

Report on the Health

Conditions in Meadows

State

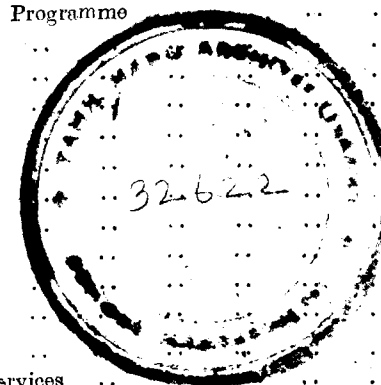
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REPORT ON THE HEALTH CONDITIONS IN MADRAS STATE, 1959.

CHAPTER I—VITAL STATISTICS.

INTRODUCTION.

The year under report witnessed further progress in the health conditions of the State. The vital statistics recorded in 1959 reveal an all round improvement. The birth rate has slightly increased. The general death rates in rural and urban areas have decreased. The age specific death rates in all age groups have registered a fall, it being greater in the age groups under 30 years. The infant mortality and the maternal mortality rates are the lowest on record. The reduction in mortality from cholera, small-pox, fevers excluding malaria, dysentery and diarrhoea have been marked, while the deaths from respiratory diseases also showed a slight decrease. These vital indices reflect the various health measures implemented in the past few years.

POPULATION.

There has been no territorial change in the State. Three census towns—Ramanathapuram, Arcot and Ranipet were constituted into municipal towns from 1st April 1959. For the purpose of vital statistics, these three towns were taken as census towns for the year under report. The number of municipal towns is 64 including Madras and the number of census towns is 204. The populations of various areas in the State as per census of 1951 and the estimated mid-year population for 1959 as per arithmetic progression method and the figures rounded to nearest 1,000, are shown below :—

Area.	Census population. (1951).	Estimated mid-year population. (1959).
State	29,980,085	33,183,000
Rural	22,765,655	24,387,000
Urban	7,214,430	8,796,000
Municipal towns ..	4,798,618	6,007,000
Census towns	2,415,812	2,789,000

In computing the rates for vital statistics in this report, the estimated mid-year populations for 1959 have been taken unless otherwise stated.

REGISTRATION OF BIRTHS AND DEATHS.

There was no change in the organization for registration of births and deaths in the State. In a few villages in six districts, registration of births and deaths is not compulsory. The Collector of Tiruchirappalli district has reported that it is not feasible to extend the compulsory provisions for registration of births and deaths in villages in the hilly tracts of the district. Proposals have however been sent to Government to extend the provisions.

of the Act III of 1899 to the few villages in North Arcot, Salem, Tirunelveli, Madurai and Thanjavur districts where the Act is not in force. The proposals are under consideration of Government.

In Kanyakumari district and Shencottah taluk in Tirunelveli district, the statutory provisions for registration of births and deaths prior to the transfer of the areas to this State continued to operate. In view of the fact that the Madras District Municipalities Act has been extended to these areas and as the rules for registration of births and deaths in municipal areas in this State were more or less similar to those issued under the former Travancore-Cochin Government, it has been suggested to Government that the rules for registration of births and deaths in the municipal areas of this State might be extended to the municipal areas of the transferred areas.

In the rules for registration of births and deaths in rural areas of the transferred territory, provision is made for compounding the offences by the Registrar-General of Births and Deaths. This power has been delegated to the District Registrar of Births and Deaths.

During the year under review, consolidated amendments to the rules for registration of births and deaths in rural and municipal areas and in the City of Madras were submitted to Government. The amendments suggested in respect of rural areas have taken into account the creation of panchayat unions under the Madras Panchayats Act, 1958.

The District Health Officers have reported that sign boards showing the offices of the Registrars of Births and Deaths are not put up in many villages in spite of instructions issued by the Board of Revenue in this regard. Government were specially addressed that sign boards for 36 villages in the Poonamallee Health Unit area should be put up as it is a model area. Although Government ordered accordingly, the Health Officer of the Health Unit reports that still nine villages have not been provided with sign boards. As stated in my previous report the provision of sign boards is an education by itself and would at the same time satisfy the statutory provisions.

The District Health Officers have reported that some registrars do not submit the fortnightly statements of defaulters to Tahsildars concerned for prosecution. Some District Health Officers have reported that the names of children have not been entered and that the names of the informants or their signatures have not been entered in the registers of births and deaths. The Revenue Department may be requested to issue necessary instructions to the village registrars.

The Health Inspectors are required to report the unregistered births and deaths detected by them to the Tahsildars concerned for prosecution. In order to review the action taken by the Tahsildars on these reports, they are required to submit a quarterly statement to the District Health Officers who are required to address the Collector if adequate action has not been taken by the Tahsildars. Several District Health Officers have reported that the Tahsildars are not prompt in submission of their quarterly statements and in most of the cases where the quarterly statements have been sent, it is observed that the action taken by the Tahsildars is lenient. Only 2,193 cases were prosecuted, while 3,096 were let off with a mere warning and about 20,000 were still pending with the Tahsildars.

The health staff are required to detect unregistered births and deaths during their visits to villages. The following statement shows the number of unregistered births and deaths detected by the health staff in municipal and non-municipal areas :—

Area.	Unregistered		Percentage of unregistered events to total registration.	
	Births.	Deaths.	Births.	Deaths.
(1)	(2)	(3)	(4)	(5)
Municipal	11,783	6,235	4.9	6.7
Non-municipal	9,364	1,697	1.3	0.6
Total	21,147	7,932	2.2	2.0

The percentage of unregistered deaths detected is greater than that of births in municipal areas, whereas it is very low in non-municipal areas. This shows that many deaths occurring in non-municipal areas escaped registration, probably due to the fact that there is no effective arrangement for disposal of dead bodies in rural areas. The number of unregistered births and deaths detected is also very poor when compared to 33,814 unregistered births and 15,432 unregistered deaths detected in 1958. In both the years there was no off-season for vaccination. The poor detection work indicates that the health staff was not able to devote as much attention as needed.

In order to improve the registration of births and deaths in bigger villages with a population of 10,000 and above, government ordered that the concerned panchayats should take over the work of registration and provide a separate birth and death registrar-cum-vaccinator. During the year under report, 13 panchayats have taken up registration of births and deaths. In a few cases either the Executive Officer or the clerk of the panchayat has been appointed as birth and death registrar. These panchayats should be advised to appoint a separate birth and death registrar-cum-vaccinator, as otherwise there will be no improvement in the registration of vital events.

To demonstrate how the registration of births and deaths in a local area could be improved, a special Health Inspector for vital statistics work has been appointed in the Health Unit, Poonamallee. The percentage of unregistered births detected was 4 and that of unregistered deaths detected was 13 in 1959. The large omission in registration of births and deaths even in this local area in spite of continuous work in this branch shows that still people have not realised their responsibility to report births and deaths to the registrars concerned. The Health Officers have reported that propaganda by beat of tom-tom in the villages was carried out by the village revenue staff. Pamphlets on registration of births and deaths have also been distributed by the health staff to the public. This does not seem to be adequate. The people must be made to realise the need for registration of births and deaths by creating necessity for production of birth and death certificates, wherever necessary.

