of deaths registered.				Ratio of deaths per 1,000 of population from			
			Males.	Females.	Total.		Cholera.	Smallpox.	Plague.	Fevers.
1	Anantapur ...	155.8	13,753	13,922	27,675	0.23	0.02	0.02	0.04	6.23
2	Bellary ...	169.7	12,585	12,203	24,788	0.80	0.01	0.01	0.00	6.63
3	Chingleput ...	535.1	29,074	19,423	48,497	0.28	0.06	0.06	...	3.59
4	Chittoor ...	245.2	15,358	15,005	30,363	0.19	0.02	0.02	0.01	5.82
5	Coimbatore ...	345.1	29,915	35,243	65,158	0.08	0.04	0.04	0.04	4.30
6	Cuddalore ...	160.4	11,372	11,653	23,025	1.19	0.04	0.04	0.002	11.36
7	Cuddalore ...	69.0	22,630	22,272	44,902	0.47	0.03	0.03	...	10.07
8	East ...	65.4	3,473	3,340	6,813	1.31	0.01	0.01	...	16.15
9	East ...	518.0	17,421	16,718	34,139	0.54	0.02	0.02	0.002	8.45
10	Guntur ...	353.6	27,030	23,331	50,361	0.35	0.03	0.03	0.002	8.59
11	Krishna ...	353.3	16,635	15,234	31,869	0.29	0.01	0.01	0.002	7.56
12	Kurnool ...	135.2	15,506	14,793	30,299	1.16	0.03	0.03	0.001	13.36
13	Madras ...	22,194.6	13,583	12,094	25,677	0.06	0.87	0.03	...	3.65
14	Madras ...	440.8	24,801	23,395	48,196	0.01	0.01	0.01	0.21	3.50
15	Madras ...	609.8	36,896	34,748	71,644	0.03	0.01	0.01	0.01	4.82
16	Madras ...	189.9	19,513	17,702	37,215	0.24	0.06	0.06	0.001	8.10
17	Madras ...	163.1	2,097	1,775	3,872	0.01	0.01	0.01	0.004	8.03
18	Madras ...	487.6	24,179	23,390	47,569	0.02	0.05	0.05	...	4.73
19	Madras ...	381.5	19,558	16,789	36,347	0.05	0.01	0.01	0.07	6.43
20	Madras ...	533.3	24,638	24,670	49,308	0.01	0.04	0.04	...	6.20
21	Madras ...	341.2	15,371	15,485	30,856	0.65	0.03	0.03	0.001	3.54
22	Madras ...	647.5	27,003	27,912	54,915	0.53	0.07	0.07	...	7.43
23	Madras ...	474.3	25,303	24,299	49,602	0.02	0.01	0.01	...	2.95
24	Madras ...	443.4	21,233	21,407	42,640	0.16	0.02	0.02	0.002	4.11
25	Madras ...	547.2	43,016	42,547	85,563	0.05	0.01	0.01	...	4.02
Grand total for the Province ...							0.32	0.05	0.03	6.43
Total of town circles in the Province ...							0.16	0.14	0.03	4.10
Total of rural circles in the Province ...							0.24	0.04	0.03	6.81

No. II.—Statement showing Deaths registered in the Districts in the Province of Madras during the year 1933—cont.

Number.	Districts.	Ratio of deaths per 1,000 of population from										Mean ratio of deaths per 1,000 during previous five years.		Number.
		Dysentery and diarrhoea. (12)	Keckria-tory diseases. (13)	Injuries. (14)	Deaths from child birth. (15)	All other causes. (16)	All causes. (17)			Males. (20)	Females. (21)	Total. (22)		
							Males. (17)	Females. (18)	Total. (19)					
1	Anantapur ...	2.10	1.32	0.48	0.52	14.38	25.49	26.68	26.06	44.43	25.33	24.82	1	
2	Bellary ...	1.82	2.00	0.30	0.29	14.35	25.55	26.59	23.57	31.52	31.56	31.55	2	
3	Chinglepat ...	1.65	2.14	0.31	0.34	15.31	24.01	23.75	23.88	28.83	28.08	28.45	3	
4	Chittoor ...	2.33	1.64	0.33	0.33	10.20	20.50	21.17	20.93	21.35	21.48	21.41	4	
5	Coinabatore ...	2.58	8.32	0.35	0.25	10.28	21.85	20.53	21.21	21.66	20.84	21.25	5	
6	Cuddapah ...	1.05	1.20	0.38	0.42	8.61	23.50	25.03	24.25	22.18	22.49	22.33	6	
7	Godsawari, Plains Agency	1.42	2.30	0.23	0.39	11.79	27.31	26.15	26.73	23.72	22.78	23.20	7	
8	Godsawari, West	1.45	2.70	0.24	0.39	6.02	28.75	27.90	23.33	20.64	25.35	26.00	8	
9	Guntur ...	1.98	2.57	0.27	0.45	18.62	23.52	26.53	27.91	28.03	24.77	25.38	9	
10	Kistna ...	2.06	2.35	0.22	0.33	11.64	26.01	25.06	25.80	25.61	23.87	24.42	10	
11	Karnool ...	1.64	1.62	0.33	0.44	13.10	25.60	24.31	25.56	28.35	27.57	28.46	11	
12	Madras ...	1.43	1.42	0.33	0.39	11.13	25.60	24.31	25.56	28.35	27.57	28.46	12	
13	Madura ...	1.53	1.42	0.33	0.44	11.13	25.60	24.31	25.56	28.35	27.57	28.46	13	
14	Malabar ...	1.78	2.28	0.39	0.29	12.50	22.04	21.00	21.95	25.18	23.02	24.09	14	
15	Nelore ...	1.93	1.23	0.30	0.33	12.13	24.68	23.86	20.12	22.88	20.85	21.84	15	
16	Nilgiris, The	2.98	4.47	0.23	0.32	6.66	22.45	23.00	22.81	23.74	22.83	23.03	16	
17	North Arcot	1.87	2.05	0.45	0.32	11.50	21.36	20.61	20.93	23.61	23.10	23.37	17	
18	Ramanat	1.32	2.47	0.22	0.31	9.54	21.28	19.43	20.84	23.71	21.32	22.47	18	
19	Salem ...	1.05	1.52	0.41	0.29	10.83	20.14	19.36	19.74	20.71	20.37	20.55	19	
20	South Arcot	1.33	1.54	0.26	0.31	11.80	20.14	19.36	19.74	24.12	23.40	23.76	20	
21	South Kanara	1.30	1.67	0.37	0.47	11.17	23.15	21.79	22.45	23.25	21.43	22.32	21	
22	Tanjore	1.08	1.12	0.31	0.51	17.08	23.08	22.48	23.08	25.62	24.42	24.89	22	
23	Tinnevely ...	1.40	1.87	0.28	0.41	16.04	25.63	22.92	24.23	27.64	25.21	26.39	23	
24	Trichinopoly	1.65	2.11	0.35	0.43	13.96	23.46	21.97	22.70	24.34	23.76	24.30	24	
25	Vizagapatam	1.70	1.42	0.37	0.29	9.46	27.83	25.19	26.46	27.94	25.44	26.68	25	
Grand total for the Province ...		1.68	2.19	0.33	0.34	12.17	24.07	22.86	23.46	24.78	23.54	24.16		
Total of town circles in the Province		2.52	4.20	0.44	0.50	14.22	27.41	26.00	26.71	27.53	26.55	27.08		
Total of rural circles in the Province		1.55	1.80	0.31	0.32	11.84	23.62	22.36	22.93	24.32	23.06	23.68		

No. III.—Deaths Registered in districts, exclusive of Municipalities, and in the Municipalities in the Province of Madras during each month of the year 1933.

No. III.—Deaths registered in Districts, exclusive of Municipalities, and in the

Serial number.	Districts exclusive of municipalities.	January.	February.	March.	April.	May.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Anantapur ...	1,874	1,504	1,822	1,974	1,936
2	Bellary ...	1,509	1,356	1,702	1,636	1,465
3	Chingleput ...	4,027	3,149	3,049	2,490	2,731
4	Chittoor ...	3,052	2,368	2,233	2,026	2,149
5	Coimbatore ...	4,231	3,155	3,422	3,430	3,661
6	Cuddapah ...	2,094	1,267	1,466	1,545	1,783
7	Godāvari, East { Plains Agency ...	2,096	2,286	2,503	2,404	2,823
8	Godāvari, West ...	524	362	430	517	517
9	Guntur ...	2,579	1,724	2,016	2,294	2,512
10	Kistna ...	3,254	2,559	3,020	2,809	3,317
11	Kurnool ...	1,848	1,556	1,742	1,821	2,097
12	Madura ...	1,853	1,584	2,144	2,080	2,116
13	Malabar ...	4,090	3,066	3,061	3,063	3,234
14	Nellore ...	4,940	4,563	4,746	5,093	5,953
15	Nilgiris, The ...	3,005	2,436	2,543	2,268	2,854
16	North Arcot ...	207	179	223	244	351
17	Ramnad ...	4,704	3,516	3,286	3,060	3,363
18	Salem ...	3,427	2,695	2,749	2,522	2,958
19	South Arcot ...	4,435	3,515	3,729	3,629	3,991
20	South Kanara ...	5,278	4,096	3,675	3,238	3,485
21	Tanjore ...	2,508	2,236	2,050	1,751	1,915
22	Tinnevely ...	4,488	4,055	3,854	3,562	3,745
23	Trichinopoly ...	4,875	3,598	3,157	3,126	3,541
24	Vizagapatam ...	3,653	2,829	2,873	2,842	3,249
	Total for districts exclusive of municipalities.	6,615	5,247	6,398	5,562	5,939
	* Rate per 1,000 of population.	82,116	64,901	68,223	65,287	72,135
		23.99	21.00	19.93	19.71	21.08

* The rates were calculated with reference

Municipalities in the Province of Madras during each month of the year 1938.

June.	July.	August.	September.	October.	November.	December.	Total.	Serial number.
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
1,949	2,232	2,292	2,267	2,829	2,627	2,954	20,310	1
1,815	2,192	2,210	1,977	2,102	1,810	1,988	21,812	2
2,487	3,015	3,049	2,790	3,162	3,238	3,467	36,643	3
2,059	2,361	2,361	2,300	2,801	2,770	2,771	29,311	4
3,535	4,008	4,445	4,640	4,020	3,935	4,159	46,701	5
1,428	1,740	1,832	2,249	2,349	2,065	2,218	22,036	6
3,461	4,497	4,710	3,989	3,692	3,443	3,818	40,810	7
435	592	720	667	663	640	746	6,813	8
2,417	3,302	3,371	3,052	2,895	2,523	3,891	32,576	9
4,082	5,033	5,149	4,957	4,454	3,732	4,640	47,506	10
2,304	2,946	3,075	3,105	2,478	2,397	3,074	28,441	11
2,147	3,306	3,287	2,757	2,634	2,400	2,402	23,660	12
2,963	3,089	3,323	3,257	3,292	3,369	3,408	39,215	13
6,455	7,463	6,382	5,152	5,075	4,575	4,542	64,940	14
2,562	2,908	2,859	3,259	3,162	2,934	3,563	34,353	15
304	302	225	220	220	214	224	2,913	16
3,173	3,673	3,624	3,475	3,684	3,629	4,018	43,200	17
2,636	2,638	2,794	2,905	3,109	3,030	3,102	34,465	18
3,646	3,819	4,117	4,234	4,531	3,965	4,119	47,780	19
3,325	3,656	3,740	3,775	3,831	3,550	4,272	46,172	20
2,578	3,259	2,767	2,726	2,437	2,234	2,600	29,061	21
3,378	3,822	4,127	4,176	4,176	4,389	4,299	48,073	22
3,260	3,559	3,441	3,432	3,708	4,487	4,970	45,754	23
2,539	3,040	3,241	3,589	3,904	3,297	3,655	38,712	24
6,913	8,513	7,766	6,505	7,039	7,221	8,104	81,822	25
71,761	85,015	84,907	81,467	82,295	78,774	86,998	923,879	
21.66	24.84	24.81	24.59	24.05	23.78	25.42	22.93	

to the number of days in each month.

No. III.—Deaths registered in the Districts, exclusive of Municipalities and in the

Serial number.	Municipalities.	January.	February.	March.	April.	May.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Anantapur District.</i>						
1	Anantapur	49	26	32	21	24
2	Hindupur	31	22	26	18	31
3	Tadpatri	26	15	19	37	18
<i>Bellary District.</i>						
4	Bellary	124	114	129	127	86
5	Adoni	72	69	73	58	64
6	Hospet	56	49	60	53	33
<i>Chingleput District.</i>						
7	Conjeevaram	141	126	132	98	118
8	Baidapet	83	55	61	52	58
9	Chingleput	50	41	30	31	35
<i>Chittoor District.</i>						
10	Chittoor	59	41	51	38	51
11	Tirupati	47	35	38	36	42
<i>Coimbatore District.</i>						
12	Coimbatore	235	189	192	228	205
13	Erode	35	52	58	44	44
14	Pollachi	65	49	42	39	54
15	Dharapuram	89	32	29	29	33
16	Tirappur	72	38	62	52	50
17	Udumalpet	28	19	34	21	23
<i>Cuddapah District.</i>						
18	Cuddapah	50	38	58	29	49
19	Proddatur	30	25	32	24	29
<i>Goddavari East District.</i>						
20	Cocanada	180	150	148	143	150
21	Rajahmundry	139	111	142	144	136
22	Peddapuram	24	20	17	29	26
<i>Goddavari West District.</i>						
23	Ellore	95	89	120	67	87
24	Palacolo	23	19	18	27	29
<i>Guntur District.</i>						
25	Guntur	181	153	199	167	168
26	Tenali	30	80	105	54	68

Municipalities in the Province of Madras during each month of the year 1938—cont.

June.	July.	August.	September.	October.	November.	December.	Total.	Serial number.
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
15	29	47	50	49	40	37	419	1
20	24	37	38	35	25	27	344	2
23	26	25	41	27	23	21	301	3
106	138	170	152	165	136	113	1,560	4
62	90	73	71	68	66	71	825	5
44	45	69	50	60	46	36	601	6
132	126	133	135	126	162	152	1,582	7
53	97	77	71	70	73	70	825	8
35	38	48	45	30	22	44	447	9
48	33	33	40	42	40	47	529	10
49	49	40	53	47	39	42	521	11
199	201	256	195	200	215	182	2,497	12
33	46	60	53	49	50	56	580	13
48	60	61	66	59	52	47	642	14
30	33	50	49	44	33	42	443	15
48	59	74	61	48	59	67	691	16
26	19	26	19	30	25	37	307	17
43	45	57	47	72	63	34	585	18
26	28	32	32	35	26	35	404	19
153	238	220	203	171	170	149	2,073	20
129	156	247	191	174	142	165	1,878	21
35	33	40	37	26	30	26	343	22
92	96	112	109	102	110	129	1,208	23
23	33	35	30	43	37	31	353	24
189	273	327	248	239	222	216	2,582	25
61	97	72	59	60	58	83	816	26

No. III.—Deaths registered in the Districts, exclusive of Municipalities and in the

Serial number.	Municipalities.	January.	February.	March.	April.	May.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Guntūr District—cont.</i>						
27	Chirala	26	27	28	29	31
28	Ongole	47	31	61	38	60
29	Narasaraopet	29	12	29	20	32
<i>Kistna District.</i>						
30	Bezawada	122	180	162	146	142
31	Masulipatam	120	108	123	107	128
32	Gudivada	30	24	89	47	48
<i>Kurnool District.</i>						
33	Kurnool	66	63	86	78	91
34	Nandyal	33	30	41	47	37
<i>Madras.</i>						
35	Madras	2,574	2,281	2,264	1,927	2,086
<i>Madura District.</i>						
36	Madura	553	442	538	491	606
37	Dindigul	131	82	93	88	99
38	Bodinayakanur	47	39	28	32	33
39	Periyakulam	61	45	63	43	58
40	Palni	53	33	44	46	44
41	Kodaikanal	12	6	22	8	17
<i>Malabar District.</i>						
42	Calicut	191	152	240	237	286
43	Palghat	103	83	98	111	110
44	Oannanore	69	66	62	43	59
45	Tellicherry	50	72	82	64	87
46	Cochin	48	40	23	40	45
<i>Nellore District.</i>						
47	Nellore	154	144	162	145	177
<i>Nilgiris District.</i>						
48	Ootacamund	41	45	36	47	66
49	Coonoor	34	26	30	38	37
<i>North Arcot District.</i>						
50	Vellore	149	147	169	143	147
51	Tiruvannamalai	101	67	69	53	70
52	Gudiyattam	97	70	83	60	66
53	Vaniyambadi	54	33	32	37	39
54	Tirupattur	36	21	34	29	34
55	Walajapet	18	22	17	14	22

Municipalities in the Province of Madras during each month of the year 1938—cont

June.	July.	August.	September.	October.	November.	December.	Total.	Serial number.
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
28	41	25	32	32	34	40	373	27
45	58	52	54	42	43	54	585	28
99	41	47	45	45	36	21	400	29
127	182	200	186	172	135	154	1,848	30
126	141	140	151	127	133	110	1,523	31
41	56	85	59	48	32	40	547	32
80	105	140	98	71	87	91	1,056	33
46	64	85	53	55	46	41	583	34
1,886	2,242	2,078	1,929	2,383	2,232	2,400	26,282	35
473	467	483	500	439	528	479	5,355	36
80	81	110	99	125	100	99	1,187	37
34	34	28	32	52	25	50	442	38
53	56	57	72	74	73	74	724	39
49	40	37	63	48	44	38	532	40
14	8	11	12	9	14	6	189	41
235	295	294	286	194	172	188	2,703	42
96	123	125	104	80	69	68	1,200	43
64	78	67	59	50	52	48	717	44
101	126	97	75	73	64	52	942	45
29	59	72	66	43	52	38	607	46
149	157	163	133	157	176	900	1,887	47
52	44	61	56	45	49	38	674	48
24	17	25	47	20	23	10	245	49
124	152	145	126	126	159	164	1,763	50
49	61	43	53	59	51	59	727	51
68	67	78	94	70	50	58	846	52
31	38	24	33	27	28	26	416	53
22	29	23	44	26	35	33	381	54
17	17	19	22	25	26	17	236	55

No. III.—Deaths registered in the Districts, exclusive of Municipalities and in the

Serial number.	Municipalities.	January.	February.	March.	April.	May.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Ramnad District.</i>						
56	Virudhunagar ...	95	71	83	70	97
57	Srivillipattur ...	59	56	55	53	61
58	Karaikudi ...	51	39	44	37	49
59	Devakottai ...	51	34	36	33	37
60	Sivakasi ...	33	25	17	18	27
<i>Salem District.</i>						
61	Salem ...	210	145	195	203	148
<i>South Arcot District.</i>						
62	Cuddalore ...	117	109	144	126	113
63	Chidambaram ...	72	57	66	51	48
64	Villapuram ...	30	41	40	34	38
<i>South Kanara District.</i>						
65	Mangalore ...	101	98	102	100	100
66	Udipi ...	19	28	23	27	27
<i>Tanjore District.</i>						
67	Tanjore ...	188	170	183	174	195
68	Kumbakonam ...	143	142	113	130	121
69	Negapatam ...	122	102	125	108	130
70	Mayavaram ...	80	75	72	69	56
71	Mannargudi* ...	57	49	47	39	61
72	Tiruvarur ...	49	40	41	33	49
<i>Tinnevely District.</i>						
73	Tuticorin ...	219	128	139	127	135
74	Tinnevely ...	188	89	135	107	130
75	Palamcottah ...	83	56	68	67	67
<i>Trichinopoly District.</i>						
76	Trichinopoly ...	373	286	353	336	312
77	Srirangam ...	64	46	62	36	73
78	Karur ...	57	46	49	32	51
<i>Vizagapatam District.</i>						
79	Vizagapatam ...	157	146	144	132	154
80	Visanagram ...	106	105	112	91	76
81	Anakapalle ...	72	41	51	50	53
82	Chicacole ...	25	31	30	24	26
83	Bimlipatam ...	24	24	23	17	13
Total for municipalities ...		9,816	8,279	9,191	8,233	8,866
* Rate per thousand of population for municipalities.		31.33	29.38	29.34	27.15	28.36
Total for the province ...		91,933	73,180	77,414	78,520	81,021
* Rate per thousand of population for the province.		24.61	21.69	20.72	20.84	21.69

Municipalities in the Province of Madras during each month of the year 1938—cont.

June.	July.	August.	September.	October.	November.	December.	Total.	Serial number.
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
80	64	84	117	96	79	73	1,009	56
50	43	51	46	74	66	48	672	57
44	49	38	34	50	45	39	619	58
37	30	35	28	26	33	43	426	59
23	11	18	19	23	26	16	250	60
152	168	201	216	209	218	213	2,279	61
89	98	106	88	116	97	112	1,018	62
46	60	38	33	49	56	52	610	63
21	40	12	21	23	30	20	356	64
99	167	123	127	134	127	120	1,289	65
40	40	33	41	26	24	29	357	66
154	145	154	167	144	164	171	2,029	67
116	106	114	129	137	173	163	1,577	68
107	81	108	96	113	137	184	1,408	69
62	57	58	56	51	62	75	793	70
46	40	48	51	66	52	44	598	71
42	33	50	40	41	49	36	609	72
98	88	127	125	104	128	215	1,333	73
90	102	134	97	132	200	123	1,477	74
63	50	50	54	51	69	61	738	75
231	227	219	232	248	254	304	2,547	76
51	48	45	51	53	60	51	671	77
32	32	50	43	31	36	35	500	78
167	232	231	170	167	141	165	2,008	79
115	174	145	102	98	83	106	1,315	80
62	92	61	54	65	62	57	760	81
30	43	32	37	26	34	39	377	82
23	19	24	21	22	14	19	243	83
8,141	9,281	9,700	9,065	9,126	9,002	9,593	108,178	
28.85	29.62	30.26	29.90	29.13	29.52	29.36	29.33	
78,902	91,296	94,607	90,532	91,421	107,836	96,391	1,002,052	
22.10	25.24	25.32	25.04	24.47	24.30	25.80	23.46	

No. IV.—Deaths registered according to Age in the Districts exclusive of
in the Province of Madras during the year 1938 (compiled with

Serial number. (1)	Districts exclusive of Municipalities and rural towns. (2)	Not exceeding one month.						Total of columns 5 and 8. (9)
		Males.			Females.			
		1	2	Total. (5)	1	2	Total. (8)	
		Under one week. (3)	Over one week. (4)		Under one week. (6)	Over one week. (7)		
1	Anantapur	1,228	783	2,011	997	614	1,611	3,622
2	Bellary	1,013	596	1,609	817	481	1,298	2,907
3	Chingleput	1,578	896	2,574	1,190	607	1,797	4,371
4	Chittoor	1,639	760	2,399	1,375	620	1,995	4,394
5	Coimbatore	3,985	1,713	5,698	3,256	1,514	4,770	10,468
6	Cuddapah	810	481	1,291	739	420	1,159	2,451
7	Godavari, (Plains East. Agency	2,245	711	2,956	1,639	847	2,486	5,442
8	Godavari, West	221	124	345	162	125	287	632
9	Guntur	1,917	650	2,567	1,355	550	1,904	4,470
10	Kistna	3,207	1,551	4,758	2,720	1,258	3,978	8,736
11	Kurnool	2,732	1,223	3,955	2,023	890	2,913	6,868
12	Madura	1,480	923	2,403	1,197	781	1,978	4,381
13	Malabar	2,208	1,349	3,557	1,784	1,010	2,794	6,351
14	Malabar	3,052	1,843	5,795	3,152	1,551	4,703	10,501
15	Nellore	1,811	801	2,702	1,604	732	2,336	4,958
16	Nilgiris, The... ..	67	57	124	68	35	103	227
17	North Arcot	1,961	1,408	3,369	1,516	1,087	2,603	5,972
18	Ramnad	1,073	1,000	2,073	902	732	1,631	3,716
19	Salem	3,027	1,564	4,591	2,621	1,210	3,831	8,422
20	South Arcot	1,900	1,139	3,039	1,535	942	2,477	5,516
21	South Kanara... ..	1,202	707	1,909	1,032	606	1,638	3,550
22	Tanjore	2,228	1,133	3,361	1,698	828	2,526	5,892
23	Tinnevely	2,326	1,479	3,805	1,726	1,200	2,926	6,731
24	Trichinopoly	2,119	1,255	3,373	1,583	1,089	2,671	6,064
	Vizagapatnam	3,467	1,892	5,359	2,681	1,693	4,374	9,733
	Total for districts exclu- sive of municipalities and rural towns	49,580	26,067	75,647	39,942	21,045	60,987	136,934
	Total population accord- ing to the census of 1931	...	...	...	...	...	...	...
	Ratio per 1,000 of births for age periods under 1 year and per 1,000 of population and for age periods 1 year and above.	33.98	17.87	51.85	26.90	14.42	41.32	55.17

Municipalities and rural towns and in the Municipalities and rural towns
reference to G.O. Ms. No. 602, P.H., dated 30th March 1931).

Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total.			One and under five years.		Serial number.
Males.	Females.	Total.	Males.	Females.	Total.	Males columns (5), (10) and (13).	Females columns (6), (11) and (14).	Total. (15)	Males.	Females.	
3	7	7	4	7	7	5	6	7	6	6	
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
973	868	1,841	848	931	1,779	3,532	3,410	7,242	2,313	2,395	1
976	758	1,734	813	727	1,540	3,403	2,781	6,184	1,941	2,655	2
1,243	1,140	2,383	1,156	1,118	2,274	4,673	3,255	7,928	2,392	2,802	3
908	854	1,762	823	776	1,599	3,361	2,844	6,205	1,901	2,004	4
1,435	1,215	2,650	1,266	1,082	2,348	5,002	4,667	9,669	3,080	3,168	5
691	647	1,338	673	617	1,290	2,631	2,414	5,045	1,519	1,486	6
1,495	1,221	2,716	1,316	1,235	2,551	5,267	4,632	9,899	2,508	2,662	7
261	221	482	185	199	384	867	707	1,574	610	594	8
1,493	1,152	2,645	1,178	1,047	2,225	5,167	4,093	9,260	2,200	2,152	9
1,742	1,432	3,174	1,237	1,147	2,384	5,561	4,557	10,118	3,417	3,146	10
722	623	1,345	684	792	1,476	2,819	2,349	5,168	1,877	1,938	11
913	850	1,763	858	805	1,663	3,427	2,633	6,060	2,731	2,711	12
1,662	923	2,585	1,032	989	2,021	5,641	4,711	10,352	2,733	2,822	13
1,400	1,801	3,201	1,825	1,655	3,480	5,266	4,366	9,632	4,806	5,021	14
931	817	1,748	1,069	901	1,970	3,719	3,267	6,986	2,827	2,813	15
86	63	149	83	98	181	295	270	565	302	279	16
1,432	1,397	2,829	1,341	1,252	2,593	5,422	4,849	10,271	3,516	3,677	17
720	673	1,393	608	722	1,330	2,723	2,571	5,294	2,282	2,394	18
1,332	1,244	2,576	1,204	1,125	2,329	4,880	4,696	9,576	3,185	3,072	19
1,276	1,191	2,467	1,303	1,232	2,535	5,000	4,900	9,900	3,618	3,603	20
1,049	993	2,042	934	821	1,755	3,797	3,455	7,252	2,710	2,639	21
1,114	983	2,097	1,024	897	1,921	4,018	3,817	7,835	3,034	3,170	22
1,104	953	2,057	1,045	978	2,023	4,073	3,842	7,915	3,034	3,170	23
984	842	1,826	1,048	929	1,977	3,805	3,802	7,607	2,708	2,623	24
3,105	2,715	5,820	2,842	2,513	5,355	11,306	9,462	20,768	5,430	5,335	25
28,024	25,120	53,144	26,793	24,577	51,370	131,084	109,984	241,068	64,314	65,410	
...	...	...	...	...	...	519,110	537,030	1,056,140	2,175,333	2,250,069	
19.82	17.23	30.84	18.93	16.55	35.21	89.83	75.33	165.21	29.83	29.07	

No. IV.—Deaths registered according to Age in the Districts exclusive of Municipalities during the year 1938 (compiled with reference to

Serial number.	Districts exclusive of Municipalities and rural towns—cont.	Five and under ten years.		Ten and under 15 years.		15 and under 20 years.		20 and under 40 years.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
		(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1	Anantapur ...	609	642	815	900	204	442	518	951
2	Bellary ...	533	558	232	218	179	283	401	739
3	Chingleput ...	811	722	421	450	371	487	878	1,319
4	Chittoor ...	432	518	338	311	302	484	602	1,270
5	Coimbatore ...	872	850	402	459	540	619	1,108	1,720
6	Cuddapah ...	803	822	291	282	210	379	404	886
7	Godavari, Plains ...	841	845	625	468	407	848	1,109	1,713
8	Godavari, East, Agency ...	221	247	186	117	87	141	209	354
9	Godavari, West ...	631	802	425	431	381	632	820	1,258
10	Guntur ...	620	900	489	524	468	650	1,112	1,711
11	Kurnda ...	571	610	324	358	323	598	714	1,080
12	Kurnool ...	851	783	400	379	293	574	714	1,098
13	Madara ...	730	717	425	414	420	521	1,043	1,458
14	Malabar ...	1,571	1,453	655	550	640	720	2,008	2,829
15	Nellore ...	763	695	479	400	385	600	828	1,163
16	Nitigiri, The ...	35	63	48	30	21	43	136	118
17	North Arcot ...	879	582	442	426	454	715	927	1,467
18	Ramnad ...	609	517	285	301	308	424	805	1,284
19	Salem ...	916	969	600	537	514	788	1,255	1,923
20	South Arcot ...	1,003	993	487	459	470	800	1,250	1,829
21	South Kanara ...	512	550	315	293	325	491	739	1,148
22	Tanjore ...	704	803	495	481	555	817	1,103	2,136
23	Tinnevely ...	724	653	317	334	335	510	804	1,303
24	Trichinopoly ...	632	631	897	449	430	795	901	1,440
	Vizagapatam ...	1,672	1,552	1,040	614	591	1,030	2,201	2,942
	Total for districts exclusive of municipalities and rural towns ...	18,333	18,428	10,453	10,172	9,003	13,629	23,001	34,912
	Total population according to the census of 1931 ...	2,450,563	2,409,271	2,245,085	2,130,279	1,631,370	1,754,859	3,134,029	3,022,423
	Ratio per 1,000 of births for age periods under 1 year and per 1,000 of population and for age periods 1 year and above.	7.68	7.65	4.65	4.78	5.10	7.80	7.37	9.64

and rural towns and in the Municipalities and rural towns in the Province of Madras G.O. Ms. No. 602, P.H., dated 30th March 1931)—cont.

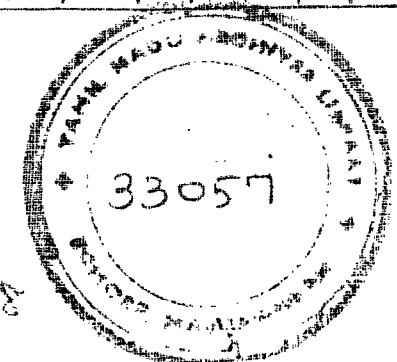
Serial number.	30 and under 40 years.		40 and under 50 years.		50 and under 60 years.		60 years and upwards.		Total of all ages.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1	581	761	898	674	602	624	2,327	2,080	12,456	12,312
2	626	665	779	547	669	520	1,438	1,525	10,301	9,821
3	965	1,103	1,146	862	1,173	1,017	3,730	2,817	16,722	16,294
4	858	1,064	1,082	893	1,195	939	3,324	2,997	14,114	14,132
5	1,190	1,450	1,367	1,094	1,293	1,073	4,708	4,719	28,045	21,945
6	871	817	879	713	948	755	2,146	2,252	10,316	10,886
7	1,140	1,256	1,284	966	1,310	1,017	4,158	4,757	19,201	18,989
8	343	292	293	189	257	224	443	481	3,473	3,220
9	782	909	639	702	884	778	2,835	3,203	15,235	14,857
10	1,167	1,273	1,302	994	1,458	1,059	4,031	4,664	23,001	21,496
11	648	812	729	605	723	552	2,631	2,571	13,999	18,413
12	930	997	1,107	827	1,021	834	2,382	2,353	14,670	18,690
13	1,185	1,290	1,363	1,082	1,280	1,080	3,452	3,485	18,407	17,574
14	2,207	2,400	2,443	1,843	2,634	1,832	6,536	7,560	32,593	31,481
15	966	1,132	1,175	993	1,292	959	3,782	3,679	16,508	16,078
16	153	120	88	64	91	74	138	123	1,417	1,207
17	1,052	1,165	1,192	937	1,294	969	4,125	3,968	20,047	16,480
18	1,058	1,218	1,303	1,100	1,321	1,204	3,018	3,342	14,434	14,802
19	1,498	1,658	1,726	1,339	1,757	1,400	4,628	4,726	23,374	22,759
20	1,508	1,613	1,602	1,507	1,593	1,606	4,332	4,126	22,142	21,269
21	1,122	1,184	1,269	934	1,298	1,062	2,725	3,163	14,011	14,310
22	1,625	2,180	1,910	1,770	2,123	1,886	5,162	5,828	22,024	22,954
23	972	1,134	1,114	929	1,383	1,074	4,244	4,267	18,333	18,283
24	1,102	1,347	1,254	980	1,323	1,160	4,358	4,492	18,466	18,220
	2,695	2,768	2,240	2,435	3,335	3,663	7,352	8,747	32,322	36,399
	27,150	30,602	31,565	25,068	33,090	20,912	88,687	92,675	438,365	427,352
	2,670,751	2,657,842	1,864,842	1,758,086	1,121,443	1,113,453	353,865	391,494	18,650,617	19,134,671
	10.17	11.51	16.02	14.25	29.41	24.16	104.10	103.95	23.52	22.37

No. IV.—Deaths registered according to Age in the Districts exclusive of Municipalities
Madras during the year 1938 (compiled with reference to

Serial number.	Municipalities and rural towns.	Not exceeding one month.						Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total.		
		Males.			Females.			Total of cols. (9) and (10).	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.
		Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Vizagapatam District—cont.																
315	Tekkali.	6	5	11	5	2	7	12	11	23	34	32	64	16	32	48
316	Sompeta.	6	5	11	5	2	7	12	11	23	34	32	64	16	32	48
317	Srinagarapukota.	10	14	24	4	10	14	28	15	15	30	15	15	30	30	30
318	Viraghattam.	9	17	26	11	4	15	26	19	19	38	13	31	44	55	55
319	Narasannapeta.	6	17	23	4	4	8	12	16	16	32	13	13	26	42	42
320	Chodavaram.	6	9	15	3	12	15	28	16	16	32	14	23	37	43	43
321	Modagula.	6	17	23	4	4	8	12	16	16	32	13	13	26	42	42
322	Chinnaraerangi.	4	3	7	5	3	8	13	11	17	28	17	17	34	37	37
323	Rajam.	6	5	11	5	2	7	12	11	22	33	17	17	34	47	47
Total for Municipalities and Rural Towns.		7,383	3,398	11,280	5,483	2,974	8,457	19,846	7,013	5,601	12,614	5,331	4,791	10,122	21,633	22,822
Total population of Municipalities and Rural Towns according to the census of 1931.		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ratio per 1,000 of births for age periods under 1 year and for 1,000 of population for age periods above 1 year.		39.45	15.82	44.93	22.54	11.85	34.69	79.07	27.94	23.50	51.45	31.24	19.09	49.93	34.13	26.03
Total for the province.		56,973	29,963	86,936	44,825	24,019	68,844	155,769	55,657	31,421	87,078	32,134	29,398	61,532	154,672	164,070
Total population of the province according to the census of 1931.		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ratio per 1,000 of births for age periods under 1 year and per 1,000 of population for age periods above 1 year.		33.22	17.52	50.84	26.21	14.05	40.26	91.10	23.84	19.14	52.98	18.79	17.17	38.99	30.47	25.57

and rural towns and in the Municipalities and rural towns in the Province
G.O. Ms. No. 602, P.H., dated 30th March 1931)—cont.

Serial number.	Municipalities and rural towns.	One to five years.		Five to ten years.		Ten to 15 years.		15 to 20 years.		20 to 30 years.		30 to 40 years.		40 to 50 years.		50 to 60 years.		60 years and upwards.		Total of all ages.	
		Males.		Males.		Males.		Males.		Males.		Males.		Males.		Males.		Males.		Males.	
		(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
324	Tekkali.	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
325	Sompeta.	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
326	Srinagarapukota.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
327	Viraghattam.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
328	Narasannapeta.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
329	Chodavaram.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
330	Modagula.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
331	Chinnaraerangi.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
332	Rajam.	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
Total for Municipalities and Rural Towns.		11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903	11,903
Total population of Municipalities and Rural Towns according to the census of 1931.		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ratio per 1,000 of births for age periods under 1 year and for 1,000 of population for age periods above 1 year.		33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10	33.10
Total for the province.		76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697	76,697
Total population of the province according to the census of 1931.		2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032	2,557,032
Ratio per 1,000 of births for age periods under 1 year and per 1,000 of population for age periods above 1 year.		29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91	29.91



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No. IV (a).—Infantile Deaths according to Communities in the Municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 196, P.H., dated 24th January 1936).

Municipalities.	Mortality under one year among							
	Hindus.		Muhammadans.		Indian Christians.		Others.	
	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.
Anantapur District.								
Anantapur	52	112.55	20	111.73	...	...	...	...
Hindapur	78	172.57	14	70.71	1	76.82	...	...
Tadpatri	48	150.00	22	130.18	...	...	...	...
Bellary District.								
Bellary	244	177.97	142	192.15	5	79.37	...	...
Adoni	132	134.83	65	107.03	...	...	1	250.00
Hospet	132	193.55	23	111.35	...	...	...	...
Chingleput District.								
Conjeevaram	353	137.39	15	133.92	3	166.67	...	...
Saidapet	212	184.03	8	137.93	1	38.46	...	...
Chingleput	81	121.99	8	250.00	2	57.14	...	...
Chittoor District.								
Chittoor	118	123.94	9	500.00	1	53.56	...	...
Tirupati	118	175.08	6	115.33	...	...	...	...
Coimbatore District.								
Coimbatore	562	141.99	25	106.88	25	71.85	1	58.82
Erode	108	121.21	5	41.32	9	136.36	3	66.67
Pollachi	184	219.31	13	207.79	1	41.67	...	...
Dharapuram	84	144.83	13	109.24	5	102.04	...	...
Tiruppur	176	170.54	12	129.03	5	142.86	...	...
Udamalpet	80	164.61	5	64.10	1	100.00	...	...
Cuddapah District.								
Cuddapah	56	108.53	56	113.36	2	76.92	...	...
Proddatur	78	140.79	26	114.54	5	106.38	...	...
East Godavari District.								
Cocanada	506	273.81	13	116.07	4	105.26	1	125.00
Rajahmundry	519	257.31	10	104.16	14	157.30	1	454.55
Peddapuram	88	143.60	8	258.06	1	62.50	...	...

No. IV (a).—Infantile Deaths according to Communities in the Municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 196, P.H., dated 24th January 1936)—cont.

Municipalities.	Mortality under one year among							
	Hindus.		Muhammadans.		Indian Christians.		Others.	
	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.
West Godavari District.								
Ellore	209	101.01	40	144.40	3	39.46	...	...
Palacole	91	205.42	1	1000.00	3	300.00	...	...
Guntur District.								
Guntur	576	229.75	154	233.33	68	161.76	...	...
Tenali	211	102.17	30	183.55	19	193.83	...	...
Obirala	78	122.43	4	86.95	2	30.77	...	...
Ongole	108	199.63	12	200.00	20	194.17	3	111.11
Narasaraopet	127	316.71	18	148.76	10	204.09	...	...
Kistna District.								
Bezwada	413	206.09	63	163.63	29	203.12	...	...
Masulipatam	459	217.43	62	215.23	19	95.23	...	...
Guduvada	171	222.37	29	376.62	18	280.70	4	444.44
Kurnool District.								
Kurnool	99	155.52	124	154.81	1	21.74	...	...
Nandyal	82	165.89	30	103.81	9	87.38	6	157.89
Madras District.								
Madras	5,587	218.67	933	281.01	312	188.18	44	102.33
Madura District.								
Madura	1,514	193.66	118	182.33	47	90.21	7	162.79
Dindigul	255	174.42	36	149.38	55	137.16	1	1000.00
Rodinayakanur	144	147.84	7	134.61	2	117.65	...	...
Periyasulam	193	216.82	25	190.84	18	185.57	2	117.47
Palni	134	190.81	16	253.97	1	66.67	...	...
Kodaikanal	16	173.91	3	333.33	29	151.04	7	104.48
Malabar District.								
Calicut	231	114.58	223	150.37	19	88.79	1	142.86
Palghat	229	142.31	59	148.61	4	78.43	...	...
Cannanore	52	120.93	75	163.76	8	156.80	...	...
Tallicherry	70	146.14	64	164.10	7	148.93	...	...
Cochin	36	165.90	31	158.16	59	124.21	2	36.36
Nellore District.								
Nellore	387	190.48	105	238.64	24	220.18	2	666.67

No. IV (a).—Infantile Deaths according to Communities in the Municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 196, P.H., dated 24th January 1936)—cont.

Municipalities.	Mortality under one year among							
	Hindus.		Muhammadans.		Indian Christians.		Others.	
	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.
<i>Nilgiris, The.</i>								
Ootacamund	89	156.67	14	105.26	38	123.76	6	122.45
Oonoor	61	195.51	11	207.55	18	110.43	2	181.82
<i>North Arcot District.</i>								
Vellore	339	135.01	118	194.03	13	113.04	..	...
Tiruvannamalai	161	155.41	36	171.43	2	60.61	..	...
Gudiyattam	213	192.76	29	139.42	..	...	..	...
Vaniyambudi	44	121.88	74	178.31	2	333.33	..	...
Tiruppattur	65	109.99	33	129.92	..	...	..	...
Walajapet	39	120.00	9	155.17	..	...	..	...
<i>Ramnad District.</i>								
Virudunagar	225	193.22	13	195.97	10	123.46	..	...
Srivilliputtur	179	133.47	6	260.87	3	69.77	..	...
Karaikudi	113	164.01	5	116.23	3	115.38	..	...
Devakottai	70	118.04	4	133.33	..	...	..	...
Sivakasi	40	82.30	4	210.53	..	...	..	...
<i>Salem District.</i>								
Salem	523	140.02	20	46.37	8	95.24	..	...
<i>South Arcot District.</i>								
Cuddalore	262	141.16	19	179.24	5	87.73	47	157.72
Chidambaram	125	175.07	8	87.72	1	142.86	..	...
Villupuram	45	89.29	8	142.86	2	111.11	12	210.53
<i>South Kanara District.</i>								
Mangalore	171	102.89	26	95.65	51	91.07	2	690.67
Udipi	63	112.60	7	183.79	8	86.62	2	222.22
<i>Tanjore District.</i>								
Tanjore	339	162.56	21	123.53	20	122.38	..	...
Kumbakonam	305	130.85	11	94.01	5	44.24	..	...
Nagapattinam	193	167.77	109	307.04	17	133.85	..	...
Mayavaram	117	116.42	1	53.33	..	...	..	...
Mannargudi	104	118.32	5	161.29	1	58.43	1	42.63
Tiruvarur	95	170.56	6	82.19	1	250.00	..	...
<i>Tinnevely District.</i>								
Tuticorin	339	221.57	19	178.22	68	156.41	..	...
Tinnevely	411	219.24	45	187.69	6	115.39	..	...
Palamecottah	158	163.52	6	139.53	15	120.97	..	...