COMPILATION OF VITAL STATISTICS.

There has been no change in the system of compilation of vital statistics in the State. The village birth and death registrars who were generally the village munsiffs forwarded monthly returns of births and deaths to the Tahsildars who in turn forwarded them to the Director of Public Health.

Statutory provisions lay down that returns should be submitted by the Registrars by the third of the month following the one to which the returns relate. The Tahsildars are required by executive instructions to forward all the returns by the eighth of the subsequent months. In spite of these instructions the submission of returns by many Tahsildars continued to be unsatisfactory. The number of returns not received and that due from each district for 1959 are shown in Annexure A. It will be seen that on the whole 5.4 per cent of the returns were not received as against 8.3 for 1958 and 6.8 for 1957. Arrears in the districts of Madurai, Nilgiris, Thanjavur, South Arcot and Ramanathapuram were very heavy. Several official and demi-official reminders to Collectors and Tahsildars have not resulted in submission of all returns of births and deaths even after several months. The Collectors were also requested to take action under Section 18 (b) of the Act III of 1899 against village munsifs who failed to submit the returns in time. The Collectors have reported that no action has been taken for non-submission of returns. Although births and deaths have been recorded in the birth and death registers, they could not be compiled for want of the birth and death returns. It is suggested that some special steps should be taken by the Revenue department to see that all the returns due for the month are submitted at least by the end of the following month.

Out of 204, census towns, only 5 towns have not submitted all the returns due for the year. As far as the municipal towns are concerned complete returns have been received.

BIRTHS.

The consolidated figures of births as well as deaths are subject to two errors due to under registration and non-compilation of complete figures of vital events. In studying the trend, the error due to under registration may be assumed to be constant, as the state of registration has not changed. The defect due to compilation may however be corrected. The percentage of birth and death returns not received to total returns due from rural areas, did not exceed 8.3. As the bulk of the returns were not received, a correction made on proportionate basis in respect of rural areas may be appropriate. The recorded birth rates corrected on this basis are given in the following statement and the trend in the births in the past decade in the present State may be discerned :—

Year.		Number of recorded live-births.	Recorded birth-rate.	Birth-rate corrected for non-receipt of returns.
(1)		(2)	(3)	(4)
1949	.. ..	873,205	29.8	30.2
1950	.. ..	862,310	29.0	29.3
1951	.. ..	777,233	25.7	26.6
1952	.. ..	837,018	27.5	28.1
1953	.. ..	777,312	25.2	25.6
1954	.. ..	820,974	26.3	26.9
1955	.. ..	981,340	31.0	31.6
1956	.. ..	891,373	27.8	30.1
1957	.. ..	866,642	26.7	28.2
1958	.. ..	885,06	27.0	28.8
1959	.. ..	945,791	28.5	29.7

A straight line fitted to the corrected rates ($Y = 0.09X + 28.65$, with 1954 as origin) shows a negligible upward trend and the birth rate practically fluctuates about an average rate of 28.65 (vide Chart I).

The number of registered births in 1959 was 945,791 (488,674 boys and 457,117 girls) representing birth rate of 28.50 as against 885,061 births with a rate of 27.0 in 1958. The birth rate corrected for non-receipt of returns shows an increase from 28.8 in 1958 to 29.7 in 1959.

Births recorded in rural and urban areas in the different months of the year are given in Annexure B. The lowest number of births was recorded in February and the highest number in September. In this connection, it may be stated that the number of birth and death returns not received in the different months varied from month to month. Secondly, there is time lag between the actual date of occurrence and the date of registration of births. These factors render it difficult to determine the seasonal variation of births.

The proportion of male to female births was 107 : 100 as in the case of last year.

The birth rates recorded in the various areas of the State as compared with 1958 are given below :—

Area.	Recorded birth rates.		Birth rates corrected for non-receipt of birth and death returns.	
	1958.	1959.	1958.	1959.
(1)	(2)	(3)	(4)	(5)
State .. .	27.0	28.5	28.8	29.7
Rural areas	24.4	25.9	26.7	27.4
Urban areas	34.2	35.9	34.5	35.9
Municipal areas ..	39.8	40.5	39.8	40.5
Census towns ..	22.8	25.9	23.8	25.9

The above statement reveals that the birth rates in all the areas have increased in 1959 as compared with 1958.

Births in districts.—Statement I of the appendix shows the number of births recorded by sex and also the birth rate in each district. As the birth and death returns in rural areas in each district were not completely received, estimates of birth rates in districts have been made on a proportionate basis and are given in Annexure I. The corrected birth rates in all the districts are higher than those for 1958, the increase being high in Kanyakumari district and low in South Arcot district.

The distribution of corrected birth rates recorded in the district is as hereunder.

Birth rate.	Number of districts.	
	1958.	1959.
20—25	1	1
25—30	7	5
30—35	4	5
35—40	..	1
Total ..	12	12

The birth rate varied from 21.3 in Salem district to 35.3 in North Arcot district.

Births in municipal towns.—There were 243,174 births (121,193 boys and 118,681 girls) in all municipal towns including Madras City giving a birth rate of 40.5 in 1959 as against 39.8 in 1958. The increase in birth rate was only small. The distribution of birth rates among the municipal towns was as follows :—

Birth rate.	Number of municipal towns.	
	1958.	1959.
10—19	2	4
20—29	5	5
30—39	23	20
40—50	22	23
50 and above	8	12
Total ..	60	64*

* Four new municipalities were constituted in 1959.

The towns that registered very low rates were Tiruvottiyur (11.0), Kurichi (16.6), Melapalayam (17.9), and Colachel (19.9). The low rate in the towns was mainly due to defective registration. In Kurichi municipality, it is reported, no birth and death registrar has been appointed. High birth rates were registered in Palayamcottai (68.6), Chingleput (62.5), and Manuargudi (62.1). The high rate in these towns is due to the large number of non-resident mothers who seek admission into the local hospitals.

Births in census towns.—In all the census towns with a population of 5,000 and above, the recorded births numbered 72,139 (37,655 boys and 34,484 girls) with a birth rate of 25.87 in 1959. There was thus an increase of 3.1 over the recorded birth rate in 1958. During the year under report, only 0.2 per cent of the birth and death returns due from these towns were not received. The birth rate corrected for non-receipt of returns on proportionate basis will be 25.9 in 1959 as against the corrected rate of 23.9 in 1958.

The distribution of recorded birth rates among the towns was as follows :—

Birth rate.	Number of census towns.	
	1958.	1959.
(1)	(2)	(3)
Less than 10	21	13
10 and less than 20	67	51
20 and less than 30	62	66
30 and less than 40	39	43
40 and less than 50	8	20
50 and above	11	11
Total ..	208*	204

* Four census towns were constituted into municipalities in 1959.