No. IV (a).—Infantile Deaths according to Communities in the Municipalities in the Province of Madras during the year 1938 (prescribed in G.O. Ms. No. 196, P.H., dated 24th January 1936)—cont.

Municipalities.	Mortality under one year among							
	Hindus.		Muhammadans.		Indian Christians.		Others.	
	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.	No.	Ratio per 1,000 live births.
<i>Trichinopoly District.</i>								
Trichinopoly	530	137.43	118	145.11	93	121.73	2	55.56
Srirangam	124	140.75	..	...	..	...	..	...
Karur	136	191.82	12	187.50	2	62.5	..	...
<i>Visagapatam District.</i>								
Visagapatam	534	256.12	7	56.45	8	181.82	2	74.04
Vizianagram	351	203.12	15	187.50	4	333.33	..	...
Anakapalle	213	235.68	2	153.85	..	...	..	...
Chiducole	101	163.43	5	250.00	..	...	..	...
Bimalipatam	75	224.55	3	375.00	3	272.73	..	...
Total	22,451	179.46	3,613	177.54	1,321	131.27	163	120.09

No. V.—Deaths registered according to Classes in the Districts in the Province of Madras during the year 1938.

Number.	Districts.	Number of deaths registered.									
		Indian Christians.		Muhammadans.		Hindus.		Other classes.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1	Anantapur	49	54	1,129	1,092	12,552	12,461	12	15		
2	Bellary	72	58	1,315	1,287	11,193	10,912	15	16		
3	Chingleput	373	384	465	418	19,218	18,609	13	12		
4	Chittoor	74	73	805	739	12,473	14,137	1	1		
5	Coimbatore	330	314	549	503	25,740	24,367	3	2		
6	Cuddapah	487	453	1,332	1,208	9,544	9,831	3	2		
7	Godavari, East & Plains.	242	193	371	360	22,015	21,727	2	2		
8	Godavari, West	55	49	59	89	3,354	3,262	2	2		
9	Guntur	786	788	371	316	14,262	15,311	5	9		
10	Kistna	2,792	2,508	2,079	1,817	22,154	20,799	5	9		
11	Kurnool	1,220	1,154	844	808	14,437	13,853	5	7		
12	Madras	1,074	1,070	1,958	1,942	12,444	11,789	4	3		
13	Madurai	608	693	1,757	1,586	11,073	10,397	1	1		
14	Malabar	840	793	917	937	23,037	21,663	1	1		
15	Nellore	611	594	12,407	11,783	23,389	22,354	1	1		
16	Nilgiris, The	636	632	1,176	1,115	12,557	12,557	7	7		
17	North Arcot	168	160	1,426	1,359	22,290	21,628	10	7		
18	Ramanad	333	317	1,426	1,359	22,290	21,628	10	7		
19	Salem	717	785	1,061	1,091	16,750	16,912	130	122		
20	South Arcot	227	218	503	587	23,271	22,484	1	1		
21	South Kanara	552	539	828	853	22,471	22,484	219	180		
22	Tanjore	1,028	1,013	1,823	1,741	12,418	12,300	98	81		
23	Tinnevely	927	923	1,368	1,392	21,285	20,428	6	9		
24	Trichinopoly	2,312	2,493	1,506	1,379	20,097	19,730	4	3		
25	Vizagapatnam	1,054	1,003	783	756	43,395	42,031	6	49		
	Total, Madras Province	17,286	17,432	37,303	35,903	453,023	454,033	746	654		

No. V.—Deaths registered according to Classes in the Districts in the Province of Madras during the year 1938—cont.

Number.	Districts.	Ratio of deaths per 1,000 of population.									
		Indian Christians.		Muhammadans.		Hindus.		Other classes.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1	Anantapur	14.26	17.34	22.34	22.54	25.91	27.14	19.32	28.79		
2	Bellary	30.23	14.61	24.27	23.83	25.77	25.83	16.06	32.13		
3	Chingleput	17.83	19.23	23.85	23.89	24.18	23.86	22.20	27.21		
4	Chittoor	13.85	14.71	19.38	20.58	20.94	21.26	62.50	100.00		
5	Coimbatore	13.65	13.86	18.47	20.83	23.79	25.40	22.06	35.09		
6	Cuddapah	23.22	25.04	20.86	22.63	22.11	20.70	41.67	111.11		
7	Godavari, East & Plains.	19.30	15.24	28.28	25.81	27.43	26.33	8.00	33.86		
8	Godavari, West	24.97	22.66	35.56	33.12	29.37	28.24	1.81	3.40		
9	Guntur	25.71	24.56	28.58	25.04	29.11	27.11	16.07	8.86		
10	Kistna	23.15	22.27	25.63	23.69	26.79	25.59	17.24	59.32		
11	Kurnool	23.44	23.44	26.19	28.23	26.25	26.74	13.91	60.00		
12	Madras	22.30	22.47	26.58	27.44	30.52	29.66	...	62.50		
13	Madurai	20.33	18.65	45.83	50.14	40.47	42.18	74.36	107.80		
14	Malabar	18.55	19.03	20.40	20.53	23.16	21.12	31.25	...		
15	Nellore	21.07	20.01	22.63	21.76	25.25	24.22	18.11	20.23		
16	Nilgiris, The	12.18	12.50	25.38	35.90	24.45	24.31	22.78	33.33		
17	North Arcot	15.20	14.87	21.10	19.77	21.49	20.75	26.83	25.09		
18	Ramanad	15.41	15.27	21.22	15.31	21.63	20.04	...	90.90		
19	Salem	19.19	14.43	17.54	19.70	21.07	20.23	17.24	78.47		
20	South Arcot	15.72	15.72	16.26	15.79	20.29	19.43	87.49	19.45		
21	South Kanara	17.41	15.03	20.79	18.90	24.24	22.98	20.83	20.20		
22	Tanjore	20.90	19.57	22.86	20.42	23.65	22.76	18.49	333.33		
23	Tinnevely	23.34	20.79	28.19	20.61	23.07	23.40	...	54.55		
24	Trichinopoly	21.06	18.92	21.98	20.62	23.07	23.21	14.76	5.01		
25	Vizagapatnam	15.66	20.87	27.63	26.10	28.05	23.30	5.60	...		
	Total, Madras Province	20.76	19.79	22.64	21.42	24.33	23.12	22.36	23.70		

Other fevers.		Dysentery.		Diarrhoea.		Pneumonia.		Other respiratory diseases.		Pulmonary tuberculosis.		Deaths from child-birth.		Deaths under one year.			Infantile mortality rate per 1,000 live births.	Serial number.
Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Males.	Females.	Total.		
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	
2,183	3.37	1,289	1.99	1,019	1.57	...	...	6,088	9.41	1,801	2.91	284	3,798	3,083	6,881	222.11	55	
233	1.28	325	1.79	183	1.05	972	5.34	460	2.53	436	2.40	136	929	757	1,686	186.73	36	
226	5.19	51	1.17	51	1.25	17	0.39	21	0.48	48	1.10	24	185	162	347	164.55	57	
...	...	56	1.33	7	0.36	36	1.33	23	0.85	10	0.37	13	84	69	153	146.08	58	
22	0.96	32	1.39	53	2.52	32	1.39	47	2.04	59	2.56	9	126	102	228	209.37	59	
70	3.70	87	1.96	11	0.53	107	5.66	95	5.03	47	2.49	14	84	67	151	153.54	60	
6	0.77	2	0.31	5	0.77	19	2.45	37	5.67	2	0.31	2	24	31	55	152.78	61	
18	0.18	99	1.06	25	0.23	149	1.50	26	0.26	414	4.17	45	270	204	474	127.43	62	
146	2.98	57	1.16	29	0.50	44	0.88	24	0.49	81	1.71	18	169	123	292	142.72	63	
59	1.67	13	0.41	10	0.32	103	3.40	13	0.41	53	1.67	12	80	55	135	143.77	64	
13	0.43	29	0.99	23	0.75	64	2.11	30	0.99	103	3.39	16	85	58	141	163.59	65	
13	0.57	56	2.45	13	0.67	50	2.45	28	1.23	64	2.86	11	70	53	123	135.74	66	
105	4.2	71	1.53	62	1.79	82	1.79	54	0.52	69	1.50	67	276	242	518	95.19	67	
6	0.24	30	1.23	14	0.67	160	6.50	17	0.69	13	0.53	8	55	62	147	135.07	68	
3	0.21	14	0.98	16	1.12	74	5.17	10	1.33	14	0.93	5	58	84	92	170.69	69	
63	0.08	160	1.76	141	2.45	131	2.29	93	1.71	134	2.34	50	272	198	470	145.15	70	
2	0.07	63	2.27	58	3.17	71	2.56	11	0.40	44	1.58	14	115	84	199	153.35	71	
55	2.23	78	3.16	46	1.55	52	2.11	82	3.32	39	1.59	23	136	103	242	132.64	72	
3	0.13	11	0.45	22	0.95	36	1.31	21	0.92	43	1.83	9	60	40	120	153.45	73	
1	0.65	19	1.04	13	0.71	27	1.43	7	0.38	46	2.51	14	59	43	89	142.22	74	
4	0.36	11	0.93	14	1.25	19	1.70	2	0.18	17	1.62	5	29	19	48	120.00	75	
17	1.72	76	2.30	65	1.96	59	2.69	61	1.84	55	1.65	21	135	113	248	180.93	76	
16	0.49	37	1.12	22	0.68	85	2.62	15	0.46	45	1.39	14	163	85	189	161.23	77	
8	0.37	30	1.38	61	2.81	8	0.37	90	4.15	21	0.97	13	48	58	72	159.93	78	
73	5.19	29	1.31	33	2.17	13	0.85	6	0.39	29	1.91	14	38	56	74	114.30	79	
30	0.78	86	0.43	21	0.54	2	0.05	4	0.10	38	0.98	7	28	16	44	85.11	80	
47	0.46	113	1.11	140	1.37	303	2.97	100	0.98	149	1.46	46	304	247	551	134.56	81	
103	1.74	95	1.61	87	1.47	68	1.49	7	0.13	66	1.12	32	190	143	233	143.72	82	
79	2.15	24	0.36	21	0.34	50	1.09	12	0.45	20	0.80	14	82	49	131	163.38	83	
42	2.09	17	0.84	22	1.02	29	1.44	9	0.45	29	1.44	5	37	26	67	165.51	84	
35	0.52	56	0.34	47	0.70	127	1.69	70	1.05	151	2.26	35	146	194	250	99.92	85	
12	0.70	27	1.57	6	0.35	19	1.10	18	1.04	39	2.20	14	53	43	80	113.45	86	
115	1.60	97	1.45	88	1.31	98	1.47	42	0.63	150	2.24	66	223	180	419	158.22	87	
155	2.43	39	0.83	39	0.63	55	0.38	23	0.37	73	1.17	36	182	139	321	124.77	88	
67	1.17	98	1.92	72	1.48	50	1.03	58	1.20	104	2.14	35	178	148	324	186.31	89	

No. VI (a) (Optional)—Deaths registered from Certain Causes

Serial number.	Municipalities.	Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala-Azar.		Influenza.	
		Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.
		(1)		(2)		(3)		(4)		(5)		(6)	
<i>Tanjore—cont.</i>													
70	Mayavaram ...	...	...	3	0.06	...	...	...	...	...	...	...	...
71	Mannargudi ...	1	0.04	17	0.75	1	0.04	...	...	...	...	...	...
72	Tiruvarur ...	10	0.43	23	1.13	3	0.15	...	...	...	...	1	0.03
<i>Tinnevely.</i>													
73	Tuticorin ...	3	0.05	8	0.13	...	...	...	...	...	...	4	0.07
74	Tinnevely ...	...	...	16	0.28	1	0.02	...	...	...	...	7	0.12
75	Palamcottah ...	1	0.04	11	0.39	3	0.11	...	...	...	...	8	0.29
<i>Trichinopoly.</i>													
76	Trichinopoly ...	12	0.68	36	0.25	2	0.01	...	...	...	...	1	0.01
77	Srirangam ...	3	0.12	3	0.32	...	...	...	...	...	...	...	...
78	Karur... ..	1	0.05	12	0.60	...	...	...	...	...	...	...	...
<i>Vizagapatam.</i>													
79	Vizagapatam ...	16	0.28	43	0.75	...	...	...	...	...	...	1	0.02
80	Viziatagram ...	28	0.63	17	0.38	...	...	...	...	...	...	2	0.04
81	Adakapalle ...	12	0.51	25	1.07	...	...	...	...	...	...	...	...
82	Chicacole ...	3	0.18	10	0.60	...	...	...	...	...	...	...	...
83	Bimlipatam ...	4	0.42	1	0.10	...	...	...	...	...	...	...	...
	Total ...	1,199	0.32	1,716	0.47	155	0.04	2	0.001	...	...	214	0.06

Note.—Deaths from Cerebro spinal fever are nil. Deaths from Beriberi, Typhoid fever of joints, other Tubercular diseases, Whooping

in the Municipalities in the Province of Madras during the year 1938—cont.

Other fevers.		Dysentery.		Diarrhoea.		Pneumonia.		Other respiratory diseases.		Pulmonary tuberculosis.		Deaths from child-birth.		Deaths under one year.			(15)	
Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths from child-birth.	Males.	Females.	Total.	Infantile mortality rate per 1,000 live births.	Serial number.	
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	
9	0.28	44	1.38	48	1.51	120	3.78	41	1.23	39	0.94	18	58	60	118	113.68	70	
34	1.43	38	1.37	6	0.26	20	0.89	15	0.66	23	1.01	12	67	41	111	117.84	71	
35	0.44	40	1.30	17	0.83	68	3.69	14	0.60	17	0.83	11	54	48	102	108.65	72	
181	3.09	115	1.99	27	0.61	161	1.67	105	1.70	114	1.83	35	224	212	443	208.03	73	
81	1.42	80	1.40	53	1.45	231	4.05	38	0.67	105	1.84	23	253	204	462	221.61	74	
3	0.11	46	1.65	51	1.83	67	2.40	18	0.64	76	2.72	29	102	75	177	157.47	75	
16	0.11	237	1.66	135	0.35	442	3.11	234	1.64	324	2.27	76	435	330	743	185.76	76	
51	2.07	41	1.66	32	1.20	26	1.05	24	0.87	31	1.25	2	68	56	124	135.63	77	
107	5.89	24	1.21	7	0.25	4	0.45	6	0.30	26	1.81	8	52	59	130	196.54	78	
156	2.73	129	2.25	269	3.65	131	2.64	73	1.27	115	2.61	14	308	243	551	241.67	79	
14	0.31	63	1.41	88	1.97	38	0.85	32	0.72	91	2.04	14	207	163	370	203.07	80	
3	0.13	32	1.37	90	3.35	28	1.20	160	6.84	43	1.84	15	181	84	215	164.60	81	
1	0.06	31	1.87	118	7.11	24	1.45	40	2.41	27	1.63	10	60	46	106	231.29	82	
16	1.68	19	1.97	17	1.77	20	2.08	1	0.10	18	1.87	2	47	54	81	329.46	83	
7,017	1.90	5,653	1.63	4,081	1.85	7,019	1.90	0,615	2.65	6,929	1.88	2,098	15,294	12,263	27,557	175.65	...	

Acute-Poliomyelitis, Diphtheria, Black-water fever, Mumps, Tuberculosis cough, Leprosy and Cancer are not available.

No. VII.—Deaths from Cholera registered in the Districts in the Province of Madras during each month of the year 1938.

Number.	Districts.	Circles of registration. (Taluk and Mani- patties.)		Villages or groups of villages and towns from which vital statistics returns were received.		January.	February.	March.	April.	May.	June.	July.
		Number.	Number from which deaths from cholera were reported.	Number.	Number from which deaths from cholera were reported.	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anantapur	12	7	880	89	..	1	..	..	2	4	1
2	Bellary	12	7	913	23	328	..	..	..	1	..	..
3	Chingleput	10	6	2,177	118	169	94	14	7	..	10	1
4	Chittoor	11	8	2,254	6	149	21	10	14	40	15	2
5	Coimbatore	16	7	1,201	85	268	37	4	..	..	..	1
6	Cuddapah	10	10	1,037	218	1	16	..	..	5	..	71
7	Godavari, East	11	11	817	181	..	1	..	105	61	65	809
8	Godavari, West	5	5	1,035	63	7	..	..	67	44	10	85
9	Guntur	14	9	743	182	..	..	..	180	73	21	154
10	Kistna	12	12	947	123	14	..	14	45	27	243	276
11	Kurnoor	11	12	994	90	..	6	14	54	37	45	84
12	Madras	11	11	329	208	..	1	14	24	48	160	317
13	Madura	1	1	1	1	29	4	2	4	..	1	..
14	Malabar	4	4	1,989	4	8	..	..	6	..	..	..
15	Nellore	15	3	766	4	5	..	..	2	..	..	..
16	Nikriti, the	14	14	1,708	100	86	38	20	2	2	..	..
17	North Arcot	5	1	62	1	..	..	..	..	7	20	16
18	Ramanad	17	10	2,039	23	21	12	5	..	..	..	..
19	Salera	14	1	1,522	1	..	..	..	..	1	2	..
20	South Arcot	11	7	1,766	12	15	1	4	9	1	..	..
21	South Kanara	11	10	2,270	803	882	439	182	69	7	..	7
22	Tanjore	17	16	819	..	..	..	..	56	..	5	..
23	Tinnevely	12	6	2,538	268	204	320	183	..	62	75	89
24	Trichinopoly	10	9	1,163	22	1	30	..	71	32	4	5
25	Vizagapatnam	23	13	4,053	43	80	10	3	..	9	23	87
Total, Madras Province ..		805	205	84,830	2,212	2,358	1,084	438	741	458	714	1,509

No. VII.—Deaths from Cholera registered in the Districts in the Province of Madras during each month of the year 1938—cont.

Number.	Districts.	August.	September.	October.	November.	December.	Total.		Ratio of deaths per 1,000 of population.			Mean, ratio per 1,000 for prev- ious 5 years.
		(14)	(15)	(16)	(17)	(18)	Males.	Females.	Total.	Males.	Females.	Total.
1	Anantapur	4	83	130	17	..	110	117	227	0.20	0.23	0.22
2	Bellary	2	20	49	8	..	34	44	78	0.07	0.09	0.08
3	Chingleput	..	..	8	1	1	250	209	459	0.30	0.25	0.28
4	Chittoor	..	..	..	2	..	144	120	273	0.20	0.19	0.19
5	Coimbatore	3	..	..	..	..	112	83	195	0.09	0.07	0.08
6	Cuddapah	204	345	167	32	9	514	582	1,096	1.12	1.25	1.19
7	Godavari, East	166	49	34	7	..	382	416	797	0.45	0.40	0.43
8	Godavari, West	173	43	38	4	..	147	168	315	1.22	1.40	1.31
9	Guntur	79	18	5	..	..	363	302	665	0.60	0.49	0.54
10	Kurnoor	35	12	2	..	..	367	341	708	0.36	0.31	0.35
11	Madras	88	22	2	..	..	193	173	366	0.30	0.28	0.29
12	Madura	243	223	128	13	14	524	591	1,115	1.14	1.17	1.16
13	Malabar	..	2	2	2	1	19	17	36	0.06	0.06	0.06
14	Nellore	..	2	1	..	..	11	6	17	0.01	0.01	0.01
15	Nikriti, the	21	80	35	10	..	193	163	356	0.003	0.008	0.004
16	North Arcot	..	..	3	..	..	1	..	1	0.01	0.01	0.01
17	Ramanad	..	..	..	..	..	25	20	45	0.02	0.02	0.02
18	Salera	..	..	..	..	..	14	2	16	0.01	0.01	0.01
19	South Arcot	3	4	3	9	25	949	787	1,736	0.69	0.60	0.65
20	South Kanara	..	..	..	..	..	644	623	1,267	0.55	0.50	0.53
21	Tanjore	34	57	37	32	108	25	10	35	0.08	0.01	0.02
22	Tinnevely	5	2	5	7	3	175	137	312	0.19	0.14	0.16
23	Trichinopoly	2	..	..	..	..	80	71	151	0.05	0.04	0.05
24	Vizagapatnam	9	..	..	1	2	..	..	..	..	..	..
25	Total, Madras Province	1,027	359	633	148	243	5,290	4,962	10,252	0.24	0.21	0.23

No. VIII.—Deaths from Smallpox registered in the Districts in the Province of Madras during each month of the year 1938.

Number.	Districts.	Circles of registration (Taluk and municipal-ities).		Villages or groups of villages and towns from which vital statistics returns were received.		January.	February.	March.	April.	May.	June.	July.	August.
		Number.	Number from which deaths were reported.	Number.	Number from which deaths were reported.								
1	Anantapur ..	12	8	880	11	...	1	1	...	...	7	...	...
2	Bellary ..	12	3	913	4	...	...	...	...	...	...	...	...
3	Chingleput ..	10	9	2,157	145	...	...	...	...	...	...	...	...
4	Chittoor ..	11	9	2,254	35	...	...	...	...	...	...	...	...
5	Coimbatore ..	16	10	1,201	24	...	...	...	...	...	...	...	...
6	Cuddapah ..	10	5	1,037	12	...	...	...	...	...	...	...	...
7	Godavari, East { Plains Agency	11	2	817	3	...	...	...	...	...	...	...	...
8	Godavari, West ..	5	1	1,055	2	...	...	...	...	...	...	...	...
9	Guntur ..	9	4	746	11	...	...	...	...	...	...	...	...
10	Kistna ..	14	9	947	17	...	...	...	...	...	...	...	...
11	Kurnool ..	12	3	894	3	...	...	...	...	...	...	...	...
12	Madras ..	11	6	829	7	...	...	...	...	...	...	...	...
13	Madurai ..	1	1	1	1	...	...	...	...	...	...	...	...
14	Malabar ..	15	7	768	24	...	...	...	...	...	...	...	...
15	Nellore ..	14	5	1,708	44	...	...	...	...	...	...	...	...
16	Nagris, the ..	5	2	62	2	...	...	...	...	...	...	...	...
17	North Arcot ..	17	11	2,039	60	...	...	...	...	...	...	...	...
18	Ramanud ..	14	6	1,522	15	...	...	...	...	...	...	...	...
19	Salem ..	11	10	1,748	45	...	...	...	...	...	...	...	...
20	South Arcot ..	11	10	2,270	112	...	...	...	...	...	...	...	...
21	South Kanara ..	8	5	819	20	...	...	...	...	...	...	...	...
22	Tanjore ..	17	17	2,586	84	...	...	...	...	...	...	...	...
23	Tinnevely ..	13	3	1,106	6	...	...	...	...	...	...	...	...
24	Tiruchinopoly ..	10	6	1,163	28	...	...	...	...	...	...	...	...
25	Vizagapatnam ..	23	14	4,053	26	...	...	...	...	...	...	...	...
Total, Madras Province		305	182	34,830	755	284	277	273	217	174	150	157	177

No. VIII.—Deaths from Smallpox registered in the Districts in the Province of Madras during each month of the year 1938—cont.

Number.	Districts.	September.	October.	November.	December.	Total.		Number of deaths among children.		Ratio of death per 1,000 of population.			Mean ratio per 1,000 for previous 5 years.
						Males.	Females.	Under 1 year.	From 1 to 10 years.	Males.	Females.	Total.	
1	Anantapur ..	1	1	...	2	10	9	9	6	0.02	0.01	0.02	0.32
2	Bellary ..	...	...	...	3	6	3	3	5	0.01	0.01	0.01	0.27
3	Chingleput ..	...	...	...	34	201	188	46	115	0.24	0.23	0.23	0.31
4	Chittoor ..	...	...	...	15	40	41	32	25	0.05	0.06	0.06	0.14
5	Coimbatore ..	...	...	...	...	32	27	24	23	0.03	0.02	0.03	0.16
6	Cuddapah ..	...	...	...	16	18	16	9	4	0.04	0.03	0.04	0.38
7	Godavari, East { Plains Agency	...	...	...	...	3	2	...	...	0.004	0.003	0.003	0.16
8	Godavari, West ..	...	...	...	...	2	2	...	...	0.02	...	...	0.03
9	Guntur ..	...	...	...	...	9	19	12	...	0.02	0.02	0.02	0.15
10	Kistna ..	...	...	...	...	35	61	10	23	0.03	0.03	0.03	0.19
11	Kurnool ..	...	...	...	...	8	11	8	3	0.01	0.005	0.01	0.17
12	Madras ..	...	...	...	...	19	34	18	14	0.03	0.04	0.03	0.38
13	Madurai ..	...	...	...	...	267	561	41	118	0.78	0.66	0.57	0.88
14	Malabar ..	...	...	...	...	10	18	7	3	0.01	0.01	0.01	0.14
15	Nellore ..	...	...	...	...	21	39	6	1	0.01	0.01	0.01	0.14
16	Nagris, the ..	...	...	...	...	53	93	20	85	0.07	0.06	0.06	0.19
17	North Arcot ..	...	...	...	...	43	2	2	...	0.02	...	...	0.10
18	Ramanud ..	...	...	...	...	107	107	30	...	0.04	0.05	0.05	0.21
19	Salem ..	...	...	...	...	11	23	19	...	0.01	0.01	0.01	0.23
20	South Arcot ..	...	...	...	...	43	88	43	34	0.05	0.04	0.04	0.34
21	South Kanara ..	...	...	...	...	151	300	103	85	0.12	0.12	0.12	0.34
22	Tanjore ..	...	...	...	...	19	45	2	10	0.04	0.07	0.07	0.34
23	Tinnevely ..	...	...	...	...	91	170	87	24	0.01	0.005	0.01	0.19
24	Tiruchinopoly ..	...	...	...	...	5	3	15	15	0.01	0.01	0.01	0.11
25	Vizagapatnam ..	...	...	...	...	14	19	30	4	0.02	0.01	0.01	0.10
Total, Madras Province		105	87	115	244	1,135	2,273	596	533	0.05	0.05	0.05	0.21

No. IX.—Deaths from Fevers registered in the Districts in the Province of Madras during each month of the year 1938

Number.	Districts.	Circles of registration (Taluk and Municipalities)		Villages or groups of villages and towns from which vital statistics returns were received.		January.	February.	March.	April.	May.	June.	July.
		Number.	Number.	Number.	Number.	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anantapur	12	12	880	683	490	319	437	513	447	373	470
2	Bellary	12	13	913	632	422	410	504	531	442	520	598
3	Chingleput	15	10	2,177	1,121	662	502	517	424	491	489	494
4	Chittoor	11	11	2,254	1,475	840	643	748	659	659	578	639
5	Coimbatore	13	16	1,201	918	1,034	771	801	818	837	746	814
6	Cuddalore	10	10	1,437	936	953	615	774	766	827	710	809
7	Golconda, East Agency	11	11	817	738	1,364	968	1,081	1,003	1,140	1,345	1,681
8	Golconda, West	5	5	1,095	782	324	218	249	261	284	240	288
9	Kannur	14	14	947	886	1,235	909	1,230	1,097	1,308	1,451	1,636
10	Kistna	12	12	904	793	634	485	641	590	717	702	609
11	Kurnool	11	11	229	779	873	735	1,168	1,019	1,043	920	1,427
12	Madras	14	14	1,089	694	764	269	233	183	205	192	184
13	Madurai	13	13	765	63	1,310	1,266	1,305	1,371	1,629	1,701	1,951
14	Mahar	5	5	62	87	90	835	887	524	1,047	879	985
15	Nellore	17	17	2,039	1,484	1,163	846	861	841	155	142	130
16	Nilgiris, The	14	14	1,522	875	1,211	928	967	835	834	777	941
17	North Arcot	11	11	1,766	1,354	1,309	1,169	1,248	1,182	1,046	825	898
18	Ramanad	11	11	2,279	1,125	859	733	740	681	697	1,129	1,193
19	Salma	8	8	219	789	867	829	740	602	634	642	707
20	South Arcot	17	17	2,596	1,101	507	464	450	484	512	1,001	1,224
21	South Kanara	12	12	1,163	783	940	653	689	671	739	577	464
22	Tanjore	10	10	1,163	898	715	680	611	582	671	481	659
23	Tinnevely	23	23	4,013	3,262	3,635	2,943	3,548	3,072	3,501	4,385	4,385
24	Tiruchinopoly	23	23	3,635	3,262	3,635	2,943	3,548	3,072	3,501	4,385	4,385
25	Vizagapatam	23	23	4,013	3,262	3,635	2,943	3,548	3,072	3,501	4,385	4,385
Total, Madras Province		305	304	34,530	25,231	24,493	19,311	21,732	20,303	22,780	21,566	25,089

No. IX.—Deaths from Fevers registered in the Districts in the Province of Madras during each month of the year 1938—cont.

Number.	Districts.	August.	September.	October.	November.	December.	Total.		Ratio of deaths per 1,000 of population.		Mean ratio per 1,000 for previous 5 years.
		(14)	(15)	(16)	(17)	(18)	Males.	Females.	Males.	Females.	
1	Anantapur	539	408	751	750	955	3,231	3,311	6.99	6.48	7.32
2	Bellary	632	541	609	588	640	3,409	3,223	6.51	6.76	8.33
3	Chingleput	480	391	573	494	527	2,931	3,003	3.51	3.67	3.34
4	Chittoor	631	630	894	774	734	4,115	4,310	5.57	6.06	5.68
5	Coimbatore	922	963	858	848	983	5,326	5,194	4.37	4.23	4.45
6	Cuddalore	810	999	1,155	1,108	1,185	5,416	5,371	10.787	11.54	10.00
7	Golconda, East Agency	1,082	1,643	1,468	1,433	1,792	8,555	8,265	10.33	9.33	8.79
8	Golconda, West	353	389	381	383	510	2,004	1,881	10.59	15.71	16.83
9	Kannur	200	840	961	840	1,732	5,006	5,006	8.72	8.21	7.15
10	Kistna	1,323	1,740	1,665	1,345	1,822	9,007	8,474	8.75	8.42	8.31
11	Kurnool	973	1,027	847	721	1,221	4,742	4,725	7.46	7.55	7.41
12	Madras	1,322	1,213	1,248	1,211	1,255	6,984	6,703	13.44	13.25	12.86
13	Madurai	205	198	196	150	189	1,163	1,177	3.47	3.85	3.50
14	Mahar	596	634	650	629	629	3,945	3,745	5.07	4.69	5.04
15	Nellore	1,679	1,332	1,255	1,098	1,134	8,635	8,346	5.07	4.69	5.04
16	Nilgiris, The	884	1,073	1,160	1,067	1,232	6,120	5,929	8.22	7.50	6.35
17	North Arcot	913	1,05	1,05	83	112	731	618	8.05	8.01	7.69
18	Ramanad	960	1,088	1,075	950	1,074	5,811	5,976	6.70	6.19	6.43
19	Salma	1,207	1,390	1,339	1,264	1,318	7,654	7,428	6.32	6.07	6.20
20	South Arcot	745	670	891	805	848	4,465	4,434	8.64	8.03	4.00
21	South Kanara	922	905	457	738	898	5,329	5,396	10.725	4.75	4.00
22	Tanjore	491	496	467	480	418	2,694	2,903	7.79	7.46	6.78
23	Tinnevely	563	595	603	757	910	4,343	4,059	2.36	2.24	2.43
24	Tiruchinopoly	206	727	805	615	721	3,817	3,371	4.08	3.63	4.38
25	Vizagapatam	4,119	3,399	3,541	3,764	4,218	21,894	21,438	19.86	12.89	14.63
Total, Madras Province		25,079	24,129	25,314	23,709	28,028	142,642	140,067	6.55	6.30	6.74

No. X.—Deaths from Dysentery and Diarrhoea registered in the Districts in the Province of Madras during each month of the year 1938.

Number.	Districts.	Circles of registration (taluk and muni- cipalities).		Villages or groups of villages and towns from which vital statistics returns were received.		January.	February.	March.	April.	May.	June.	July.
		Number.	(3)	Number from which deaths from dysen- tery and diarrhoea were reported.	(4)	Number.	(5)	(6)	(7)	(8)	(9)	(10)
1	Arantapur	12	12	12	12	380	439	181	105	132	138	241
2	Belary	12	12	12	12	913	309	113	23	103	154	248
3	Chingleput	10	10	10	10	2,177	746	227	236	189	151	211
4	Chittoor	11	11	11	11	2,254	831	287	276	207	238	275
5	Coimbatore	16	16	16	16	1,201	806	518	388	428	479	678
6	Cuddapah	10	10	10	10	1,637	315	65	81	69	71	91
7	Godavari, East { Plains Agency	11	11	11	11	817	413	132	139	111	217	381
8	Godavari, West	5	5	5	5	1,605	163	29	22	24	23	32
9	Guntur	14	14	14	14	746	422	156	190	177	133	321
10	Krishna	12	12	12	12	947	638	294	256	268	306	619
11	Kurnool	11	11	11	11	929	412	176	130	134	154	231
12	Madras	1	1	1	1	1	332	83	74	94	131	270
13	Madura	14	14	14	14	1,038	461	189	153	163	158	244
14	Malabar	15	15	15	15	786	649	255	233	234	254	368
15	Nellore	14	14	14	14	1,708	749	229	172	228	217	301
16	Nilgiris, The	5	5	5	5	62	45	35	52	92	98	47
17	North Arcot	17	17	17	17	2,059	1,614	301	259	291	275	374
18	Ramanad	14	14	14	14	1,322	555	173	150	164	172	155
19	Salem	11	11	11	11	1,708	663	178	178	189	183	203
20	South Arcot	11	11	11	11	2,270	561	261	24	233	216	270
21	South Kanara	8	8	8	8	819	398	85	58	95	93	216
22	Tanjore	17	17	17	17	2,596	684	197	195	210	182	172
23	Tinnevely	12	12	12	12	1,103	408	192	185	179	153	173
24	Trichinopoly	10	10	10	10	1,468	600	203	239	222	184	241
25	Viragapattam	23	23	23	23	4,053	1,162	456	358	388	557	753
Total, Madras Province		805	305	31,830	14,158	7,025	5,230	5,223	4,878	5,483	5,640	7,860

No. X.—Deaths from Dysentery and Diarrhoea registered in the Districts in the Province of Madras during each month of the year 1938.—Cont.

Number.	Districts.	August.	September.	October.	November.	December.	Total.		Ratio of deaths per 1,000 of population. ✓			Mean ratio per 1,000 for previous 5 years.
		(14)	(15)	(16)	(17)	(18)	Males.	Females.	Total.	Males.	Females.	Total.
1	Anantapur	238	246	264	313	163	1,131	1,074	2,205	210	210	153
2	Belary	217	189	168	119	128	929	841	1,770	188	176	238
3	Chingleput	370	259	259	220	248	1,388	1,346	2,734	166	165	178
4	Chittoor	800	298	364	364	309	1,782	1,639	3,421	241	236	242
5	Coimbatore	763	815	570	416	427	3,076	3,236	6,302	253	263	280
6	Cuddapah	85	135	135	70	90	538	454	997	110	100	119
7	Godavari, East { Plains Agency	391	263	188	127	158	1,375	1,110	2,385	154	130	110
8	Godavari, West	33	35	37	22	23	176	172	348	146	144	102
9	Guntur	338	258	166	123	185	1,250	1,170	2,420	208	189	174
10	Krishna	594	325	331	255	308	2,161	2,038	4,199	210	201	200
11	Kurnool	283	189	147	155	169	1,105	949	2,054	174	163	177
12	Madras	254	166	106	88	67	820	664	1,514	158	138	159
13	Madura	205	168	219	195	193	1,184	1,124	2,308	157	149	173
14	Malabar	296	329	231	260	225	1,695	1,665	3,360	174	177	258
15	Nellore	724	482	379	330	319	2,591	3,224	6,215	216	179	226
16	Nilgiris, The	279	313	251	199	230	1,611	1,338	2,939	216	179	193
17	North Arcot	32	40	32	27	26	252	249	501	277	238	268
18	Ramanad	346	316	355	290	405	2,120	2,110	4,236	188	186	187
19	Salem	194	227	242	244	226	1,240	1,193	2,433	142	128	132
20	South Arcot	282	234	264	190	188	1,324	1,296	2,650	109	100	139
21	South Kanara	260	283	244	243	281	1,680	1,578	3,259	187	128	168
22	Tanjore	258	251	182	138	174	815	806	1,781	138	122	130
23	Tinnevely	225	251	232	238	234	1,318	1,318	2,665	100	106	148
24	Trichinopoly	195	192	209	317	880	1,484	1,486	2,880	145	135	137
25	Viragapattam	259	314	341	241	237	1,628	1,642	3,165	174	168	233
	Total, Madras Province	631	442	402	301	423	8,014	2,512	5,553	193	149	144
		7,947	7,001	6,370	5,487	5,890	37,988	36,076	74,064	174	162	206

No. XI.—Deaths from Respiratory Diseases registered in the Districts in the Province of Madras during each month of the year 1938.

Number.	Districts.	Circles of registration (taluks and municipalities).		Villages or Groups of villages and towns from which vital statistics returns were received.		January.	February.	March.	April.	May.	June.	July.
		Number.	Number from which deaths from respiratory diseases were reported.	Number.	Number from which deaths from respiratory diseases were reported.							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1	Anantapur	12	12	880	360	126	188	160	170	156	150	155
2	Bellary	12	12	912	257	177	162	177	172	140	151	154
3	Chingleput	10	10	2,177	757	352	268	305	251	272	246	252
4	Chittoor	11	11	2,254	693	208	200	204	167	145	193	208
5	Coimbatore	16	16	1,201	827	721	559	630	621	626	676	703
6	Cuddapah	10	10	1,037	809	92	77	90	100	93	93	94
7	Godavari, East	11	11	817	421	300	259	263	217	282	355	358
8	Godavari, West	5	5	1,095	223	42	39	51	59	44	51	54
9	Guntur	9	9	743	422	251	185	188	183	259	232	275
10	Kistna	14	14	947	580	362	319	353	251	363	377	436
11	Kurnool	12	12	934	516	211	194	211	198	228	242	291
12	Karnool	11	11	829	268	121	114	143	116	126	115	177
13	Madras	1	1	1	1	677	630	628	583	656	676	612
14	Madras	14	14	1,069	662	777	549	639	597	656	640	531
15	Madras	15	15	766	675	640	555	624	607	704	780	680
16	Nellore	14	14	1,708	527	182	126	145	125	121	145	168
17	Nilgiris, the	5	5	62	38	61	48	60	51	78	71	71
18	North Arcot	17	17	2,089	979	484	351	375	346	372	332	361
19	Ramanad	14	14	1,522	627	420	307	370	352	363	377	340
20	South Arcot	11	11	1,766	738	329	264	301	294	315	273	320
21	South Kanara	11	11	2,370	953	365	301	318	261	288	270	293
22	Tanjore	8	8	810	405	185	155	171	142	140	155	264
23	Tinnevely	17	17	2,555	645	251	238	218	219	226	159	205
24	Trichinopoly	12	12	1,108	607	418	278	320	324	318	314	318
25	Vizagapatnam	10	10	1,163	609	401	296	335	329	326	293	311
	Total, Madras Province	23	23	4,053	681	422	322	328	310	262	424	481
		305	305	24,230	13,787	9,374	7,007	7,615	6,985	7,497	7,076	6,354

No. XI.—Deaths from Respiratory Diseases registered in the Districts in the Province of Madras during each month of the year 1938—cont.

Number.	Districts.	August.	September.	October.	November.	December.	Total.		Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 for year.
							Males.	Females.	Males.	Females.	Total.	
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
1	Anantapur	173	160	170	179	176	1,083	825	2.02	1.61	1.82	2.05
2	Bellary	174	166	178	177	177	1,088	937	2.31	1.97	2.09	2.32
3	Chingleput	302	282	346	344	344	1,942	1,004	2.32	1.96	2.14	1.97
4	Chittoor	177	176	204	202	230	1,338	1,030	1.81	1.46	1.64	2.27
5	Coimbatore	710	760	686	595	712	4,976	2,782	3.50	3.04	3.32	3.01
6	Cuddapah	91	82	110	103	105	649	404	1.34	1.06	1.20	1.35
7	Godavari, East	418	392	247	356	321	2,074	1,795	2.80	2.11	2.40	2.45
8	Godavari, West	337	300	51	60	54	207	827	2.79	2.73	2.76	2.70
9	Guntur	617	501	304	257	306	1,694	1,456	2.81	2.35	2.57	2.47
10	Kistna	200	323	476	414	413	2,347	2,157	2.57	2.14	2.36	2.38
11	Kurnool	176	137	303	247	327	1,640	1,420	2.58	2.30	2.44	2.87
12	Madras	546	491	733	667	688	3,982	2,407	1.95	1.13	1.42	1.82
13	Madras	611	565	679	683	630	4,223	3,524	3.31	3.16	3.53	3.55
14	Madras	801	585	649	606	642	4,700	3,353	3.74	2.84	3.28	2.85
15	Nellore	128	146	163	165	217	1,040	781	1.90	1.95	1.93	1.79
16	Nilgiris, The	61	68	63	64	62	440	311	4.84	4.03	4.46	4.71
17	North Arcot	393	358	379	415	471	2,968	2,074	1.83	1.66	1.75	2.00
18	Ramanad	374	390	403	442	409	2,408	2,135	2.76	2.31	2.47	2.42
19	Salem	334	345	359	295	278	2,013	1,676	1.68	1.37	1.52	1.80
20	South Arcot	287	345	331	363	380	2,113	1,657	1.72	1.36	1.54	1.70
21	South Kanara	239	205	218	187	190	1,268	1,018	1.21	1.44	1.67	1.65
22	Tanjore	208	205	254	210	239	1,506	1,177	1.92	0.85	1.42	1.45
23	Tinnevely	322	296	340	382	411	2,298	1,742	2.38	1.64	1.97	1.87
24	Trichinopoly	324	342	345	333	406	2,183	1,801	2.84	1.90	2.11	2.00
25	Vizagapatnam	482	359	409	408	440	2,450	2,173	1.57	1.39	1.42	1.52
	Total, Madras Province	8,553	8,264	8,530	8,422	8,787	53,020	43,400	2.44	1.95	2.19	2.26

No. XII.—Deaths from Plague registered in the Districts in the Province of Madras during each month of the year 1938.