An examination of the above statement shows that the number of towns that recorded low rates has decreased and the number that recorded high rates has increased. This is perhaps indicative of better registration of vital events. More number of large towns with a population of 10,000 and above has taken up the work of registration by appointing a registrar-cum-vaccinator. The low rates of less than 10 recorded in 13 towns is due to under registration.

Still-births.—The following table gives the number of still-births and the still birth rate per 1,000 live and still births recorded in the different regions in the State in 1958 and 1959.

Area.	Still-births.			
	1958.		1959.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
State	13,925	15.5	15,403	16.0
Rural	2,342	3.9	2,992	4.7
Urban	11,583	37.9	12,411	37.9
Municipal towns ..	10,458	43.7	11,106	43.7
Census towns ..	1,125	16.9	1,305	17.8

There was no change in the still-birth rate in municipal areas, while a slight increase was noticed in other areas as compared with 1958. The very low rates in rural areas may not be real and may be largely due to incomplete registration of still births. In Annexure D the number of still-births by sex registered in non-municipal and municipal areas in each district is given.

It will be seen from the Statement I (a) of the appendix that the still-birth rate in municipal towns varied from 11.9 in Padmanabapuram to 87.1 in Palayamkottai, excluding the newly constituted municipal towns of Arkonam, Cumbum and Kurichi.

DEATHS.

The remarks offered under births regarding the accuracy of the registration and compilation of deaths are equally applicable in respect of deaths also. The recorded deaths and the death rates during the past decade are extracted below to show the trend in the death rates—

Year.	Number of deaths recorded.	Recorded death-rate.	Corrected death-rate.
(1)	(2)	(3)	(4)
1949	481,421	16.4	16.6
1950	536,653	19.7	19.9
1951	514,549	17.1	17.6
1952	488,400	16.0	16.4
1953	533,434	17.2	17.6
1954	437,386	14.0	14.4
1955	453,185	14.3	14.6
1956	435,185	13.6	14.5
1957	460,822	14.2	14.9
1958	429,321	13.1	14.0
1959	395,749	11.9	12.5

The corrected death rates are exhibited in Chart I appended to this report. The straight line fitted up to the corrected death rates shows that there has been a perceptible decline in the death rates recorded in the State. The equation to the line fitted is $Y = -0.54X + 15.73$ with 1954 as origin.

The number of deaths recorded in the State is 395,749 (199,036 males and 196,713 females) giving a death rate of 11.93 as against 13.09 in 1958. If correction is made for non-receipt of birth and death returns on proportionate basis, the death rates will be 14.0 in 1958 and 12.5 in 1959. There was thus a large reduction in the death rate. The ratio of male to female deaths was 101:100.

The deaths recorded in rural and urban areas in the 12 months of the year are given in Annexure C. There were two peaks in recorded deaths, one in July and another in December. But the latter was higher than that of the former.

The total deaths recorded in the different areas of the State as compared with 1958 are shown below—

Area.	Recorded death rate.		Corrected death rate.	
	1958.	1959.	1958.	1959.
	(1)	(2)	(3)	(4)
State	13.1	11.9	14.0	12.5
Rural	12.6	11.4	16.0	12.1
Urban	14.4	13.4	14.6	13.4
Municipal towns ..	16.9	15.5	16.9	15.5
Census towns ..	9.4	8.9	9.8	8.9

The above figures show that there has been a reduction in the death rate in all the regions as compared with 1958.

Deaths in districts.—Statement II of the appendix gives the number of deaths sex-wise recorded in each district and also the total death-rate in each district. Death-rates have been corrected for non-receipt of returns on a proportionate basis and are given in Annexure I. The corrected death rates have declined in all the districts except Madurai, the Nilgiris and Kanyakumari as compared with 1958. The decline in the death rate was high in North Arcot district. The corrected death-rate varied from 9.6 in Salem district to 14.6 in North Arcot district.

The distribution in death-rates corrected for non-receipt of returns in districts is as hereunder.

Corrected death rates.	Number of districts.	
	1958.	1959
Less than 10	2	2
10 and less than 15	7	10
15 and less than 20	3	..
Total	12	12

The above figures indicate that more number of districts have recorded lesser death rates than in the previous year.

In all the districts, the death rates were very much less than the birth rates, the excess of birth rate over death-rate being large in North Arcot and Kanyakumari districts.

Deaths in Municipal towns.—The death rates recorded in the municipal areas since 1953 after partition of Andhra State indicate a gradual downward decline as will be evident from the following figures:—

Year.	Death rate.
1953	22.5
1954	18.3
1955	17.2
1956	16.9
1957	18.3
1958	16.9
1959	15.5

The number of deaths registered in the municipal areas in 1959 was 93,131 (47,489 males and 45,642 females) representing a death-rate of 15.50 which is less than that of 16.94 in 1958. The distribution of death rates among municipal towns is shown below:—

Death rate.	Number of municipal towns.	
	1958.	1959.
Less than 10	8	17
10 and less than 15	23	21
15 and less than 20	24	22
20 and less than 25	5	4
Total	60	64*

* Four new municipalities were constituted in 1959.

The above figures indicate that many municipal towns have recorded lesser death rates as compared with 1958.

The death-rates varied from 6.5 in Gobichettipalayam to 23.56 in Palayamkottai. Very low death rates were recorded in Arkonam (6.8), Kurichi (7.1), Rasipuram (7.3), Melapalayam (7.4) and Cumbum (7.6). These towns returned low death rates in the previous year also, probably due to under registration of deaths. Besides Palayamkottai high death rates were recorded in Arni (21.7), Vellore (20.7) and Periakulam (20.1).

Deaths in census towns.—There was a further decrease in the death-rate for census town areas in 1959. The number of deaths registered was 24,791 (12,366 males and 12,425 females) giving a death rate of 8.89 as against the recorded death rate of 9.43 in 1958. If correction is made for non-receipt of birth and death returns, the death rates will be 8.9 in 1959 as against 9.8 in

1958. The distribution of recorded death rates among census towns was as follows :—

Death rate.	Number of census towns.	
	1958.	1959.
Less than 10	111	118
10 and less than 15	61	60
15 and less than 20	25	19
20 and less than 25	9	5
25 and less than 30	1	1
30 and above	1	1
Total ..	208*	204

* Four towns were constituted into municipalities in 1959.

Very high death rates were recorded in Eranial (38.5, and Rameswarar (29.4) towns. Most of the deaths in these towns are classified under other causes'.