Number.	Districts.	Cities of registration (towns and municipalities).		Villages or groups of villages and towns in which vital statistics returns were received.		January (7)	February (8)	March (9)	April (10)	May (11)	June (12)	July (13)
		Number.	Number from which deaths from plague were reported.	Number.	Number from which deaths from plague were reported.							
1	Anantapur	12	2	820	2	1	...	...	...	...	3	...
2	Bellary	12	1	913	1	...	...	...	...	...	...	...
3	Chingleput	10	...	2,177	...	...	...	...	...	...	...	...
4	Chittoor	11	5	2,254	20	28	17	4	1	8	4	12
5	Coimbatore	16	6	1,201	18	10	4	1	...	...	...	...
6	Cuddapah	10	...	1,037	...	...	...	...	...	...	...	...
7	Godavari, East (Plains Agency)	12	...	817	...	...	...	...	...	...	...	...
8	Godavari, West	5	...	1,085	...	...	...	...	...	...	...	...
9	Guntur	14	...	745	...	...	...	...	...	...	...	...
10	Kistna	12	...	947	...	...	...	...	...	...	...	...
11	Karnool	11	...	820	...	...	...	...	...	...	...	...
12	Madras	1	...	1	...	...	...	...	...	...	...	...
13	Madras	14	3	1,428	35	25	32	40	18	5	15	48
14	Malabar	14	...	708	8	8	...	...	...	...	...	...
15	Nellore	14	4	1,704	6	...	...	...	...	...	...	...
16	Nilgiris, the	5	...	82	...	...	...	...	...	...	...	...
17	North Arcot	17	1	2,039	1	1	5	1	4	1	...	...
18	Ramanad	14	...	1,522	...	...	...	...	...	...	...	...
19	Salem	11	4	1,708	38	50	55	41	18	0	7	16
20	South Arcot	11	...	2,270	...	...	...	...	...	...	...	...
21	South Kanara	8	...	819	...	...	...	...	...	...	...	...
22	Tanjore	17	...	2,533	...	...	...	...	...	...	...	...
23	Tinnevely	12	...	1,109	...	...	...	...	...	...	...	...
24	Trichinopoly	10	...	1,168	...	...	...	...	...	...	...	...
25	Viragapattam	23	...	4,058	...	...	...	...	...	...	...	...
Total, Madras Province		305	29	34,850	187	135	108	87	41	21	29	79

No. XII.—Deaths from Plague registered in the Districts in the Province of Madras during each month of the year 1938—cont.

Number.	Districts.	August. (14)	September. (15)	October. (16)	November. (17)	December. (18)	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 for pre- vious 5 years.
							Males. (19)	Females. (20)	Total. (21)	Males. (22)	Females. (23)	Total. (24)	
1	Anantapur	...	2	...	...	...	4	1	5	0.007	0.002	0.005	0.04
2	Bellary	...	...	...	...	...	...	1	1	...	0.002	0.001	0.06
3	Chingleput	...	...	...	...	...	...	...	...	...	...	...	...
4	Chittoor	10	5	1	5	3	49	28	82	0.07	0.05	0.06	0.01
5	Coimbatore	3	12	3	6	6	29	23	58	0.02	0.02	0.02	0.04
6	Cuddapah	...	...	...	...	...	...	...	...	...	...	...	0.002
7	Godavari, West (Plains Agency)	...	...	...	...	...	...	...	...	...	...	...	...
8	Godavari, West	...	...	...	...	...	...	...	...	...	...	...	...
9	Guntur	...	...	...	...	...	...	...	...	...	...	...	0.002
10	Kistna	...	...	...	...	...	...	...	...	...	...	...	0.002
11	Kurnool	...	...	...	...	...	...	...	...	...	...	...	0.001
12	Madras	...	36	22	15	13	153	251	444	0.17	0.23	0.20	0.21
13	Madras	48	36	22	15	13	153	251	444	0.002	0.001	0.001	0.01
14	Malabar	1	...	...	...	...	4	1	5	...	...	...	...
15	Nellore	...	...	...	...	...	...	...	...	...	...	...	...
16	Nilgiris, the	...	...	...	...	...	...	...	...	...	...	...	...
17	North Arcot	8	...	...	2	...	10	8	18	0.11	0.10	0.11	0.10
18	Ramanad	...	...	...	...	...	...	...	...	0.002	...	0.001	0.004
19	Salem	43	58	128	45	58	267	278	540	0.22	0.22	0.22	0.07
20	South Arcot	...	...	...	...	...	...	...	...	...	...	...	...
21	South Kanara	...	...	...	...	...	...	...	...	...	...	...	0.001
22	Tanjore	...	...	...	...	...	...	...	...	...	...	...	...
23	Tinnevely	...	...	...	...	...	...	...	...	...	...	...	...
24	Trichinopoly	...	...	...	...	...	...	...	...	...	...	...	0.002
25	Viragapatnam	...	...	...	...	...	...	...	...	...	...	...	...
Total, Madras Province		109	118	155	93	90	548	637	1,155	0.08	0.08	0.08	0.08

APPENDIX

Table showing Health Services in Rural and Urban areas of the Province of Madras during 1937 (prescribed in G.O. Ms. No. 1235, P.H., dated 7th June 1938).

[illegible]

India.—The staff cannot do not include the posts of Reserve Health officers and the Provincial staff at headquarters.

APPENDIX III.

Maternity and child-welfare centres, Health visitors and trained midwives in Rural and Urban areas in the Province of Madras during 1938 (prescribed in G.O. Ms. No. 1235, P.H., dated 7th June 1933.)

Serial number.	Districts.	Maternity and child-welfare centres maintained by						Trained visitors.		Trained midwives.		Trained dhais.	
		Government.		Local and municipal bodies.		Other agencies.		Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
		Rural.	Urban.	Rural.	Urban.	Rural.	Urban.						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Anantapur	...	...	3	2	...	1	...	...	22	8	...	...
2	Bellary	...	...	...	2	...	1	...	1	18	13	...	...
3	Chinglepnt	...	...	17	1	...	1	...	...	85	14	...	...
4	Chittoor	...	...	...	2	5	...	...	...	47	12	...	...
5	Coimbatore	...	...	11	6	...	...	1	2	47	41	...	...
6	Cuddapah	...	...	...	1	...	1	...	...	20	10	...	...
7	Godavari, East	...	...	8	1	...	2	...	...	64	26	...	...
8	Godavari, West	...	...	9	1	...	...	1	...	45	4	...	...
9	Guntur	...	...	3	2	...	1	...	...	65	77	...	...
10	Kistna	...	...	8	4	...	...	1	...	45	17	...	...
11	Kurnool	...	...	1	...	...	...	...	...	33	19	...	...
12	Madras	...	...	...	...	...	...	...	23	...	82	...	...
13	Madura	...	...	2	12	1	1	1	1	51	66	...	...
14	Malabar	...	...	2	7	...	...	...	...	2	25	...	...
15	Nellore	...	...	3	6	...	...	...	...	49	13	...	...
16	Nuligis, Tho	...	...	1	3	...	2	1	1	11	...	...	...
17	North Arcot	...	...	6	4	...	40	...	...	49	12	...	...
18	North Arcot	...	...	8	3	...	...	...	...	65	22	...	...
19	Ramanad	...	...	18	3	...	1	1	2	62	15	...	...
20	Salem	...	...	2	6	...	1	...	...	43	34	...	...
21	South Arcot	...	...	2	...	...	1	...	...	37	18	...	...
22	South Kanara	...	...	...	...	...	2	...	...	69	53	...	...
23	Tanjore	...	...	15	5	...	2	2	...	45	29	...	...
24	Tinnevelly	...	...	2	1	1	4	...	...	45	24	...	...
25	Trichinopoly	...	...	3	3	...	...	...	1	50	...	...	...
26	Vizagapatnam	...	...	5	9	...	...	1	...	...	...	...	...
	Total	4	...	122	78	9	20	8	84	1,041	736	...	...

Foot

VACCINATION STATEMENT.

ANNEXURE I.

Statement showing inspection of vaccinated cases by District Health Officers during 1938-39.

Number and name of district.	Total number of cases vaccinated during the year.		Percentage of cases inspected to total number vaccinated.
	Number of cases vaccinated during the year.	Number of cases inspected during the year.	
1. Anantapur ...	82,344	1,552	1.9
2. Arcot, North ...	169,032	1,987	1.2
3. Arcot, South ...	143,760	1,023	0.7
4. Bellary ...	92,516	2,713	2.9
5. Chingleput ...	128,539	1,532	1.2
6. Chittoor ...	111,523	2,631	2.3
7. Coimbatore ...	147,425	2,041	1.4
8. Cuddapah ...	79,570	1,031	1.3
9. Godavari, East ...	111,842	1,131	1.0
10. Godavari, West ...	65,349	2,419	3.7
11. Guntur ...	130,662	1,518	1.2
12. Kistna ...	111,932	977	0.9
13. Kurnool ...	122,971	7,759	6.3
✓ 14. Madras ...	175,335	3,277	1.9
15. Malabar ...	547,415	2,614	1.1
16. Nellore ...	127,230	337	0.3
17. Nilgiris, The ...	21,031	643	3.1
✓ 18. Ramanad ...	143,478	845	0.6
19. Salem ...	202,022	4,421	2.2
20. South Kanara ...	102,017	2,178	2.1
✓ 21. Tanjore ...	133,245	2,634	2.0
22. Tinnevely ...	152,767	4,227	2.8
23. Trichinopoly ...	118,392	1,490	1.3
24. Vizagapatam ...	233,098	3,436	1.5

VACCINATION STATEMENT—cont.

ANNEXURE II.

Statement showing inspection of vaccinated cases by Municipal Health Officers during 1938-39.

Number and names of municipalities.	Total number of cases vaccinated during the year.		Total number of cases inspected during the year.		Percentage of cases inspected to total number vaccinated.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1. Adoni ...	1,301	3,213	1,144	2,154	87.9	67.0
2. Bellary ...	2,053	5,183	1,570	2,248	76.5	43.4
3. Bezvada ...	2,821	6,473	1,742	1,931	75.1	30.6
4. Bodinayakanur ...	1,053	2,385	972	1,763	92.3	74.5
5. Calicut ...	3,978	12,184	3,094	7,281	77.8	59.9
6. Cannanore ...	805	2,008	467	716	58.0	34.6
7. Chidambaram ...	809	2,125	613	1,059	75.8	49.8
8. Chingleput ...	541	2,617	539	2,045	99.6	78.1
9. Chittoor ...	1,481	13,472	714	10,613	48.2	79.0
10. Cozanada ...	1,565	6,295	1,289	3,456	82.4	55.4
11. Cochin ...	1,026	2,128	790	677	77.0	31.8
12. Coimbatore ...	3,975	15,159	2,855	6,043	71.8	39.9
13. Conjeeveram ...	3,208	11,376	2,168	2,072	67.7	30.8
14. Coonoor ...	552	400	451	213	81.7	53.3
15. Cuddalore ...	1,989	8,084	1,658	3,507	83.4	57.8
16. Cuddapah ...	786	2,245	724	1,106	91.0	49.3
17. Dindigul ...	1,796	7,621	1,370	3,517	76.3	46.1
18. Ellore ...	1,949	3,337	1,492	1,998	76.6	59.3
19. Erode ...	990	2,370	823	1,636	83.1	68.7
20. Gudiyattam ...	885	2,212	718	1,410	81.1	63.7
21. Guntur ...	3,233	18,744	2,394	5,860	71.0	28.6
22. Hindupur ...	608	1,935	483	1,033	79.4	53.0
23. Hospet ...	1,110	2,137	896	940	80.6	44.0
24. Karakudi ...	643	1,468	467	471	72.6	32.1
25. Kambakonam ...	2,038	8,535	1,540	2,095	75.6	24.5
26. Kurnool ...	1,981	13,308	1,260	8,350	63.6	62.7
27. Madras ...	8,094	63,108	8,031	35,337	99.2	56.0
28. Mangalore ...	2,334	9,911	774	1,475	26.4	14.9
29. Marangudi ...	718	1,912	532	859	74.2	50.2
30. Masulipatam ...	1,711	3,747	1,295	1,886	75.7	50.3
31. Mayavaram ...	1,118	5,714	1,001	3,689	89.5	64.2
32. Nagapatam ...	1,406	5,064	1,053	1,230	75.2	24.3
33. Nellore ...	2,273	7,122	1,700	2,314	74.8	32.5
34. Ootacamund ...	957	533	740	287	77.3	53.8
35. Palghat ...	1,540	3,811	519	1,005	33.7	26.4
36. Periyakulam ...	967	1,017	771	329	79.7	32.4
37. Pollachi ...	783	3,712	439	1,746	56.1	47.0
38. Proddatur ...	622	1,839	443	1,337	71.2	71.5
39. Rajahmundry ...	1,982	6,044	1,484	1,323	74.9	21.9
40. Salem ...	4,673	19,328	3,509	7,341	75.0	38.0
41. Saidapet ...	1,578	6,475	1,043	2,125	66.1	32.8
42. Srirangam ...	721	1,860	572	1,023	79.3	55.0
43. Srivilliputtur ...	1,086	4,081	854	1,667	78.6	41.0
44. Tanjore ...	2,656	6,453	2,050	2,906	77.2	45.0
45. Tellicherry ...	903	1,259	563	509	62.0	40.4
46. Tenali ...	1,257	3,155	937	1,312	72.9	41.6
47. Tiruppur ...	1,015	1,880	871	702	85.8	37.3
48. Trichinopoly ...	5,757	11,946	5,072	10,178	88.1	85.2
49. Tinnevely ...	1,342	6,270	723	228	53.9	3.6
50. Tuticorin ...	2,535	4,992	1,872	1,840	73.9	36.9
51. Vaniyambadi ...	953	1,217	732	891	76.8	73.2
52. Vellore ...	2,715	10,231	2,474	5,685	91.1	55.7
53. Virudhunagar ...	1,319	2,077	1,288	1,428	97.6	68.8
54. Vizagapatam ...	2,089	7,761	1,837	3,158	87.9	40.7
55. Visianagaram ...	1,342	4,600	1,587	2,510	88.4	54.6

Statement No. I showing the Particulars of Vaccination in the Province of Madras for the official year 1938-39.

Number.	Districts.	(1)	(2)	(3)	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			(8)	(9)	Primary vaccination.			(12)	(13)	
						Males.	Females.	Total.			Total number of operations.	Under 1 year.	1 and under 6 years.			Total of all ages.
1	Agency districts—															
2	Godavari ..	240,576	14+4	8,703	7,518	16,219	901	8,502	3,498	3,551	7,942	924				
3	Vizagapatam ..	194,168	8+2	8,383	7,047	15,430	1,543	7,807	414	3,351	6,591	584				
	Total of Agency districts ..	434,744	22+6	17,086	14,563	31,649	1,130	16,309	3,912	6,902	13,833	1,508				
4	Anandapur ..	1,008,481	13+11	47,479	33,939	81,408	2,807	35,833	16,047	14,697	31,024	4,014				
5	Arrot, North ..	2,104,920	27+11	92,947	74,637	167,584	4,410	78,752	43,876	20,020	71,051	6,793				
6	Arrot, South ..	2,350,339	34+12	79,602	63,145	142,747	3,998	68,279	24,291	34,138	59,861	7,410				
7	Bellary ..	861,393	18+10	48,223	43,863	92,086	3,642	31,708	15,951	11,719	27,525	3,522				
8	Chingleput ..	1,498,863	17+8	68,727	59,254	127,981	5,119	45,010	19,346	19,029	39,446	5,539				
9	Chittoor ..	1,406,947	20+10	62,292	48,595	110,887	3,686	45,881	21,232	18,500	40,059	5,352				
10	Coimbatore ..	2,245,921	30+12	76,221	70,939	147,029	3,501	69,071	32,974	28,925	60,416	7,466				
11	Cuddapah ..	938,671	15+9	50,207	28,718	78,925	3,157	30,731	13,092	11,617	26,121	3,933				
12	Godavari, East ..	1,533,397	26+9	50,593	43,453	94,046	2,887	47,333	14,581	23,738	40,009	5,844				
13	Godavari, West ..	1,148,808	13+7	36,445	29,779	66,224	3,311	39,851	11,416	14,420	26,460	4,091				

15	Guntur ..	1,934,973	23+10	77,085	62,228	139,314	3,007	56,322	26,179	21,889	47,338	7,433
16	Krishna ..	1,186,853	21+10	64,486	46,492	110,978	3,580	38,766	16,962	16,054	32,249	5,280
17	Kurnool ..	967,039	20+10	78,942	42,647	121,589	4,053	37,836	11,570	16,398	31,245	4,752
18	Nellore ..	1,384,650	30+11	60,710	83,254	173,964	4,243	62,100	40,607	18,103	55,070	9,686
19	Nipuri, The ..	3,204,204	37+18	123,193	121,720	245,919	4,640	102,278	47,800	37,046	90,144	11,098
20	Nizampur ..	1,440,327	31+13	74,985	50,209	125,194	2,845	46,329	16,226	22,025	30,404	4,958
21	Palnad ..	123,099	7+3	12,853	8,225	21,078	2,108	4,270	2,230	1,558	3,920	337
22	South Kanara ..	1,730,605	27+9	79,110	63,476	141,586	3,933	67,809	18,446	27,660	48,025	6,604
23	Tanjore ..	2,331,793	34+12	110,146	90,716	200,862	4,367	83,674	32,131	38,147	72,027	9,381
24	Tinnevely ..	1,305,435	19+8	53,686	47,497	101,183	3,743	45,235	18,430	21,493	32,880	5,045
25	Trichinopoly ..	2,183,165	28+16	71,074	59,512	130,586	3,037	62,967	18,511	31,399	52,730	8,992
26	Vizagapatam ..	1,877,444	28+10	83,661	60,035	143,696	4,158	64,344	38,086	19,136	54,389	8,474
27	Total of districts ..	1,721,883	17+10	64,690	53,492	118,182	4,877	50,662	24,808	19,603	45,308	4,895
28		3,253,863	48+20	118,190	96,395	213,585	3,141	105,310	37,327	51,129	91,742	11,392
29		40,623,838	607+262*	1,732,740	1,391,653	3,124,393	3,595	1,320,089	561,872	341,335	1,140,592	152,656

* Health Inspectors are also doing vaccination work.

Statement No. I showing the Particulars of Vaccination in the Province of Madras for the official year 1935-39—cont.

Number.	Districts.	Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Total.	Number of all successful primary vaccination and re-vaccination.	Average cost of each successful case.
		Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.				
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	Agency districts—									
2	Godavari ..	7,843	1,606	1,828	95.6	267	83.8	13,975	8,844	Rs. A. P. 1 9 3
3	Visagapatnam ..	8,348	2,086	1,329	91.3	297	44.7	9,618	8,677	1 1 9
4	Total of Agency districts	16,191	3,692	3,152	93.5	294	49.3	23,593	17,525	1 2 2
5	Anantapur ..	46,491	6,172	13,258	97.5	18.6	38.9	19,486	37,197	0 8 5
6	Arund, North ..	50,347	17,610	22,183	93.8	25.8	42.1	29,732	88,671	0 5 4
7	Arund, South ..	75,481	11,020	20,778	95.3	21.2	30.4	24,589	71,481	0 5 6
8	Bellary ..	69,697	7,870	22,332	98.7	20.7	41.4	16,631	35,793	0 7 5
9	Chingleput ..	82,629	16,890	26,190	98.5	28.2	37.2	18,736	55,736	0 5 5
10	Chittoor ..	65,812	12,851	18,116	99.3	26.9	37.6	19,273	52,910	0 5 10
11	Coimbatore ..	78,354	16,941	20,723	98.7	28.4	34.4	27,818	77,857	0 5 9
12	Cuddapah ..	48,839	3,872	16,431	97.5	10.4	32.6	16,844	23,463	0 9 0
13	Godavari, East ..	47,361	6,021	13,463	95.7	17.9	30.0	29,537	46,040	0 7 1

14	Godavari, West ..	35,408	7,215	10,908	98.9	29.3	29.3	15,253	38,675	0 7 3
15	Kistna ..	74,840	7,322	22,432	96.8	14.7	23.0	28,318	51,660	0 8 4
16	Kurnool ..	72,827	9,554	21,848	96.3	18.7	36.8	21,868	41,803	0 8 4
17	Madura ..	85,085	9,027	25,014	94.7	15.0	41.7	19,665	40,372	0 7 9
18	Malabar ..	118,169	33,458	30,455	98.3	40.5	46.7	29,672	85,531	0 5 3
19	Nellore ..	145,187	31,022	32,471	99.9	27.5	30.7	36,008	121,185	0 4 9
20	Nilgiris, The ..	80,861	8,755	21,489	95.1	14.9	33.8	30,748	48,683	0 10 1
21	Ramnad ..	16,838	2,934	3,272	99.7	20.9	54.9	7,781	6,754	1 2 4
22	Salem ..	85,569	12,762	27,764	97.4	22.1	35.0	23,772	60,787	0 6 3
23	South Kanara ..	118,348	16,229	34,048	96.9	19.6	38.0	32,033	84,559	0 5 10
24	Tanjore ..	56,782	12,276	16,589	99.2	30.5	40.0	17,779	52,168	0 5 6
25	Tinnevely ..	70,278	11,135	17,554	96.8	21.1	29.9	22,973	63,845	0 7 6
26	Tiruchinopoly ..	83,423	14,924	25,586	97.3	23.3	36.8	28,587	59,013	0 5 6
27	Visagapatnam ..	67,730	13,573	17,532	99.0	27.9	37.0	21,986	63,881	0 5 4
28	Total of districts	1,834,758	313,599	511,018	97.7	24.1	35.9	41,661	1,459,491	0 6 5

Statement No. I showing the Particulars of Vaccination in the Province of Madras for the official year 1938-39—cont.

Number.	Municipalities.	Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Total.	(21) Number of all successful primary vaccinations, and re-vaccinations.	(22) Average cost of each successful case.
		Re-vaccination.		Unknown.	Primary vaccination.	Re-vaccination.				
		Successful.	Unknown.							
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)		
Total number of operations.	Successful.	Unknown.	Primary vaccination.	Re-vaccination.	Persons successfully vaccinated per 1,000 of population.	Total.	Number of all successful primary vaccinations, and re-vaccinations.	Average cost of each successful case.		
1 Adoni ..	3,214	1,114	689	100.0	44.1	1,277 0 0	2,415	0 8 5		
2 Anakapalle ..	2,002	167	1,483	96.4	32.6	747 13 2	769	0 15 2		
3 Anantapur ..	2,604	691	1,777	100.0	28.5	622 0 0	1,347	0 7 5		
4 Bellary ..	5,183	617	1,066	99.3	12.3	1,474 0 6	2,521	0 9 0		
5 Bezawada ..	6,573	1,212	714	99.9	21.0	1,757 2 3	8,531	0 8 0		
6 Bimlipatam ..	1,097	315	..	99.4	24.5	491 11 0	623	0 12 7		
7 Bodinayakanur ..	2,385	680	..	99.8	31.6	298 5 6	1,713	0 2 9		
8 Calicut ..	13,164	2,535	1,297	80.2	23.3	2,292 11 0	6,483	0 5 8		
9 Cananore ..	2,068	148	512	98.5	9.5	910 5 3	983	1 0 6		
10 Chozacole ..	1,263	541	..	100.0	43.8	694 10 4	973	0 11 4		
11 Chidambaram ..	2,125	532	275	99.7	29.8	632 13 0	1,325	0 7 8		
12 Chingleput ..	2,617	1,030	171	100.0	44.2	485 4 0	1,321	0 4 0		
13 Chitrala ..	1,431	603	214	99.7	49.5	591 15 6	1,320	0 7 2		
14 Chittoor ..	13,472	645	2,129	98.5	5.7	639 3 3	2,687	0 6 5		
15 Cocanada ..	6,295	811	737	99.9	14.6	1,591 6 4	2,284	0 11 3		
16 Cochín ..	2,123	562	91	100.0	27.6	1,224 10 9	1,589	0 12 4		
17 Coimbatore ..	15,159	1,366	2,446	99.8	10.7	2,434 6 7	5,139	0 7 7		
18 Conjeveram...	11,376	774	1,749	99.9	8.0	1,358 3 6	3,557	0 5 6		
19 Coochur ..	400	75	35	99.1	20.5	863 10 6	616	1 6 6		
20 Cuddalore ..	6,064	1,324	370	99.8	23.3	1,435 0 0	3,301	0 6 11		
21 Cuddapah ..	2,245	360	291	100.0	18.4	634 11 3	1,154	0 8 10		
22 Davatottai ..	2,082	159	947	94.8	13.9	306 8 0	672	0 7 0		
23 Disirupuram ..	1,075	365	76	100.0	33.5	432 1 6	933	0 7 4		
24 Dindigul ..	7,621	1,560	807	99.8	23.1	1,152 14 0	3,317	0 5 7		
25 Ellore ..	3,367	1,119	372	99.8	37.4	1,093 15 0	3,065	0 5 8		
26 Erode ..	2,870	646	49	99.8	22.9	816 8 6	1,612	0 8 1		
27 Gadivada ..	3,690	1,045	319	100.0	31.0	519 3 6	1,809	0 4 7		
28 Gudiattam ..	2,212	175	221	95.4	8.8	490 16 9	970	0 8 1		
29 Guntur ..	18,744	675	11,547	95.8	9.4	1,834 1 5	3,155	0 9 4		
30 Hindupur ..	1,935	422	136	95.1	23.5	609 0 9	982	0 9 9		
31 Hospet ..	2,137	192	1,082	99.7	18.2	571 15 0	1,296	0 7 1		
32 Karaikudi ..	1,468	246	603	100.0	23.4	514 11 0	872	0 9 5		
33 Karur ..	1,885	1,499	186	100.0	31.1	682 16 6	2,359	0 4 3		
34 Kodakāmal ..	224	59	36	100.0	30.9	269 0 6	433	0 9 11		
35 Kumbakonam ..	8,535	27	1,362	97.9	0.4	1,613 12 5	2,060	0 12 7		
36 Kurnool ..	13,308	3,570	1,478	97.9	30.2	626 2 6	5,227	0 1 11		
37 Madras ..	272,570	37,377	71,711	99.8	19.6	31,891 16 7	72,332	0 7 0		
38 Madura ..	63,103	14,131	7,730	99.0	25.5	7,638 7 2	22,150	0 5 6		
39 Mangalore ..	9,311	2,749	300	98.0	23.6	2,127 1 0	5,652	0 6 0		
40 Mannargudi ..	1,912	152	800	98.9	13.7	492 5 2	780	0 10 1		
41 Masulipatam...	2,747	457	344	99.6	13.4	1,361 5 0	2,083	0 10 7		
42 Māvavaram ..	5,714	704	2,045	93.7	14.2	673 9 0	1,772	0 6 1		
43 Nandyāl ..	2,217	351	283	97.2	17.7	621 9 3	1,007	0 9 10		
44 Narasaraopet ..	1,016	174	81	100.0	18.6	670 4 0	563	1 3 1		
45 Negapatam ..	5,064	711	1,271	99.6	18.7	612 4 3	2,048	0 4 9		
46 Nellore ..	7,122	1,338	632	98.6	20.8	1,520 8 9	8,541	0 6 10		
47 Ongole ..	930	580	64	100.0	61.2	452 3 0	1,047	0 7 8		
48 Ottacamund ..	533	143	52	100.0	29.7	44.7	1,109	0 13 5		
49 Palacole ..	1,803	597	643	99.3	51.5	567 4 3	1,034	0 8 9		
50 Palacootah ..	4,864	379	114	100.0	18.5	879 12 3	1,625	0 8 9		
51 Palghat ..	2,811	914	284	99.5	25.9	1,057 11 0	2,429	0 6 11		
52 Paini ..	2,655	920	82	100.0	35.8	588 10 5	1,652	0 5 8		
53 Peddapatam ..	1,085	271	294	100.0	34.3	394 14 0	631	0 7 7		
54 Periyakulam ..	1,017	123	233	99.8	15.7	336 0 0	1,087	0 5 8		

Statement No. I showing the Particulars of Vaccination in the Province of Madras for the official year 1933-39—cont.

Number.	(2)	(3)	(4)	Total number of persons vaccinated.			(8)	Primary vaccination.				(13)	
				Males.	Females.	Total.		Average number of persons vaccinated.	Total number of operations.	Under 1 year.	1 and under 6 years.		Total of all ages.
Municipalities.													
65	Pollechi	22,112	1+2	2,325	2,170	4,495	1,498	783	425	275	713	67	
66	Prodiat	20,124	1+1	1,672	318	2,490	1,245	622	473	112	591	27	
67	Rajahmundry	63,526	3+5	3,255	4,725	8,080	1,003	1,962	1,189	727	1,851	18	
68	Saidapet	33,927	3+3	4,665	3,057	8,062	1,842	1,373	894	541	1,479	91	
69	Salem	102,179	3+0	11,351	12,655	24,006	8,002	4,678	2,927	1,547	4,833	...	
70	Sivakasi	15,212	1+1	1,213	661	2,144	1,072	536	230	264	525	...	
71	Srirangam	24,668	1+2	1,963	1,318	2,581	860	721	539	175	721	...	
72	Srivilliputhur	32,885	2+2	2,829	2,314	5,143	1,256	1,086	810	256	1,076	...	
73	Tadipatri	12,020	1+1	1,348	760	2,108	1,054	636	295	327	638	4	
74	Tanjore	66,889	3+5	4,431	4,157	9,108	1,123	2,656	1,719	883	2,639	25	
75	Tellicherry	30,349	2+2	1,135	1,032	2,167	542	908	461	410	895	13	
76	Tenali	34,580	2+3	2,850	1,539	4,439	888	1,367	673	626	1,241	43	
77	Tinnevely	57,078	3+4	4,372	3,220	7,562	1,035	1,842	826	320	1,191	107	
78	Trichinopoly	142,843	6+11	11,124	8,539	17,673	1,040	5,757	3,553	2,182	5,656	58	
79	Tirupati	19,122	1+2	1,559	1,034	2,594	1,065	562	498	53	652	...	
80	Tirupattur	18,269	1+3	1,620	1,000	2,620	873	634	271	279	623	...	
81	Tiruppur	19,059	1+2	1,831	1,064	2,895	965	1,015	505	452	971	32	

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72	Tiruvārur	...	...	20,871	1+2	1,537	685	2,222	741	663	432	209	652	11
73	Tiruvannamalai	...	...	27,768	1+2	3,641	2,744	6,385	2,125	685	282	365	671	12
74	Tuticorin	...	...	60,827	3+6	4,427	8,096	7,523	386	2,534	1,197	994	3,323	168
75	Udumalpet	...	...	12,184	1+1	1,420	643	1,962	681	444	177	253	487	...
76	Udipi	...	...	17,250	1+1	2,737	2,235	5,032	2,516	834	432	410	891	...
77	Vaniyambadi	...	...	22,940	1+2	1,392	778	2,170	723	958	543	358	953	...
78	Vellore	...	...	57,265	3+4	8,002	4,944	12,946	1,849	2,715	1,633	1,019	2,701	13
79	Vilupuram	...	...	20,127	1+2	785	451	1,236	412	764	355	349	732	...
80	Virudhunagar	...	...	32,031	1+2	1,680	1,716	3,396	1,132	1,319	968	324	1,804	13
81	Vizagapatnam	...	...	57,303	3+5	4,715	6,125	9,840	1,280	2,089	1,028	962	2,056	15
82	Vizianagaram	...	...	44,696	3+4	3,373	3,073	6,446	921	1,842	1,158	670	1,751	77
83	Wajanjpet	...	...	11,102	1+1	641	651	1,292	646	342	259	79	342	...
	Total of Municipalities	3,715,160	218+ 224*	481,284	359,937	841,221	1,903	152,232	94,270	50,240	147,605	3,428		
1	Bangalore	...	...	...	2	715	558	1,273	636	377	203	146	349	...
2	Secunderabad	...	...	...	6	20,375	19,475	39,850	6,642	4,735	3,226	940	4,204	279
	Total of Cantonnments	...	...	...	8	21,090	20,038	41,123	5,140	5,112	3,429	1,066	4,553	279
	Poonamallee Health Unit	43,589	47	5,816	5,203	11,122	2,781	2,012	1,091	652	1,805	165		
	Canvey-Mettur Project	...	1	490	473	872	972	410	64	160	226	180		
	Total of cases vaccinated by Medical Subordinates and Port Health Officers.	...	...	11,306	129	11,435	...	59	3	4	53	1		
	Total of cases performed under Railway ad- ministration	...	...	7,537	3,323	10,880	...	1,822	742	825	1,054	135		
	Dispensaries	...	...	58	70	128	...	111	29	60	89	10		
	Grand total	44,422,597	321+439	2,250,460	1,780,834	4,041,284	3,052	1,461,547	661,609	537,362	1,226,892	156,354		

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* Sanitary Inspectors of municipalities are also doing vaccination work.
† Health Inspectors.

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Statement No. I showing the Particulars of Vaccination in the Province of Madras for the official year 1938-39—cont.

Number.	Municipalities.	Re-vaccination.		(16)	(17)	(18)	(19)	(20)	(21)	(22)
		Successful.	Total number of operations.							
		(15)	(14)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
55	Pollachi	324	3,712	812	99.6	11.6	50.1	534 15 0	1,107	0 7 9
56	Proddatur	484	1,969	258	99.3	30.0	53.4	710 9 11	1,075	0 10 7
57	Rajahmundry	604	6,044	256	99.3	10.4	40.2	1,286 11 6	2,553	0 8 1
58	Saidapet	851	6,475	1,601	93.5	17.5	70.5	727 14 2	2,330	0 5 0
59	Salom	4,153	19,828	...	92.0	21.5	82.0	2,131 8 6	8,786	0 3 11
60	Sivakasi	403	1,612	...	97.9	25.0	61.0	160 0 0	928	0 2 9
61	Srirangam	377	1,660	18	100.0	47.6	64.8	479 0 9	1,593	0 4 10
62	Srivilliputtur	630	4,061	78	99.1	15.6	52.4	942 4 0	1,496	0 8 11
63	Tadipatri	147	1,473	85	99.4	10.7	61.4	360 12 6	775	0 7 5
64	Tanjore	497	6,453	1,360	100.0	9.6	46.7	1,650 8 0	3,126	0 8 5
65	Tellicherry	325	1,259	186	100.0	21.0	39.9	1,187 0 0	1,120	1 0 11
66	Tenali	839	3,155	487	99.8	31.4	60.2	1,132 13 3	2,050	0 8 6
67	Tinnevely	675	6,270	997	95.8	10.9	30.8	1,484 13 1	1,766	0 13 7
68	Tirunelvely	3,327	11,946	1,267	99.3	36.8	67.1	2,762 5 6	9,583	0 4 7
69	Tiruchinopoly	311	2,642	511	100.0	27.0	61.6	500 0 0	1,182	0 8 1
70	Tirupathi	356	1,936	...	98.3	17.9	53.5	756 15 0	979	0 12 10
71	Tirupattur	149	1,830	729	99.0	12.2	62.0	459 7 0	1,120	0 7 0

72	Tiruvārūr	801	1,559	100.0	65.6	71.3	444 0 0	1,453	0 4 11
73	Tiruvannamalai	1,108	5,701	99.7	26.0	64.1	661 11 7	1,779	0 5 11
74	Tuticorin	1,015	4,992	99.2	20.9	55.8	1,363 0 3	3,338	0 7 11
75	Udumalpet	230	1,518	98.9	20.6	59.7	430 1 0	727	0 9 6
76	Udipi	1,678	4,139	99.7	42.5	148.0	449 1 0	2,559	0 2 0
77	Vaniyambadi	493	1,217	100.0	48.6	63.0	552 8 3	1,446	0 9 1
78	Vellore	2,632	10,231	99.9	29.4	93.1	1,152 2 6	5,333	0 3 6
79	Villupuram	68	472	98.6	14.4	39.7	556 8 0	800	0 11 2
80	Virudhunagar	795	2,077	99.8	40.9	63.6	478 1 7	2,039	0 3 8
81	Vizagapatnam	1,033	7,761	99.1	14.2	53.9	2,431 5 11	3,088	0 12 7
82	Vizianagaram	688	4,609	99.2	22.9	54.8	1,417 8 0	2,439	0 9 4
83	Walajapet	377	950	100.0	39.2	55.8	277 15 0	619	0 7 2
Total of Municipalities		116,935	689,306	99.4	31.1	71.3	1,15,085 0 0	284,843	0 6 11
1	Bangalore	745	896	92.6	83.1	...	708 0 0	1,094	0 10 4
2	Secunderabad	11,497	35,294	94.3	88.4	...	4,240 15 8	15,701	0 4 4
Total of Cantonnments		12,242	36,190	94.2	82.7	...	4,948 15 8	16,795	0 4 9
Poonamallee Health Unit		1,657	9,170	97.7	31.9	79.4	1,549 14 6	9,492	0 7 2
Cauvery-Mettur Project		14	564	93.3	4.6	...	...	...	...
Total of cases vaccinated by Medical Subordinates and Port Health Officers.		5,687	11,376	100.0	68.8	...	...	...	...
Total of cases performed under Railway administration		869	9,063	98.0	19.9	...	...	...	...
Dispensaries		14	17	98.0	87.5	...	...	...	...
Grand total		456,330	2,590,449	97.9	23.6	39.5	7,18,952 13 7	1,744,551	40 6 7

* This excludes vaccination work done in Cauvery-Mettur project by medical subordinates under railway authorities and in dispensaries.

† The average cost of each successful case was calculated on the number of successful vaccinations performed by the special staff only, viz., Local Fund, Municipal and Poonamallee Health Unit and exclusive of Rs. 267-18-9 being the total amount of recoveries made for wastage of lymph.

Summary of Statement No. I.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.		Total cost of department.		Number of all successful vaccinations performed.		Average cost of each successful case.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.			Rs.	A. P.			Rs.	A. P.
<i>By special staff.</i>																		
Districts excluding municipalities ...	1,233,755	1,324,659	1,320,099	1,324,753	97.7	24.1	697 + 223	3,595	561,872	544,235	85.9	5,06,498	15 5	1,452,431	0 6 6			
Municipalities ...	151,915	659,303	152,232	659,306	99.4	21.1	218 + 224	1,806	84,270	50,240	71.3	1,15,065	0 0	284,913	0 6 11			
Poonamallee Health Unit ...	1,971	9,151	2,012	9,170	97.7	21.9	0 + 4	2,751	1,091	652	79.4	1,519 14 6		3,402	0 7 2			
Total ...	1,413,621	2,553,115	1,474,333	2,533,254	97.9	23.2	825 + 490	3,024	657,233	595,227	38.6	7,18,183	13 11	1,737,796	0 6 7			
<i>By Military Commissioners ...</i>	4,933	35,190	5,112	36,190	94.2	39.7	8 + 0	5,140	3,429	1,086	...	4,498 15 8		16,795	0 4 9			
<i>By Medical Subordinates and Port Health Officers.</i>	59	11,376	59	11,376	100.0	58.8	...	...	3	4	...	...		...	...			
<i>By Railway Dispensaries ...</i>	1,322	9,063	1,322	9,068	98.0	19.0	...	...	742	825	...	...		...	...			
<i>Cauvery-Mettur project ...</i>	408	564	410	564	96.3	4.8	1	972	64	100	...	...		...	...			
<i>Dispensaries ...</i>	111	17	111	17	98.0	87.5	...	...	29	60	...	...		...	...			
Total ...	1,450,954	2,590,330	1,481,847	2,539,449	97.9	23.6	634 + 450	3,052	661,500	597,362	39.5	7,18,082	13 7	1,744,031	0 6 7			

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Statement No. II showing the number of Persons primarily vaccinated and the Number of those Persons who were successfully vaccinated in the Province of Madras in each of the undermentioned years.

Persons primarily vaccinated in the Madras Presidency.														
(1)	1922-1930.				1930-1931.		1931-1932.		1932-1933.		1933-1934.			
	Total number.	Number success-fully vaccinated.	Total number.	Total number.	Number success-fully vaccinated.	Total number.	Number success-fully vaccinated.	Total number.	Number success-fully vaccinated.	Total number.	Number success-fully vaccinated.	Total number.	Number success-fully vaccinated.	Total number.
Government vaccinators	20,536	23,594	22,809	21,481	29,459	24,574	21,160	28,113	50,822	26,415	...	...	...	...
Local Fund do.	1,270,254	1,165,405	1,257,794	1,162,672	1,343,329	1,235,234	1,233,161	1,127,868	1,113,453	981,421	...	...	...	...
Cantonment do.	5,906	5,600	5,346	4,950	6,172	5,466	5,473	5,114	6,788	6,296	...	...	...	...
Municipal do.	120,179	117,136	122,184	119,872	129,593	127,430	133,177	131,112	144,773	141,093	...	...	...	...
Dispensaries	1,857	1,843	983	960	999	958	745	740	109	107	...	...	...	...
Medical subordinates	110	101	262	247	244	186	193	169	189	179	...	...	...	...
Railways	666	825	1,345	1,303	1,328	1,274	2,808	2,653	1,889	1,769	...	...	...	...
Total	1,495,624	1,314,603	1,411,723	1,311,491	1,608,024	1,386,151	1,406,717	1,325,209	1,387,629	1,137,691	...	...	...	...

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Statement No. II showing the number of Persons primarily vaccinated and the Number of those Persons who were successfully vaccinated in the Province of Madras in each of the undermentioned years—cont.

Persons primarily vaccinated in the Madras Presidency—cont.										
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
	1934-1935.	1935-1936.	1936-1937.	1937-1938.	1938-1939.					
Government vaccinators ...	29,681	24,102	26,590	24,438	8,844	7,304	9,471	7,094	8,896	7,862
Local Fund do. ...	1,305,534	1,034,746	1,250,893	1,092,020	1,252,418	1,050,939	1,204,411	1,115,512	1,011,303	1,183,030
Cantonment do. ...	4,535	3,971	5,613	4,376	6,002	5,312	6,002	5,231	5,112	4,553
Municipal do. ...	159,000	134,906	123,879	123,731	182,162	125,020	142,979	132,407	152,232	147,805
Dispensaries ...	...	...	...	...	...	...	...	...	111	29
Medical subordinates ...	1,000	1,400	374	342	389	197	39	78	59	58
Railways ...	2,111	1,919	1,961	1,804	1,523	1,457	1,074	1,500	1,823	1,654
Poonamallee Health Unit	...	...	...	...	1,917	1,769	1,640	1,449	2,012	1,805
Canvey-Mettur project ...	...	...	...	...	...	...	237	141	410	220
Total ...	1,951,172	1,491,973	1,418,063	1,220,915	1,403,254	1,103,078	1,353,513	1,271,233	1,481,817	1,390,692

Statement No. III showing the Number of Vaccinations performed in Municipal Towns on Children under One Year of Age (G.O. No. 1534 L., dated 6th December 1909).