Deaths by ages.—As stated in the report for the last year, the estimated populations for different age groups in the State for 1959 have been determined on the basis of a 10 per cent sample given in the census of 1951. Based on these estimated populations, the age specific death rates have been computed and are given below :—

Age group.	Deaths recorded in the State during			
	1958.		1959.	
	Number.	Death rate.	Number.	Death rate
(1)	(2)	(3)	(4)	(5)
Under one year	91,513	103.4*	86,151	91.1*
1—4 years	86,440	27.2	74,558	23.2
5—9 „	18,397	4.7	13,737	3.4
10—14 „	8,933	2.2	7,514	1.8
15—19 „	11,251	3.7	10,562	3.4
20—29 „	24,657	4.9	22,199	4.3
30—39 „	24,642	5.4	22,399	5.1
40—49 „	26,690	7.5	25,907	7.2
50—59 „	30,684	12.6	27,774	11.3
60 years and above	106,114	49.8	104,912	48.2
Total ..	429,321	13.1	395,749	11.9

* Per 1,000 live-births.

An examination of the above figures shows that the age specific death rates have decreased in all the age groups, the reduction being particularly large in the age groups under 30 years. The minimum death rate was recorded in the age group 10 to 15 years and the maximum in the group of 60 years and above. The infant mortality represents 21.8 per cent of the total deaths and deaths among children in the age group 1 to 5 years and deaths in the age group 60 and above represent 18.8 and 26.3 per cent respectively.

Injuries.—Under the group of injuries are included deaths from suicides, wounds and accidents, killed by snake bites and wild animals and hydrophobia. The particulars of mortality from these causes are extracted below :—

Causes of death.	1958.		1959.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
Suicide	2,109	0.06	2,316	0.07
Wounds and accidents	3,400	0.10	3,272	0.10
Killed by snake bites and wild animals..	1,025	0.03	833	0.03
Hydrophobia	284	0.01	355	0.01
Total of deaths from injuries ..	6,818	0.21	6,776	0.26

There has been very little change in the total deaths from injuries. The number of deaths from these causes represents 1.7 per cent of total deaths. Suicides have caused nearly as many deaths as the three infectious diseases—cholera, smallpox and plague. Out of 355 deaths from hydrophobia, 195 occurred in rural areas and 160 in urban areas, the death rates being 0.01 and 0.02 respectively.

Deaths by causes.—The following table gives the mortality from the principal causes into which deaths recorded in the State are classified :—

	Number of deaths.		Death rate.	
	1958.	1959.	1958.	1959.
	(2)	(3)	(4)	(5)
(1)				
Cholera	2,312	206	0.1	0.01
Smallpox	5,498	2,225	0.2	0.07
			Less than	
Plague	Nil.	7	Nil.	0.01
Malaria	1,229	732	0.04	0.02
Fevers other than Malaria..	64,491	57,572	2.0	1.7
Dysentery and Diarrhoea..	34,406	29,633	1.1	0.9
Respiratory diseases..	12,258	40,856	1.3	1.2
Deaths from child birth	3,795	3,742	4.2*	3.9*
Suicides	2,109	2,316	0.06	0.07
Wounds and accidents	3,400	3,272	0.1	0.1
Snake bites and killed by wild animals..	1,025	833	0.03	0.03
Hydrophobia	284	355	0.01	0.01
Other causes	268,514	254,600	8.2	7.7
Total ..	429,321	395,749	23.1	11.9

* Per 1,000 live and still births.

Compared with 1958, the mortality from all causes of deaths except suicide and hydrophobia has decreased. The fall has been large under cholera, smallpox, malaria, fevers other than malaria, dysentery and diarrhoea.

The percentage of deaths from 'other causes' to total deaths was 64.2 in 1959 as against 62.5 in 1958. In view of the agency employed for registration of births and deaths in rural areas, it is not possible to reduce the percentage. However, mortality from more detailed causes of deaths in municipalities with a population of over 30,000 and with Health Officers has been compiled separately in Annexure H. It will be seen therefrom that 'other causes' account for only 14 per cent of total deaths. As in previous years, mortality from congenital debility, malformation premature births, convulsions and pneumonia has been high.

CHAPTER II—CONTROL OF COMMUNICABLE DISEASES.

CHOLERA.

There has been a considerable decrease in the number of recorded deaths from cholera from 2,312 in 1958 to 206 in 1959, representing death rates of 0.07 and 0.01 respectively. The mortality from cholera constitutes only 0.5 per cent of total recorded deaths in 1959. In municipal areas, there were 67 deaths from cholera, Madras (64) and Vaniyambadi (3) being the only towns affected. Of the remaining 139 deaths, 31 were recorded in census town areas and 108 in rural areas giving death rates of 0.01 and 0.004 respectively. The number of deaths recorded in each month in each district and the cholera mortality rates for each district for the year are given in Statement VII of the appendix.

As per the reports from the Health Officers, there were 405 attacks with 173 deaths in 1959 as against 6,786 attacks with 3,519 deaths in 1958. The difference in the figure of mortality as given by Health Officers and as recorded in death registers is perhaps partly due to wrong classification of cholera deaths under diarrhoea and vice versa in the death registers.

The number of deaths from cholera and death rates recorded during the past decade are extracted below:—

Year.	Number of deaths.	Death rate.
1950	26,432	0.9
1951	12,552	0.4
1952	9,081	0.3
1953	22,445	0.7
1954	1,592	0.1
1955	291	0.01
1956	6 Less than	0.01
1957	2,930	0.01
1958	2,312	0.01
1959	206	0.01

It will be seen from the statement that the intensity of cholera mortality in the last five years is much less than in the quinquennium 1950-54. Considering the years 1950, 1953 and 1957, when the disease was prevalent in periodic waves, the mortality in 1957 was low compared to the other two years.

The mild epidemic in Madras city and Chingleput in December 1958 continued to persist till the end of January 1959. Sporadic cases were reported from North Arcot, South Arcot and Thanjavur districts. These districts were thereafter free. The other districts were practically free throughout the year.

Control measures.—Mass inoculation was carried out during the year in all the affected areas. Although the State was practically free from infection during the year except January, anticipatory anti-cholera inoculations were conducted amongst the vulnerable groups as a preventive measure. On the whole, 495,013 anti-cholera inoculations were performed. Besides this, treatment of cases under hospital conditions with sulphaguanidine and saline transfusions, wherever possible, greatly helped to reduce the mortality and also to control the infection quickly to a large extent. To control the infection quickly the reserve Health Inspectors were concentrated in the affected areas and they attended to chlorination of water supplies and disinfection of infected premises, besides inoculation.

In Coimbatore district, the usual anticipatory anti-cholera measures were conducted during the ground-nut harvest season when there was a considerable movement of labour population. Special anti-cholera measures were also taken in the deltaic and endemic areas of the State, during agricultural planting and harvesting seasons and also during rainy seasons by the epidemic reserve staff. Anticipatory anti-cholera inoculations and fly control measures were also undertaken during the pearl fishery operations at Tuticorin.