Municipalities.	Number of births available for vaccination during the year 1938-39.	Number of deaths amongst children under one year during the year.	Number of successful vaccinations on children under one year during the year ending March 1939.	Percentage of infantile vaccination to total births.	
				1937-38.	1938-39.
Adoni ...	1,512	319	751	68.0	64.0
Anakāpalle ...	1,022	200	415	52.9	40.8
Anantapur ...	802	54	285	61.0	62.0
Bollary ...	2,173	353	1,212	59.4	53.26
Bezawada ...	2,712	780	551	33.7	38.0
Bhimlipatam ...	417	70	255	68.0	61.1
Bodhinayakkanur ...	1,123	197	771	91.8	70.3
Bellur ...	5,877	569	3,231	50.3	48.2
Dannanore ...	1,048	121	506	41.7	48.5
Dharmacole ...	887	91	285	60.0	56.0
Dharmabaram ...	884	150	424	44.3	42.1
Dharmaput ...	828	105	323	48.7	56.59
Dharmala ...	702	80	219	42.4	51.1
Dharmoor ...	1,095	159	448	46.9	51.6
Dharmada ...	2,059	325	656	52.0	37.0
Dharm ...	930	138	629	67.3	68.7
Dharmatole ...	4,087	609	1,718	68.4	54.9
Dharmavaram ...	4,593	506	1,925	73.8	65.0
Dharmoor ...	577	82	319	59.5	61.51
Dharmatole ...	2,388	372	1,070	44.4	45.43
Dharmapah ...	1,115	145	422	47.8	49.1
Dharmakottah ...	557	79	201	40.0	40.0
Dharmāparam ...	577	52	236	73.2	70.06
Dharmigal ...	2,121	350	1,538	71.0	72.41
Dharm ...	2,421	552	1,033	56.8	53.0
Dharm ...	1,060	66	285	37.2	42.3
Dharmivada ...	806	133	495	51.7	61.2
Dharmiyattam ...	1,315	230	687	37.0	32.1
Dharm ...	4,579	907	1,183	24.3	23.6
Dharmapur ...	642	91	308	37.8	60.1
Dharm ...	914	143	597	32.2	77.77
Dharmakudi ...	885	120	234	42.0	22.4
Dharm ...	251	143	248	39.7	30.7
Dharmakanal ...	382	45	206	98.6	98.2
Dharmakannam ...	2,944	330	1,113	39.2	37.8
Dharmool ...	623	204	532	84.7	85.3
Dharmas ...	31,808	4,544	14,405	68.3	72.9
Dharmas ...	3,038	1,804	5,387	67.7	64.8
Dharmalere ...	2,643	164	1,810	80.9	73.21
Dharmakudi ...	824	122	343	38.9	36.8
Dharmipatam ...	2,747	463	677	29.2	20.08
Dharmavaram ...	1,054	104	674	55.9	54.4
Dharmyal ...	883	125	392	51.4	55.04
Dharmasapet ...	584	134	236	67.0	55.0
Dharmapattam ...	1,750	368	554	48.3	56.7
Dharm ...	2,920	341	997	27.1	41.8
Dharmole ...	756	141	277	52.8	40.0
Dharmamund ...	1,104	120	663	65.6	63.2
Dharmole ...	481	99	202	66.0	40.0
Dharmakottah ...	1,206	290	410	66.7	63.8
Dharmat ...	2,065	311	1,181	60.8	58.43

Statement No. III showing the Number of Vaccinations performed in Municipal Towns on Children under One Year of Age (G.O. M.S. No. 1534 L, dated 6th December 1909)—cont.

Municipalities.	Number of births available for vaccination during the year 1938-39.	Number of deaths amongst children under one year during the year.	Number of successful vaccinations on children under one year during the year ending March 1939.	Percentage of infantile vaccination to total births.	
				1937-38.	1938-39.
Patni ...	766	133	502	56.4	65.9
Peddāpuram ...	628	75	312	63.7	49.9
Periyakulam ...	1,053	171	662	82.1	71.79
Pollachi ...	956	202	425	47.5	44.1
Proddatūr ...	878	107	478	54.3	50.8
Rajshundry ...	2,507	554	1,020	53.4	47.86
Saidapet ...	1,417	201	894	61.6	65.1
Salem ...	4,176	550	2,560	57.3	58.5
Sivakāsi ...	462	68	260	63.0	98.5
Srirangam ...	830	98	443	89.1	87.44
Srivilliputtūr ...	1,235	202	779	62.0	67.0
Tadpatri ...	498	72	242	30.2	53.54
Tanjore ...	2,961	419	1,460	50.7	51.7
Tellicherry ...	800	121	467	48.0	47.67
Tenali ...	1,062	173	315	31.3	47.32
Tinnevelly ...	2,302	483	809	46.1	35.1
Trichinopoly ...	9,967	1,557	4,636	51.3	55.8
Tirupati ...	714	118	360	75.5	69.74
Tirupattūr ...	898	88	271	34.6	31.8
Tiruppur ...	1,258	204	505	42.1	37.1
Tirovārūr ...	802	158	311	47.4	53.8
Tiruvannāmalai ...	1,435	210	292	42.8	20.34
Tuticorin ...	2,164	399	980	49.4	48.5
Udamalpet ...	767	98	176	38.0	43.5
Udipi ...	702	92	402	23.8	41.6
Vāniyambādi ...	1,053	174	506	58.9	60.0
Vellore ...	3,229	427	1,523	50.4	47.1
Villupuram ...	693	71	266	64.0	61.2
Virudhunagar ...	1,891	238	885	68.5	95.5
Vizagapatam ...	2,645	484	759	49.4	43.92
Vizianagram ...	2,070	374	994	46.3	63.5
Walajapet ...	363	48	224	55.6	61.7

Statement No. IV—Comparative statement showing Infantile Vaccination in Districts for 1937-38 and 1938-39.

Number.	Districts.	Percentage of infantile vaccination to total births registered.		Increase or decrease.	Number.	Districts.	Percentage of infantile vaccination to total births registered.		Increase or decrease.
		1937-38.	1938-39.				1937-38.	1938-39.	
1. Anantapur ...		38.9	38.3	- 0.6	13. Karnool ...		34.9	35.4	+ 0.5
2. Arcot, North ...		47.0	49.2	+ 2.2	14. Madura ...		60.0	57.9	- 2.1
3. Arcot, South ...		33.4	32.0	- 1.4	15. Malabar ...		39.1	38.8	- 0.3
4. Bellary ...		41.2	44.5	+ 3.3	16. Nellore ...		32.0	33.4	+ 1.4
5. Chingleput ...		33.5	35.1	+ 1.6	17. Nilgiris, The ...		47.8	59.5	+ 8.7
6. Chittoor ...		45.4	40.9	- 4.5	18. Ramanad ...		35.4	52.8	+ 2.9
7. Coimbatore ...		40.4	36.4	- 4.0	19. Salem ...		33.8	38.9	+ 5.1
8. Cuddapah ...		44.2	41.8	- 2.4	20. South Kanara ...		26.8	35.2	+ 8.4
9. Godavari, East ...		29.8	27.9	- 1.9	21. Tanjore ...		26.5	31.2	+ 4.7
10. Godavari, West ...		36.1	27.1	- 9.0	22. Tinnevelly ...		47.1	45.0	- 1.5
11. Guntur ...		30.9	33.3	+ 2.4	23. Trichinopoly ...		46.4	39.8	- 6.6
12. Kistna ...		37.0	30.8	- 6.2	24. Vizagapatam ...		34.2	35.5	+ 1.2

FORTY-NINTH ANNUAL REPORT OF THE SANITARY ENGINEER TO THE GOVERNMENT OF MADRAS FOR THE YEAR 1938.

1. *Water-supply Schemes.*—The Virudunagar water-supply scheme came into operation during the year and the number of towns both municipal and panchayat having the benefit of protected water-supply schemes is now 43 as against 42 in the previous year.

2. The following is a list of new water-supply schemes or improvement schemes for existing works for which funds were allotted in the budget for the first time.

Name of work.	Estimated cost. RS.	Remarks.
1 Calicut water-supply scheme	13,97,000	Work started in January 1939.
2 Coimbatore water-supply improvements.	2,40,000	Work not taken up pending revision of scheme contemplated.
3 Ellore water-works—Construction of an additional filter bed.	40,000	Vide remarks under item 4 (8) below.
4 Hindupur water-supply scheme	2,08,620	Vide remarks under item 6 below.
5 Gudiyattam water-works improvements.	98,000	Works in progress.
6 Perur water-supply	8,200	Vide remarks under item 12 below.
7 Mathiapalayam water-supply	9,300	Vide remarks under item 13 below.
8 Mettupalayam water-supply	1,75,000	Actual work is to be started in 1939.
9 Valparai water-supply	22,000	Vide remarks under item 24 below.

3. The progress of new water-supply schemes under execution during the year is as under:—

Number and name of work.	Estimated cost. RS.	Expenditure to end of December 1938. RS.	Agency of execution.	Progress.
1. Adoni water-supply—Hagari scheme.	7,70,000	1,20,111	P.W.D.	... Sinking of suction and infiltration wells and laying of and connecting syphon pipes completed. Laying of pipes for pumping main in progress.

Number and name of work.	Estimated cost. RS.	Expenditure to end of December 1938. RS.	Agency of execution.	Progress.
2 Arkonam water-supply.	1,92,400	1,53,185	P.W.D.	... Service reservoir, suction well and infiltration gallery completed. Laying and jointing of pipes practically completed. Engine house nearing completion and pumping plants received for erection.
3 Batlagunda water-supply.	71,000	8,203	District Board and P.W.D. control.	Well sunk and yield test completed. Design of distribution works in progress.
4 Bodinayakanur water-supply.	5,82,710	829	P.W.D.	... Land acquisition and planting of demarcation stones in progress.
5 Calicut water-supply.	13,97,000	...	Do.	... Work started in January 1939.
6 Cuddapah water-supply (Penuar scheme).	2,85,000	...	Do.	... Owing to freshes in the river no appreciable progress was made. The connecting main for the suction well was being laid. Section well—The retaining wall was built to a depth of 17½ feet.
7 Chodavaram water-supply.	70,000	...	District Board.	No information is available.
8 Karur water-supply.	2,94,100	...	P.W.D.	... The works completed are:— (1) Infiltration wells. (2) Providing syphon connections. (3) Suction well. (4) Pumping main. (5) H.C. reservoir.
9 Karamadai water-supply.	17,400	...	District Board.	Excavation of well and yield tests were in progress.
10 Manapparni water supply.	53,000	19,044	Do.	Watchman's quarters completed. Supply of pipes for pumping main and distribution system completed. Pump chamber progress.
11 Mettupalayam water-supply.	1,75,000	...	P.W.D.	... The estimate was sanctioned by the Superintending Engineer, Coimbatore Circle on 10th December 1938.
12 Perur, W. S.	8,200	...	...	The approval of the Coimbatore Municipality to lap water from the Siruvani Dam remains to be obtained before taking up the work.
13 Mathiapalayam, W. S.	9,200	...	...	Whether P.W.D. or District Board is to execute the scheme, is under consideration.

Number and name of work.	Estimated cost.	Expenditure to end of December 1938.	Agency.	Progress.
	Rs.	Rs.		
14 Peddapuram, W. S.	1,07,460	781	P.W.D.	Land acquisition still pending with Revenue Department
15 Penukonda, W. S.	47,736	50	District Board.	Revised proposals have been made and scheme can be taken up for execution only after orders of Government are received.
16 Hindupur, W. S.	2,08,620	352	P.W.D.	The question of revising the scheme so as to give house connexions is under consideration.
17 Pollachi, W. S.	4,78,000	...	Do.	Works nearing completion.
18 Sambiam, W. S.	1,25,550	...	Do.	Work of infiltration gallery in progress.
19 Salem-Mettur W. S.	22,37,000	50,722	Do.	Works in Nungavalli in progress. A fair weather road was formed to a length of two miles along the line of pumping main alignment. Acceptance of tenders for gravitation main, reservoir and pipes was in correspondence.
20 Srirangam, W. S. (Cheap scheme.)	85,000	7,904	Do.	The construction of motor and pump house and compound wall for head-works completed.
21 Tiruppur, W. S.	1,84,000	...	Do. (with municipal staff.)	Works in progress.
22 Tiruvallur, W. S.	1,32,400	43,495	P.W.D.	Work in full swing. Almost the full length of pumping main has been laid and infiltration gallery completed. The suction well was sunk.
23 Virudhunagar, W. S.	6,75,000	6,15,468	Do.	The work was completed and handed over to the municipality on 1st August 1938.
24 Valparai, W. S.	22,000	...	...	Whether work is to be executed by P.W.D. or District Board is under consideration.
25 Voyalpad, W. S.	41,000	25	District Board.	Materials to start work were being collected.

4. Improvements to and extensions of the existing schemes were in progress or completed in the following towns to meet the needs of the growing population :—

1 Anantapur, W. S.	14,050	12,734	P.W.D.	Works were completed during the year.
2 Bezvada, W. S.	2,41,700	...	Municipality under the control of P.W.D.	Work in progress.

Number and name of work.	Estimated cost.	Expenditure to end of December 1938.	Agency.	Progress.
	Rs.	Rs.		
3 Coonoor W. W. improvements (Ralliah Dam.)	1,92,000	...	Municipality and P.W.D. control.	The construction of the dam is in progress.
4 Cocanada W. W. Improvements Part II—(1) Construction of R. C. reservoir, and (2) Installation of mechanical filter plant.	1,96,000	43,461	Do.	All the concrete work in the reservoir was completed. The pipe connexions were partly laid.
5 Guntur Municipality Yengalapalem W. W. improvements.	72,500	...	Municipality.	Work completed in March 1938.
6 Dindigul W. W. improvements.	12,400	...	Municipality and P.W.D. control.	The Pandiyan well was sunk to a depth of 40 feet. An electrical pump set was put up.
7 Electrification of Erode W. W. pumping plants.	50,800	...	Municipality.	Work practically completed but for installation of meter.
8 Ellore W. W. —Construction of a fourth filterbed.	40,000	...	P.W.D.	Indent for pipes placed through the Indian Stores Department.
9 Gudivattam W. W. improvements.	98,000	...	Do.	Indent for pipes placed with Indian Stores Department. Tenders for service reservoir were called for and tenderers for other items of work selected.
10 Kodaikanal W. W. improvements (Storage tank).	21,150	...	Do.	Work started in January 1939.
11 Nellore W. W. improvements.	96,000	73,180	Do.	The work was practically completed during the year.
12 Saidapet W. S. Extension to Mambalam, Guindy, etc.	69,570	47,685	Do.	The work has been completed with the exception of fixing air valve over Guindy Bridge.

5. Investigations that were in progress or were completed during the year—

- 1 Tirupathi-Tiruchanur W. S. Investigation suspended pending examination of existing riparian rights.
- 2 Arantangi W. S. investigation. Investigation completed. The detailed drawing up of the scheme is taken up.
- 3 Tanjore W. S. investigation ... Investigation completed. Report is under preparation.

4 Pithapuram W.S. investigation. Investigation completed. Preliminary report under correspondence with Chief Engineer.

5 Sivaganga W.S. investigation. Investigation in progress.

6. Preparation of plans and estimates were in progress for the following schemes :—

	Rs.
1 Srivilliputtur W.S. scheme	5,63,500
2 Chittoor W.S. scheme	3,60,000
3 Cochin W.S. scheme	1,50,000
4 Palamcottah W.S. (but held up)	4,57,000

7. Plans and estimates submitted to Government—

Srivilliputtur water-supply	5,63,000
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8. Drainage. —No new drainage schemes were brought into operation during the year and the number of municipal towns possessing drainage system continues to be only four, the same as in the previous year.

9. Progress in execution of drainage schemes—

Name of work.	Estimated cost.	Expenditure to end of December 1933.	Agency.	Progress.
Rs.	Rs.			
Bezwada drainage ...	7,54,800	6,08,457	P.W.D.	The scheme has been put into operation. Work in overflow drain in Railway Colony was taken up. Work on hill drains 2 and 3 completed. Construction of main carrier for sewage farm in progress.
Bucepet drainage scheme (Bellary Municipality.)	4,39,000	1,50,686	Do.	Construction of open drains in progress. Sewage farm is laid out. Improvements to storm water drains were also in progress.
Salem drainage ...	5,45,000	1,43,516	Municipality under P.W.D. control.	Fourth instalment of the piecemeal execution of the drainage scheme was started in September.
Negapatam drainage.	6,74,500	86,163	P.W.D.	Construction of open drains and intercepting sewers and laying of pumping main in progress.
Rajahmundry partial drainage,	2,51,900	61,184	Municipality.	Construction of intercepting drains and laying of pumping mains in progress. Pump well, suction and screening wells and motor and pump-house completed.

Name of work.	Estimated cost.	Expenditure to end of December 1933.	Agency.	Progress.
Rs.	Rs.			
Srirangam drainage main scheme.	3,25,500	42,413	P.W.D. with municipal staff.	Acquisition of land for sewage farm in progress. Sludge well practically completed. Open drains 10, 18 and 52 completed. The revision of the scheme in some respects was taken up.
Srirangam drainage —Construction of drains in Ammamandapam and Royagapuram.	13,100	3,781	Municipality.	Work completed.
Tirupati drainage ...	3,56,000	...	P.W.D.	Third instalment of piecemeal execution of drainage scheme was in progress.
Chittoor drainage partial.	...	...	Municipality.	Government have not been able to allot funds to take up the execution of the scheme in 1933-40 as originally programmed. The execution of the 1st instalment has necessarily to be put off.
Coimbatore drainage.	16,90,000	...	P.W.D.	The outfall sewer was carried out by the Municipality. Rest of the work to be taken up by the P.W.D.

10. Investigations in progress, or completed during the year or for which reports were being drawn up—

1 Calicut drainage ...	...	Investigation in progress.
2 Rasipuram drainage ...	...	
3 Saidapet drainage ...	...	
4 Udumalpet drainage ...	...	
1 Cocanada drainage ...	...	Investigation completed and report under preparation.
2 Chidambaram drainage ...	...	
3 Masulipalam drainage ...	...	
1 Conjeevaram drainage ...	...	Report sent to Government.
2 Tiruppur drainage...	...	
3 Vellore supplemental drainage.	...	

11. Preparation of plans and estimates was in progress for the following schemes :—

1 Dindigul drainage.	7 Nellore drainage.
2 Ellore drainage.	8 Palni drainage.
3 Karaikudi drainage.	9 Tenali drainage.
4 Kodaikanal drainage.	10 Tuticorin drainage, and
5 Hindupur drainage.	11 Virudhunagar drainage.
6 Madanapalle drainage.	

12. Drainage schemes submitted to Chief Engineer during the year—

- | | |
|-------------------------|---------------------------|
| 1 Madanapalle drainage. | 4 Tuticorin drainage, and |
| 2 Kodaikanal drainage. | 5 Virudhunagar drainage. |
| 3 Palni drainage. | |

13. Preliminary reports for the following fifteen water supply schemes and four drainage schemes were also prepared during the year—

	Approximate initial cost.	Approximate maintenance cost.
	Rs.	Rs.
Water-supply—		
1 Rasipuram water-supply	75,000	3,000
2 Mayavaram water-supply	2,87,000	6,200
3 Kayalpatnam water-supply and other villages.	5,24,000	11,000
4 Tindivanam Panchayat water-supply.	58,000	2,400
5 Sholingur water-supply	57,500	700
6 Nandyal water-supply	4,92,000	11,000
7 Guntur water-supply improvements—investigation since started.	20,26,000	26,000
8 Dowlaishwaram water-supply	65,000	2,500
9 Tuni and Samalkota water-supply (East Godavari district).	1,96,000	...
10 Draksharuna water-supply (East Godavari).	82,000	2,400
11 Renigunta water-supply	14,000	1,100
12 Vizagapatam water-supply (Gosthani river source).	16,12,000	23,700
13 Biccavole, Voolapalle, Gollalamamidadada Panchayats (East Godavari district).	{ 37,500 31,000 38,500	{ 1,900 1,850 1,800
14 Amalapuram, Razole and Sivakodu water-supply (East Godavari).	{ 90,000 27,000	{ 2,700 1,450
15 Nuzvid water-supply (Kistna district).	40,000	2,900

Drainage—

1 Chicacole drainage	3,78,000	3,700
2 Gopalapuram drainage	...	...
3 Guntur drainage	20,87,000	11,500
4 Tanuku drainage	8,500	...

14. The following water-supply and drainage investigations sanctioned by the Government remained to be taken up for want of staff or other reasons at the end of the year:—

- 1 Nandyal water-supply investigation.
- 2 Kumbakonam water-supply investigation (investigation taken up).

- 3 Palni water-supply—III stage.
- 4 Tenali water-supply investigation.
- 5 Anakapalle water-supply investigation.
- 6 Tanjore drainage investigation.
- 7 Rajapalaiyam water-supply investigation.
- 8 Arcot water-supply investigation (since taken up).
- 9 Gobichettipalaiyam water-supply investigation.
- 10 Guntakal water-supply investigation.
- 11 Sembiam drainage investigation (since taken up).
- 12 Tiruvannamalai drainage investigation.
- 13 Srivilliputtur drainage investigation.
- 14 Vriddhachalam water-supply investigation.
- 15 Dhone water-supply investigation.

15. *Miscellaneous.*—A statement showing particulars of estimates for sanitary works received from local bodies, scrutinized and sanctioned by this department is enclosed (Annexure I). Eighty estimates for Rs. 11,07,786 were sanctioned by this department during the year as against 71 estimates for Rs. 5,85,226 in 1937.

A statement showing the sanitary works done following the type designs of the Public Health Board is appended (Annexure II).

16. *Water-supply—Periodical analysis.*—As usual samples of water from the protected water-supplies were taken by the staff of the King Institute, Guindy, periodically and reports of analysis of water sent to this office and the local bodies concerned. The local bodies were advised to take steps, where necessary, to remedy defects.