The two epidemic control vans, the two mobile epidemic units and the departmental jeeps with trailers were all detailed for work in the affected areas. The vehicles helped not only in the prompt movement of staff and equipment to the affected areas, but also in the transport of cholera cases from distant places to the nearest isolation wards for treatment.

Mobile Epidemic Units.—The scheme under the Second Five-Year Plan provided for two mobile epidemic units. One of these established in 1957 was continued. The second unit sanctioned for implementation during 1958-59 was partly established in 1958 with the purchase of two jeeps with trailers. In 1959 the ambulance van of the unit was also got ready and put into the field. All the vehicles of the units were used intensively wherever there was an need for them. The provision of the two units has greatly helped in the control of cholera by facilitating the rapid movement of staff and equipment to the infected and threatened areas.

Expert Committee.—At the instance of the Government of India, Ministry of Health, the Indian Council of Medical Research, New Delhi, constituted an expert committee to go into the question of epidemiology of cholera and smallpox in the country and to suggest ways and means for the control of the spread of these diseases and for their ultimate eradication. The Government of India also recommended that the State Governments might also form such committees at the State level. Accordingly Government constituted a State Expert Committee. The Central Expert Committee held its deliberation at New Delhi in February 1959, and the Assistant Director of Public Health (Epidemics), Madras, attended the deliberations as the representative of the State Expert Committee.

The State Expert Committee discussed the epidemiology of cholera and smallpox in the State and the various measures necessary for the eradication of the above diseases in the light of the recommendations of the joint meeting of the Central and State Committee and formulated its recommendations.

DYSENTERY AND DIARRHOEA.

The number of deaths from this group of diseases decreased from 34,406 in 1958 to 29,033 representing mortality rates of 1.05 and 0.87 respectively. These diseases were responsible for 7.3 per cent of total deaths as against 8.0 in 1958. The reduction in the mortality from the diseases is noticed in all the areas as shown below:—

Area.	1958.		1959.	
	Number of deaths.	Rate per 1,000 population.	Number of deaths.	Rate per 1,000 population.
(1)	(2)	(3)	(4)	(5)
State	34,406	1.05	29,033	0.87
Rural	21,353	0.88	16,943	0.69
Urban	13,053	1.52	12,090	1.37
Municipal towns.. ..	11,002	1.92	10,292	1.71
Census towns	2,051	0.71	1,798	0.64

Statement X of the appendix gives the number of deaths recorded in each district in each month and the annual death rates in each district. Statement VI gives the deaths and death rates registered in each municipal and census town.

The incidence decreased from January to April and increased to a maximum in August, again declined till October and increased to a second maximum in December. Thus two peaks were observed towards the end of the two monsoon periods.

The death rates recorded in all the districts were less than the average rates for the previous five years. North Arcot (1.50), Kanyakumari (1.22) and Chingleput (1.17) districts registered high death rates from these diseases. Madras City returned nearly half the number of death from this group registered in all municipal areas. The municipalities that recorded high death rates were Arni (3.97), Aruppukottai (2.79), Tiruvottiyur (2.75), Coimbatore (2.70) and Madras City (2.60).

In respect of municipal areas, the deaths from dysentery and those from diarrhoea are separately compiled and given in Statement VI(a) of the appendix. The number of death and death rates from dysentery were 6,118 and 1.0 respectively and those from diarrhoea 4,174 and 0.7 respectively.

ENTERIC FEVER.

Enteric fever is one of the notifiable diseases as per the Madras Public Health Act. The heads of families and the medical practitioners are required to report cases of enteric fever to the Health Officers concerned. In spite of the legal provision, the Medical Officers and the Civil Assistant Surgeons in charge of hospitals and dispensaries either do not send reports or send belated reports to the Health Officers although patients having enteric fever are treated in their institutions. In order to take timely preventive action and keep a watch over carriers who get discharged from hospitals after apparent cure, it is necessary that the Health Officers should be apprised as early as possible of the cases treated in medical institutions by the Medical Officers. Instructions therefore have been issued through the Director of Medical Services to all District Medical Officers and Civil Assistant Surgeons to report cases of typhoid fever with full details regarding residence, etc.

During the year, 486 deaths from enteric fever have been registered in all except eight municipalities, giving a death of 0.08, as against 671 death with a death rate of 0.12 per 1,000 of population in 1958. The Health Officers carried out necessary preventive measures, such as, chlorination of water sources, antily measures, removal of rubbish heaps and nightsoil and educated the public about the dangers and prevention of the disease. TAB inoculations of contacts were carried out by health staff.

SMALLPOX AND VACCINATION.

The recorded deaths and death rates from smallpox in the State during the decade 1950-59 are extracted below :—

Year.					Number of deaths.	Death rate.
1950	..	..	..	..	7,088	0.2
1951	..	..	..	..	7,930	0.3
1952	..	..	..	..	2,385	0.1
1953	..	..	..	..	2,588	0.1

Year.					Number of deaths.	Death rate.
1954	..	..	..	..	1,409	0.1
1955	..	..	..	..	1,101	0.03
1956	..	..	..	..	1,129	0.03
1957	..	..	..	..	3,893	0.12
1958	..	..	..	..	5,498	0.17
1959	..	..	..	..	2,225	0.07

The periodic wave of smallpox after reaching the peak in 1958 was on the decline in 1959.

The considerable decrease in the mortality from smallpox recorded in 1959 in the different area of the State as compared with 1958 is shown below :—

Area.	1958.		1959.	
	Number of death from smallpox.	Death rate.	Number of death from smallpox.	Death rate.
(1)	(2)	(3)	(4)	(5)
State	5,498	0.17	2,225	0.07
Rural	3,212	0.13	1,337	0.05
Urban	2,286	0.27	888	0.10
Municipal towns	1,949	0.34	821	0.14
Census towns	337	0.12	67	0.02

The deaths from smallpox represent only 1.4 per cent of total deaths recorded in the State.

The recorded deaths from smallpox in each district during each month and the annual death rates for each district are given in Statement VIII of the appendix. The districts of Coimbatore, Chingleput and Thanjavur were severely affected. The districts of Ramanathapuram, Tirunelveli, the Nilgiris and Kanyakumari reported only stray cases, while the other districts were moderately affected.

The number of smallpox deaths in municipal areas constituted nearly two-fifths of the total deaths from the disease. Madras City and Coimbatore alone with 517 and 125 deaths from smallpox were responsible for nearly 30 per cent of mortality from smallpox in municipal areas.

The distribution of deaths from smallpox as per ages is as follows :—

Age group.	Number of death from smallpox.
Under one year	535
One year and under 10 years	841
10 years and above	849
Total	2,225

The large proportion of mortality in the age group under one year and 1—10 years shows that many children escape primary vaccination.

Epidemiology.—As reported by Health Officers there were 6,699 attacks and 1,726 deaths from smallpox in 1959 as compared with 14,841 attacks and 4,233 deaths in 1958. The difference between the figures of deaths

given by Health Officers and those given above compiled from Birth and Deaths Returns, is due partly to wrong classification of causes of deaths by village munsiffs.

The epidemic in 1958 continued to persist till April 1959 in all the districts except Ramanathapuram, Tirunelveli, the Nilgiris and Kanyakumari. Thereafter, it gradually declined. In Madras city, however, the infection continued till the end of the year, the incidence being high.

Owing to belated reports or no reports in some cases regarding outbreak of smallpox, prompt preventive measures could not be adopted and the disease was therefore disseminated and established in the villages. Government have therefore issued instructions regarding prompt reporting of cases of infectious diseases not only by the village munsiffs but also by grama sevaks. Although the Revenue authorities have been asked to take action against defaulters, the desired effect in most cases is yet to be achieved.

Control measures.—Besides mass vaccination and revaccination campaigns launched in the affected and surrounding areas, disinfection of the infected premises and materials, home segregation of cases and isolation of cases in hospitals and wards, wherever feasible, and educative propaganda among the people about the mode and spread of smallpox, were undertaken. Dhobies being one of the main agents for the spread of infection, were under close observation of the health staff. House to house inspection was made to detect hidden cases of smallpox and unprotected children and all the unprotected persons were vaccinated. Reserve Health Inspectors were also posted to heavily affected areas. Special vaccination staff were appointed wherever necessary for intensifying vaccination campaign. To facilitate prompt movement of staff and materials, the services of mobile epidemic vans were also detailed to the affected areas.

VACCINATION.

In view of the large number of unprotected cases noticed in a number of places and of the persistence of smallpox infection in the State, the usual vaccination off season observed during the months of May and June was cancelled. During this period also routine vaccination was carried out.

Systematic vaccination of ten per cent of the population in each district was continued. The scheme was implemented satisfactorily. As a result of this scheme, repeated revaccination of the same persons has been avoided.

Vaccination.—The number of persons vaccinated by different agencies during 1959 as compared with that in 1958 is given below :—

	1958.			1959.		
	Primary vaccination.	Re-vaccination.	Total.	Primary vaccination.	Re-vaccination.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Districts inclusive of municipal towns.	928,481	4,134,772	5,063,253	911,556	3,733,186	4,644,742
Health Unit, Poona-mallee.	2,789	15,043	17,832	3,384	13,818	17,202
Municipalities ..	210,357	1,504,999	1,715,856	211,807	1,270,371	1,482,178
Railways ..	1,630	14,211	15,841	2,239	14,781	17,020
Medical Institutions and Ports.	6,719	28,925	35,654	7,675	77,710	85,385
Total ..	1,150,476	5,697,960	6,848,436	1,136,661	5,109,866	6,246,527

Compared with the previous year, there was a slight decrease in the total number of persons who had primary vaccination in non-municipal areas, while a slight increase was recorded in other areas. The number of persons re-vaccinated by all agencies except the Railways was much less than in 1958 as the severe epidemic of smallpox in 1958 was controlled.

The number of operations (Primary and re-vaccination) performed, the number of successful and unsuccessful operation, the percentage of success among those for which results were known in each district, municipality, railway areas, etc., are given in statement XIII of appendix. The operations performed by different agencies and the success rates are indicated below—

Agency.	1958.				1959.			
	Primary.		Re-vaccination.		Primary.		Re-vaccination.	
	Number.	Success rate per cent.	Number.	Success rate per cent.	Number.	Success rate per cent.	Number.	Success rate per cent.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Districts exclusive of municipal areas.	956,535	90.2	4,141,934	18.6	939,084	88.0	3,734,750	14.9
Health Unit, Poona-mallee.	2,847	95.0	15,101	14.4	3,487	93.1	13,907	13.7
Municipalities ..	212,125	98.1	1,504,999	12.3	214,080	97.0	1,273,182	11.7
Railways ..	1,630	99.0	14,211	73.2	2,289	98.2	15,439	11.7
Medical Institutions and Ports.	6,734	98.9	28,935	19.0	7,675	93.0	77,710	63.2
Total ..	1,179,871	92.1	5,705,180	16.8	1,166,615	90.1	5,114,938	14.8

The percentage of success of primary vaccination in all the areas was very high except in non-municipal areas in districts, while that of re-vaccination was low in all areas excepting medical institutions.

The distribution of successful cases of primary vaccination in 1959 as per age groups is as follows—

Age group.	Number of successful primary vaccination.
(1)	(2)
Under 1 year ..	477,476
1 year and under 5 years ..	289,489
5 years and under 10 years ..	40,364
10 years and above ..	6,052
Total ..	813,381

The large number of successful primary vaccination among those aged more than one year shows that many infants were unprotected for long periods. The postponement of primary vaccination is partly due to sickness and partly due to inadequate vaccination staff to push on primary vaccination.

There is no adequate vaccination staff specially in the rural areas of the State. There should be one Health Assistant for every 20,000 population to enable him to conduct vaccination programmes in a systematic and regular way. But even the minimum staff at the rate of one Health Assistant for every 50,000 are not appointed by the local bodies.

The Central Expert Committee and the State Expert Committee on cholera and smallpox recommended the launching of mass vaccination campaigns to cover the entire population of the State in as short a period as possible so as to eradicate smallpox infection completely from the State. Proposals have been accordingly submitted under the third five-year plan for the smallpox eradication programme with a view to cover the entire population of the State by re-vaccination within a period of three years, the first two years being taken up for preliminary arrangements and the third year for the actual vaccination of the entire population. As a preliminary to the mass vaccination programme throughout the State, a pilot scheme of smallpox eradication in Chingleput district has been proposed for being worked during the year 1960-61.

PLAGUE.

The State was completely free from plague from February 1958 to December 1958. In January and February 1959 fourteen attacks and seven deaths from plague in three villages in Denkanicottah division, Hosur taluk, Salem district only were reported. Three cases without any death occurred in July and August 1959. The source of infection was not traceable. Necessary preventive measures were taken immediately. The infected and all neighbouring villages were immediately treated with D.D.T. and 11,604 anti-plague inoculations were done.

The programme of 'off season' anti-plague measures was continued in the districts of Salem, Coimbatore, the Nilgiris and in the municipal towns of Coimbatore, Coonoor and Ootacamund where plague is endemic. All the endemic villages and towns were treated with D.D.T. regularly. On the whole, 160,886 houses, 37,729 huts, 1,264,357 rodent borrows, 483,508 cracks and other harbourages were insufflated with D.D.T. The quantity of D.D.T. used was 88,927.5 lbs. (10 per cent D.D.T.), 1,223 lbs. (50 per cent D.D.T.) and 72 lbs. (75 per cent D.D.T.).