17. *Experiments on water purification.*—Of the two experimental filter stations at Kilpauk and Guindy that were being maintained under the Sanitary Engineer's immediate control, the experimental station at Guindy was transferred to the Director, King Institute, in October 1938 and the question of transferring the experimental station at Kilpauk to the Corporation of Madras, is under the consideration of Government. Some experiments with activated carbon with the Red Hills water were in progress but owing to the threatened scarcity of water at the source of supply, the experiments were suspended in December 1938.

18. *Engineering College sewage disposal works.*—The maintenance of the Engineering College sewage disposal works which was under the control of the Sanitary Engineer was also transferred to the control of the Principal of the College.

19. *Lectures in Elementary Sanitary Engineering.*—As in previous years, the Instructor in Elementary Sanitary Engineering attached to this department continued to conduct the course of lectures on Elementary Sanitary Engineering to the students of Health Officers' and Sanitary Inspectors' classes in the Medical College, Madras. The necessity for a change in the system of training now in vogue is evident. The matter is under separate consideration.

20. *Engine Drivers and Water-works Fitters' examinations.*—The examinations for the grant of certificates of competency for Engine Drivers and Water-works Fitters were held in January 1938 by a Board of Examiners in the Public Works Workshops, Madras, with the Sanitary

Engineer as its President. The number of certificates granted is as under:—

				Number of certificates issued.	
				1937.	1938.
<i>Engine drivers—</i>					
Competency	...	...	...	28	53
Service	...	...	...	66	64
<i>Water works fitters—</i>					
Head-works fitter	...	...	...	18	12
Pipe-line fitter	...	...	...	25	17

The control of the conduct of these examinations has since been transferred to the Commissioner for Government Examinations—vide G.O. No. 19, P.W. (General), dated 5th January 1938.

21. *Inspection of water-works—Maintenance.*—The Sanitary Engineer and the Deputy Sanitary Engineers inspected the water-works under commission as far as time and funds permitted. The inspections reveal that generally in municipalities where protected water-supply schemes are in operation an officer of the grade of a Municipal Engineer is required in the Engineering department if the works are to be maintained in an efficient state. The absence of completion plans and connected and continuous reports on the schemes is a great handicap both to the Municipal Engineers who are in immediate charge of the works and to the inspecting officers. How best to remedy this state of affairs is under separate consideration.

22. *Pumping plants and machinery.*—The inspection of municipal pumping plants of both water-supply and drainage stations was done by the Mechanical Expert. This officer also prepared specifications for new plants and supervises their installation wherever necessary. A comparative statement of pumping particulars for the different stations prepared by this officer is annexed. (Annexure III).

23. *Municipal Engineers.*—Municipal Engineers have been appointed in 18 municipalities and the service is under the control of the Sanitary Engineer. In some large municipalities, such as, Negapatam, Conjeevaram, Erode, Karur, Vizagapatam, Masulipatam, Tirupathi, etc., where protected water-supplies installed at a large cost are in operation, the works continue to be in charge of subordinate officers, like Supervisors or Overseers. It is high time that competent Engineer Officers are employed by them. This aspect of the question deserves consideration when the re-organization of the Municipal Engineering service is taken up.

24. *Direction.*—Sri G. V. Rao continued as Sanitary Engineer to Government till 12th August 1938, forenoon when he was relieved by Mr. J. S. Westerdale, Superintending Engineer, Madras Circle. Mr. Westerdale held additional charge of the Sanitary Engineer's post till 30th December 1938, afternoon. In G.O. No. 4629 P.H., dated 22nd December 1938, Government have created a temporary post of

Superintending Engineer (Public Health) keeping the post of Sanitary Engineer in abeyance for the time being. The incumbent of the new post is designated as Superintending Engineer and Deputy Chief Engineer (Public Health). Sri A. V. Raman, Deputy Sanitary Engineer, Southern Circle, was appointed to it on 30th December 1938, afternoon.

The late Mr. Mahomed Howth held the post of Deputy Sanitary Engineer, Southern Circle, till 21st May 1938 when he suddenly died. The void caused by his death remains unfilled permanently. The Sanitary Engineer held additional charge of the Southern Circle till 10th June 1938, afternoon and Sri A. V. Raman from 11th June 1938, forenoon till 30th December 1938, afternoon.

Sri B. V. Narayana Rao, Officiating Deputy Sanitary Engineer, Northern Circle, died on 2nd January 1938 and the Sanitary Engineer held additional charge till 7th February 1938 and from this date the post is held by Sri K. Harihara Ayyar.

The post of Personal Assistant to the Sanitary Engineer was held by Sri S. L. N. Moorthy till 21st November 1938, afternoon except for the period 4th to 18th August 1938 when he was on leave, and Sri C. P. Subbaya held the post during the remaining part of the year.

Mr. S. A. Davis continued to hold the post of Mechanical Expert during the year.

25. *General.*—(i) During the year changes of a far-reaching character were introduced in the working of the department. Due to some administrative and executive defects brought to light the officer-in-charge of the department who was functioning as an independent head under the direct control of Government in the Public Health Department was placed under the administrative and technical control of the Chief Engineer, P.W.D. (General, Buildings and Roads), from 1st March 1938 as was the case prior to 15th December 1933. It is yet too early to assess the results of this change.

(ii) The recent policy with regard to the execution of major water-supply and drainage schemes has also been reversed, with a view to the speedy and efficient execution of these works (vide G.O. No. 2186, P.H., dated 15th June 1938). Such of the schemes as were being executed by the municipalities under the control of the Sanitary Engineer have been placed in direct charge of the Public Works Department or under its control. A special division and a few subdivisions have been created in the Public Works Department for this purpose. Much headway could however not be made as some of the schemes under execution required radical changes in the designs already sanctioned.

(iii) The present policy of conducting investigation of schemes as the first stage, preparation of detailed scheme plans and estimates as the second and the execution of the scheme as the third, has resulted in inordinate delays and even waste of money and labour. In many cases several years have elapsed between the time of investigation and the date of drawing up of plans as also between the stage of drawing up and the execution stage with the result that fresh levels had to be taken or the schemes had to be redesigned for execution to suit the altered conditions. In one or two cases schemes executed on the basis of plans and estimates prepared years previously have been found to fall short of requirements.

The progress should be continuous from the investigation stage to the completion of the work. It seems desirable to have a 5 or 10 years plan selecting water-supply and drainage schemes in the order of urgency with due regard to the funds available for execution of the schemes. The work of preparing plans and estimates during any year should be strictly confined to schemes that will be taken up for execution in the succeeding year. This change would avoid infructuous labour, time and money in the investigation and in the preparation of detailed plans and estimates for schemes which could not be taken up for execution for a long time to come.

MADRAS,
8th July 1939.

A. V. RAMAN,
Superintending Engineer (Public Health).

ANNEXURE I.

Statement showing the number and aggregate estimated cost of Sanitary Works prepared by local bodies and sanctioned or recommended for sanction by the Sanitary and Deputy Sanitary Engineers in 1938.

Particulars.	Water-supply.		Drainage.		Medical institutions.		Markets and slaughter houses.		Latrines.		Miscellaneous.	
	Number.	Amount. Rs.	Number.	Amount. Rs.	Number.	Amount. Rs.	Number.	Amount. Rs.	Number.	Amount. Rs.	Number.	Amount. Rs.
Below Rs. 2,500	32	19,613	6	25,496	1	325	...	...	...	...	...	...
Rs. 2,500 to Rs. 10,000	21	1,11,131	1	3,000	...	...	1	3,670	...	...	3	13,640
Rs. 10,000 to Rs. 50,000	2	44,100	...	...	...	...	2	38,126	...	...	1	23,950
Above Rs. 50,000	4	2,97,240	3	2,83,000	...	...	3	2,33,895	...	...	...	...
Total	59	4,72,084	10	3,22,096	1	325	6	2,75,691	...	...	4	37,590

Number of estimates 80 estimated to cost Rs. 11,07,786 against 71 estimates costing Rs. 5,35,226 in 1937.

ANNEXURE II.

Statement of works constructed on the basis of Public Health Board type-design by municipalities and local boards during the year 1938.

Number and name or description of work.	Locality, name of town or village.	Number of type-design on which work was based.	Number and date of Sanitary Engineer's or Deputy Sanitary Engineer's professional sanction.	Date of commencement of work.	Date of completion of work.	Full cost of the work.	Remarks as to the success or failure of type-design construction.
1 Dry earth latrines (4).	Chicasole	San. No. 49 of 1927.	"	February and March 1938.	May to October 1938.	1,076	Successfully used.
2 Slaughter-house	Chirala	San. No. 313 of 1936.	"	July 1938	December 1938.	1,374	
3 Dry earth latrines (2)	Do.	San. No. 193 of 1927.	"	November 1938.	Do.	934	
4 Latrine for Municipal High School.	Do.	San. No. 40 of 1927.	"	September 1938.	April 1939	550	
5 Latrine	Conjeevaram	San. No. 193	"	1st February 1938.	20th February 1938.	340	Successful.
6 Dry earth latrine, eight seats	Pettai Road, Dindigul	T.D. No. 103	"	25th November 1937.	March 1938.	510	Working very satisfactorily.
7 Do.	Dindigul	Do.	"	Do.	March 1938.	483	Do.
8 12 seated latrine	Gudiyandam	San. No. 49 of 1927.	"	January 1938.	March 1938.	419	Quite successful.
9 Dry earth latrine, 6 seats	Hindupur	Do.	"	1st December 1938.	8th February 1939.	263	The work is a success.
10 Combined latrine and urinal	Kumbakonam	T.D. No. 193	"	August 1938	October 1938.	243	Successful.
11 Latrine	Peddapur	San. No. 49 of 1927.	"	12th April 1938.	14th July 1938.	638	Do.
12 Do.	Do.	Do.	"	2nd March 1938.	31st March 1938.	537	Do.
13 Latrine of 12 seats	Guntur	San. No. 141 of 1934.	"	1st April 1938.	20 May 1938	645	
14 Slaughter-house	Sattur	"	Local Board.	12th September 1937.	27th August 1938.	1,059	No complaints.

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ANNEXURE III.

Comparative Statement of Pumping Particulars for the year 1937-38.

Index number and stations.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
(1)	(2)	(3)	(4)
	ANNAS.	ANNAS.	
1 Anantapur ...	27	40 Approx.	The plant continued to work satisfactorily throughout the year. The cost of operating the station increased consequent on the abnormal rise in the purchase price of charcoal. The question of electrifying the station at a cost of Rs. 5,390 is being taken up with the Municipality.
2 Bellary—Hagari Water Works.	7.8	6.4	The pumping plant was overhauled during the year. The practice of operating both units without a standby still persists and proposals to replace the gas units with electrical driven sets are under consideration.
3 Bellary—Booster Station.	...	...	The plant was brought into commission during the end of last year. No figures are furnished by the Municipality as regards the operating costs. The pumping machinery was inspected during the year and the efficiency of the pump sets found satisfactory.
4 Bezwada—Lawley Water Works.	6.5	4.6	The sets operated at higher efficiency during the year. Although a slight reduction in the rate of energy supplied by the Municipality was obtained it is hoped that with the advent of the thermal scheme further reduction in the operating costs will be realized.
5 Bezwada Drainage.	...	...	Although no recording apparatus is provided to exactly determine the quantity pumped the annual cost of maintaining the plant is reasonable, and inspections of the pumping machinery show them to be efficient in operation.
6 Chidambaram.	10.9	10.8	A reduction in the working costs has been obtained but the maintenance charges still continue to be high. Proposals to electrify the station matured and tenders for selection of the plant were under consideration.
7 Chingleput ...	5.2	6.0	Specifications for replacing the gas units with electrically driven sets were prepared by the Mechanical Expert and answering tenders were referred to the General Superintendent, P.W.D. Workshops.
8 Cocanada ...	7.0	7.0	There is nothing of importance to report in connection with the working of the station. The rate of energy still continues to be the same although it was pointed out that a reduction in the rate was advisable.

*Comparative Statement of Pumping Particulars for the year
1937-38—cont.*

Index number and stations.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
	(2)	(3)	
(1)	ANNAS.	ANNAS.	(4)
9 Conjeevaram gas unit.	...	4.36	The gas unit is one of the Crossley type driving a three throw Hayward Tyler pump through reduction gears. The plant is economical to maintain and its operating costs are satisfactory.
10 Conjeevaram steam units.	8.9	10.88	The cost of maintaining and operating the steam plant is not economical as already mentioned in the previous statement for the year 1937. Proposals to replace the units with electrical driven sets are being taken up along with comprehensive improvements to the water works.
11 Cuddalore ...	7.2	6.08	General overhaul and alteration has resulted in a slight improvement in the working costs.
12 Cuddapah ...	...	...	The pumping units at Bugga and other subsidiary stations continued to operate during the year. As already stated these are to be abandoned on the completion of the Pennar scheme at present under execution by the P.W.D.
13 Dindigul Pandiyan well.	...	...	The new plant at the Pandiyan well was brought into commission during the year. This consists of a single stage double entry centrifugal pump of the split case type driven by a belt from a 7.5 B.H.P. squirrel cage motor. The pump was tested for its capacity by the Mechanical Expert with satisfactory results.
Dindigul Nattama- kara and Odukam wells.	...	...	The pumping plant at these two places operate only for a part of the year. No figures in connection with the operation of the plant are furnished, but it is observed the units are not of an economical type and recommendations to replace them by electrical units are receiving attention.
14 Ellore ...	10.6	...	The pumping plant and its staff continue to be a drain on the finances of the Municipality. There is little or no difference over conditions which prevailed last year. The proposal to electrify the station would be a welcome relief. Even though the charges for electricity at present are not quite acceptable, with the assurance for a reduction in tariff with the introduction of the thermal scheme the Municipality will be well advised in conversion to electric drive which it is hoped will be expedited.

*Comparative Statement of Pumping Particulars for the year
1937-38—cont.*

Index number and stations.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
	(2)	(3)	
(1)	ANNAS.	ANNAS.	(4)
15 Erode ...	6.4	4.5	During the course of the year the steam plant was removed and new electrical sets were installed. It is too early yet for the Municipality to give definite figures as to the advantages gained by electrification but the result of various tests shows that a saving is likely.
16 Gadiyattam.	4.6	4.32	The plant continued to operate satisfactorily throughout the year. The maintenance costs are normal.
17 Guntur ...	4.5	3.84	The plant was brought into commission during the previous year. It continued to operate throughout the year under reference with satisfactory results.
18 Gudar ...	6.3	...	The Board have furnished no information as regards the working of this plant but from the inspection of the units the cost of maintenance seems to be normal.
19 Karsikudi ...	6.77	6.8	Several inspections were made and the council were advised on maintenance and operation. When compared with the cost of working an oil plant for the same duty, the expenditure incurred in operating the plant does not compare favourably. A reduction in the cost of energy is advised.
20 Kumbakonam Borehole No. 1.	18.3	13.58	The type of plant and conditions which obtain at this station do not lend to economical operation. Alterations to the prime mover can only be made at a cost equivalent to the purchase of a new plant. The replacement of the existing plant by a more economical and modern type more in keeping with the conditions which prevail seems to be the remedy.
21 Kumbakonam Borehole No. 2.	10.9	9.0	As in the case of borehole No. 1 the conditions which prevail make economical operation difficult. Added to this is the high rate for energy.
22 Kurnool Electrical units.	11.7	10.9	No action is taken to revise the exorbitant cost of energy. The comparative cost for operating this electrical plant is far from satisfactory. During the course of the year a second electrical units was installed for which taking over tests

*Comparative Statement of Pumping Particulars for the year
1937-38—cont.*

Index number and stations.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
(1)	(2)	(3)	(4)
	ANNAS.	ANNAS.	
23 Kurnool Gas unit.	...	6.82	Although this is a very much more economical unit than the electrical unit at the same place it is very sparingly used and merely serves as a standby.
24 Madura water works Kochadai.	3.2	3.6	The pumping plant is to be replaced by electrical sets. The work of constructing a new pump-house and erection of the new sets is taken over by the P.W.D.
25 Madura water works, Araya- palayam.	11.1	13.0	In the comprehensive scheme detailed for Madura, the replacement of the steam sets is proposed with other improvements.
26 Madura Drainage works, Santhapet.	3.6	4.0	The plant continues to operate satisfactorily. It is observed that during the course of the year quantity of sewage appreciably increased, necessitating three pumps being brought into service at peak hours.
27 Sub-drainage.	...	...	Tenders have been called for replacing the present pumping plant with electrical ones.
28 Stations ...	...	...	
29 Nos. II to ...	...	...	
30 VI ...	...	...	
31 ...	...	...	The steam plant was removed and the new electrical plant was brought into operation towards the end of the year. The taking over tests show the plant to be an economical one and the rate of energy at 8 pice per unit is entirely satisfactory.
32 Masulipatam.	...	...	
33 Negapatam...	4.1	4.8	This is one of the most economical stations in the Presidency.
34 Nellore ...	6.1	6.6	The operating costs are considered high and a reduction in the cost of energy is already recommended.
35 Palacole ...	4.2	5.62	The operating costs include fuel and oil consumption used in connection with the raw water pump. The cost of pumping is estimated at 3.6 aa. in connection with the clear water pumps which is considered highly satisfactory. During the year, a second Crossley Engine was installed and a countershaft drive incorporated so that any one pump can be driven by either of the two engines.
36 Proddatur ...	32.2	...	The figures furnished by the Municipality do not appear correct. The plant as was mentioned in the previous year requires to be replaced or satisfactory arrangements made to obtain fuel at a lower cost.

*Comparative Statement of Pumping Particulars for the year
1937-38—cont.*

Index number and station.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
(1)	(2)	(3)	(4)
	ANNAS.	ANNAS.	
37 Rajahmundry.	6.5	5.2	A situation arose during the year where the discharge quantity from the raw water dwindled to a considerable extent from the required output. On examination by the Mechanical Expert it was discovered that a spare set of impellers was ordered by the Municipality which differed from the design of the impeller supplied with the pump. The matter was taken up with the manufacturers. Rapid wear of the impellers and other pump parts is attributable to the quality of water and arrangements to obtain impellers suitable for the existing conditions are being made.
38 Ramoswaram.	7.0	6.24	The plant continued to work satisfactorily throughout the year. Necessary advice was rendered as regards maintenance and operation of the plant and it is gratifying to note the resulting saving.
39 Saidapet ...	8.2	7.62	An inspection of the plant was made at the time it was handed over to the Municipality by the P.W.D. The cost of operation is high.
40 Tadipatri ...	4.7	5	There is no difference in the working of the plant. A slight rise in the working cost was experienced due to a rise in the cost of fuels and lubricating oils.
41 Trichinopoly.	4.2	...	No particulars are furnished by the Municipality as regards the cost of operating the plant and it is regrettable that no statements of their monthly expenditure were received in spite of frequent reminders.
42 Tanjore ...	10.13	8.0	Overhaul of the units has resulted in a marked saving but there is still room for improvement. The proposal to electrify the station is on hand.
43 Tiravannamalai.	3.6	3.0	The plant has operated at a higher efficiency. Adjustments and attention to advice rendered have resulted in good savings.
44 Tuticorin ...	2.2	2.56	Proposals to augment pumping capacity to deal with the increased demands to the town are being looked into.
45 Vellore drainage.	6.0	8.0	The pumps are unsuitable for sewage purposes and the need for providing pumps more suitable for this work or to electrify the station is receiving attention.

Comparative Statement of Pumping Particulars for the year
1937-38—cont.

Index number and stations.	1937.	1938.	Remarks.
	Cost of fuel and oil per million foot gallons.	Cost of fuel and oil per million foot gallons.	
(1)	(2)	(3)	(4)
	ANNAS.	ANNAS.	
46 Vellore water- works, Palur.	1.8	2.08	The cost for working the plant is slightly higher than the previous years. The main cause is due to the price in charcoal having risen. The quantity of fuel used for W.H.P. compares favourably with those of previous years.
47 Vizagapatam Madasar- lova water works.	4.6	4.32	The station continued to work satisfactorily throughout the year. The Municipality are eager to electrify the station as is done in the case of Waltair; but a careful consideration of other factors is necessary before any proposal of this nature can mature.
48 Waltair water- works.	...	...	One of the old oil engines was removed at the end of the year and an electrical plant installed in its place. The new plant consists of a five stage multistage pump manufactured by Amag Hilpert directly coupled to a 22 H.P. B.H.P. slip ring motor erected by Messrs. Siemens (India) who were contractors for the work under the direct supervision of the Mechanical Expert. The running of the tests of the plant were satisfactory.
49 Virudu- nagar water- works.	...	6	The works were recently completed and brought into commission; the pumping plant was purchased through the L.M.D. and consists of two centrifugal pumps designed for pumping 345 gallons of water per minute to a total head of 177 feet coupled to electrical motors. Taking over tests were conducted and the plant found to satisfy the guarantees. Since the Municipality pay no contributions towards inspection of the plant no further visits to this place were made.
50 Vizianagaram.	3.	5.0	The Municipality are eager to electrify the station and with this end in view obtained quotations for electrical equipment to replace the steam units, but as there were other considerations to be taken into account it was considered advisable to continue with the present steam sets which are operating as economically as can be expected.

END

g. complete

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தமிழ்நாடு ஆவணக்காப்பக நூலகம்,
எழும்பூர், சென்னை-600 008.

சுவணைத்தாள்.

கீச எண் :

ப. எண் :

வழங்கிய நாள். (1)	திரும்பிய நாள். (2)	வழங்கிய நாள். (1)	திரும்பிய நாள். (2)