Block fumigation of 239 grain shops and godowns was carried out with cyanogas 'A' dust in Coimbatore, Coonoor and Ootacamund towns and 105.5 lbs. of cyanogas 'A' dust were used. Rat trapping was advised to be done in all the endemic towns and in many villages periodically as anti-rat measure and for rat flea survey to detect any evidence of smouldering plague infection in the rat population. The number of rodents killed by fumigation and trapping was 28,333 and none of the 8,268 rodents examined were found infected with plague. Rat flea surveys in all the D.D.T. treated areas have shown that the rat flea indices were generally below one, except in a few places where more intensive treatment with D.D.T. was done to reduce the flea indices below one.

FEVERS OTHER THAN MALARIA.

Fevers excluding malaria form one single group which claims the largest toll of life. They were responsible for 14.6 per cent of total deaths in 1959

as against 15.0 per cent in 1958. Here again, the fever mortality recorded since 1951 tends to decline.

Year.	Death rate per 1,000 population.							
(1)	(2)							
1951	..	..	..	..	..	..	..	2.9
1952	..	..	..	..	..	..	..	2.4
1953	..	..	..	..	..	..	..	2.9
1954	..	..	..	..	..	..	..	2.4
1955	..	..	..	..	..	..	..	2.4
1956	..	..	..	..	..	..	..	2.1
1957	..	..	..	..	..	..	..	2.2
1958	..	..	..	..	..	..	..	2.0
1959	..	..	..	..	..	..	..	1.7

The deaths from fevers excluding malaria and the death rates registered in different regions during 1958 and 1959 are given hereunder—

Area.	Deaths from fevers excluding malaria.			
	1958.		1959.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
State	64,491	2.0	57,572	1.7
Rural	50,915	2.1	47,487	2.0
Urban	13,576	1.6	10,085	1.2
Municipal towns.	8,633	1.5	5,792	1.0
Census towns ..	4,943	1.7	4,293	1.5

The above figures reveal that there has been a fall in the mortality in all the regions as compared with the previous year. The decrease in rural areas is however relatively small.

The monthly and annual mortality and the death rates recorded in each district and the State are given in statement IX of the appendix. The incidence was maximum in the fourth quarter and minimum in the second quarter. High death rates were recorded in the districts of North Arcot (3.2), and Ramanathapuram (2.7), and low rates in the districts of Thanjavur (0.7) and Coimbatore (1.3). In all the districts the fever mortality rates were less than the average rates for the previous five years. In thirteen municipal towns the rates were more than 2.0 as compared with the rate of 1.0 for all municipal areas. Tiruvottiyur (4.7), Kodaikanal (4.2), Padmanabhapuram (3.6), Shencottah (3.5) and Walajapet (3.3) returned high rates.

MALARIA.

The number of deaths and death rate from malaria registered in the different areas in the State during 1959 as compared with 1958 are given in the following table—

Area.	Deaths from malaria.			
	1958.		1959.	
	Number.	Rate.	Number.	Rate.
State	1,229	0.04	732	0.02
Rural	1,054	0.04	574	0.02
Urban	175	0.02	158	0.02
Municipal towns ..	106	0.02	95	0.02
Census towns	69	0.02	63	0.02

It will be seen from the above figures that the number of deaths from malaria is small in all areas. It was responsible for only 0.2 per cent of total deaths in 1959. When compared to 1958, there was a large reduction in mortality in rural areas, while in others there was practically no change.

The recorded deaths from malaria in each month in each district and the annual death rates for the districts are given in statement IX (a) of the appendix. Salem district registered the largest number of deaths from malaria (183) with a mortality rate of 0.05.

National Malaria Eradication Programme.—Under the National Malaria Control Programme 2.7 endemic units in rural areas and 1.0 endemic unit in urban areas were established in 1954. The programme was effectively carried out in this State. The year 1958 saw the active participation of the State in the national programme for malaria eradication. The activities of the 3.7 endemic units were intensified and the organizational and administrative planning for additional 27.75 hypo-endemic units which were established in 1959, were completed. Two important factors, viz., (1) feasibility of eradicating the disease by eliminating malaria parasite in human hosts in population which may be protected effectively against fresh infection for a period of at least three years, and (2) the phenomenon of resistance which malaria carrying mosquitoes in some areas of the world have developed against D.D.T. and other insecticides in use, have necessitated the urgency of resorting to National Malaria Eradication Programme. While under a control programme, the operations were limited to areas endemic for malaria, all areas with any degree of transmission, however low it may be, has to be taken into account under eradication programme. This would mean the protection of the entire population, as no area in the tropics can be assumed to be free from autochthonous malaria. Therefore the malaria eradication programme aims at (1) complete coverage by D.D.T. spray for a stipulated period in every known endemic and hypo-endemic areas, (2) intensive parasitic measures for a stipulated period by administration of anti-malarial drugs and (3) stoppage of the measures at the end of the programme after satisfying that there is no longer any hazard of re-introduction of the disease. During the Second Five-Year Plan period, an "attack phase" of three years, 1958-59, 1959-60 and 1960-61, is envisaged and is being carried out in this State according to the plan of operations.

In 1959, the former anti-malaria schemes in 3.7 units functioning in endemic areas covering a population of 3.7 millions were brought under the eradication programme. During the year 27.75 hypo-endemic units were sanctioned to cover the rest of the State. Thus 31 whole and contiguous units, each covering an approximate population of one million, were organized. Such an unprecedented and gigantic set up has necessarily to be augmented by supervisory and subordinate staff.

The National Malaria Eradication Programme in the State is placed in charge of the State Malaria Officer. The State was divided into three zones for purposes of eradication programme and each was placed under an officer designated as Special Supervisory Unit Officer. Each is assisted by eight supervisory unit officers, each of them being in charge of about three or four units. The unit is in charge of a Unit Officer. The Unit is split up into eight sub-units, each in charge of a sub-unit officer. Necessary laboratory and field staff and administrative and executive personnel

like clerks, peons, drivers, etc., have been sanctioned for each unit. Additional transport facilities at the rate of one vehicle for each sub-unit and one for each of the Unit Officers, Supervisory Unit Officers and Special Supervisory Unit Officers have been allotted.

During the year under report, a population of 3.7 millions living in endemic areas coming under the influence of *A. fluviatilis* and *A. culicifacies* have been covered by two rounds of D.D.T. residual spraying. The rest of the population in hypo-endemic areas have been covered by a single round of D.D.T. spraying during the malaria transmission season. The programme of spraying in the rural areas, whether endemic or hypo-endemic, has been followed as per calendar of spray activities prescribed for each unit area. In the case of urban and semi-urban malarial areas including the Corporation of Madras, greater emphasis was laid on anti-larval measures since the vector *A. stephensi*, breeds and rests mostly in wells, especially in well-walls. The anti-larval measures consisting of systematic weekly treatment of wells with mineral oil emulsion as larvicide and introduction of larvivorous fish, gambusia in wells which cannot be treated otherwise with oils, etc., have been undertaken.

In project-areas, both irrigation and hydel, anti-adult as well as anti-larval measures were undertaken. Considering the large aggregation of labour drawn from various areas and from outside the State in certain projects and the inevitable man-made breeding places incidental to engineering projects, it may be stated that no malaria transmission occurred in any project area during the year under report. Further, a systematic co-ordination of the activities of the health and engineering personnel in all projects, either completed or in progress or under contemplation, has been provided for, under the National Malaria Eradication Programme. Likewise the anti-malarial operations in Estate areas in hills are co-ordinated with the activities of the State organization and a Liaison Officer at the Central Government level co-ordinates their activities.

The anti-malarial operations in military establishments and cantonment areas have similarly been co-ordinated with the State organization and facilities for exchange of reports, findings, etc., have been provided for.

A working arrangement for anti-malarial operations in the Railway colonies and the adjacent State areas, have been arrived at and is being implemented successfully by the Railway and State Organizations together.

A chart showing the malaria organization in the State is given in chart No. 7.

During the year under report, the Bureau of Malariology at the State level and the two Regional Malaria Organizations at Coimbatore and Thanjavur were continued on a permanent basis.

Activities of the Central Malaria Laboratory and Museum at Madras.—Laboratory experiments and field tests regarding estimation of D.D.T. deposits persisting in the sprayed areas were carried out in the Central Malaria Laboratory. Colonies of *A. stephensi*, *Culex fatigans* and *Aedes* mosquitoes were maintained, as also the strain of *P. praecox* for purposes of demonstration and training.

Demonstrations and lectures on Entomology, Parasitology, Haematology, Epidemiology and control and eradication of malaria were arranged, for the visiting students from the Medical Colleges at Madras, Madurai, Mysore

and Vellore, Government College of Integrated Medicine, Madras, Public Health Engineers, trainees from the Orientation Training Centre, Poonamallee, Public Health Nurses and Health Visitors, etc. Special lectures and demonstrations were arranged for students undergoing B.Sc. course, Assistant Surgeon deputed from King Institute, Guindy, Medical Internees from Poonamallee and Health Officers. Courses of training in malaria extending over a period of one month each were conducted for 29 Entomological Assistants, 14 Health Inspectors and 25 Field Assistants.

The Malaria Bureau participated in the All-India Khadi and Swadeshi Exhibition.

Regional Malaria Organisation, Coimbatore.—There was no change in the jurisdiction of this organisation. Eighty-three check-up surveys were carried out in anti-filariasis and anti-mosquito schemes. Special surveys were undertaken in four panchayats to formulate schemes for anti-mosquito measures. Re-surveys were undertaken in two panchayats and Mettur Township area to find out the immediate needs of the areas which were expanding. A special survey was carried out in Gathai of Kundah Project to find out the malariousness of the area. The special study of chemical estimation of D.D.T. in scrapings from D.D.T. sprayed areas of the different schemes by Alessandrini's method was continued. The organisation took active part in exhibitions arranged by local bodies or institutions. Two Entomological Assistants and 117 Health Inspectors underwent field training in this organisation before they were posted as Sub-Unit Officers under the eradication programme.

Regional Malaria Organisation, Thanjavur.—There was no change in the jurisdiction of this organisation. Check-up surveys were conducted in about 65 schemes of anti-filariasis, and anti-mosquito measures implemented by the local bodies. One hundred and eight routine inspections and check-up surveys of various anti-filarial and anti-mosquito schemes were carried out during the year. Special surveys to formulate schemes of anti-filariasis or anti-mosquito measures were undertaken in eight areas (five panchayats, a new township area of Neyveli and two private institutions). The experimental anti-filariasis scheme functioning in Malaipatti panchayat of Ramana-thapuram district and financed by State Government continued to show good progress and no evidence of transmission of disease was noticeable in that area. The organisation took part in the fly-control operations at Velanganni where a large gathering of people attended the annual festival. Health education activities included participation in exhibitions arranged by local bodies or medical institutions, festival centres, etc., wherein the importance of control of insect borne diseases was impressed.

Survival and susceptibility tests on mosquitoes were carried out in the laboratory and Alessandrini's test for chemical estimation of D.D.T. in sprayed surfaces from the different National Malaria Eradication Programme units were arranged to be carried out. Fifty-six Health Inspectors and twenty-three Field Assistants underwent one month's training course in malaria and mosquito borne diseases, besides seven Sanitary Inspectors who were given training under refresher course.

Free quinine distribution.—The scheme of free distribution of quinine continued to be in force. The district health staff including those employed under eradication programme distributed quinine and synthetic anti-malarials

to fever cases. The following quantities of quinine and synthetic anti-malarials were distributed during the year 1959 :—

Quinine products	...	...	...	...	207.54 lb.
Synthetic drugs	...	...	...	...	50,782 tablets.

Details of the Activities of the National Malaria Eradication Programme.—The endemic malarious areas in the State are divisible into three categories: (i) those under the influence of *A. fluviatilis* in hill and foot hill regions, (ii) those under the influence of *A. culicifacies* in plain areas, and (iii) those under the influence of *A. stephensi* in certain urban and semi-urban areas. The rest of the State is treated epidemiologically as hypo-endemic areas.

In accordance with the logistics worked out for the hyper-meso endemic and hypo-endemic areas of State the following calendar of activities has been scheduled for carrying out D.D.T. residual spraying operations :—

		A. fluviatilis endemic.	A. culicifacies endemic.	Hypo- endemic.
A. In the State except the Nilgiris.	1st round	15th May to 31st July	1st July to 15th Sep- tember.	15th July to 15th Sep- tember.
	2nd round	1st Septem- ber to 15th November.	1st October to 15th December.	Nil
B. In the Nilgiris.	1st round	1st Febru- ary to 1st May.	..	..
	2nd round	1st October to 1st January.	..	..

Whereas the rural anti-malaria programme envisages seasonal D.D.T. residual spraying of all structures, the urban anti-malaria programme envisages seasonal D.D.T. residual spraying of peripheral areas, mostly augmented by anti-larval operations throughout the year in *A. stephensi* areas.

Before the commencement of spraying operations, pre-operational epidemiological surveys were carried out in hypo-endemic areas. On the completion of spraying operations, post-operational epidemiological assessment surveys were carried out in each unit recording malariometric data. Entomological assessment was continuously carried out to record entomological data. Under passive surveillance 18,906 fever cases have been treated by the staff.

A brief resume of the activities of each of the National Malaria Eradication Programme units is detailed below.

The jurisdiction of each unit, the approximate population served, the number of structures sprayed and the malariometric data recorded in 1959 in each unit area are given in Annexure T.

FILARIA CONTROL.

General.—Filariasis is endemic in several districts and found to be more widespread in the districts of Chingleput, South Arcot, North Arcot and Thanjavur. The problem of filariasis is not mainly confined to urban areas, but is also present in urbanised rural areas in varying degrees. The species

of the parasitic worm causing the disease is *Wuchereria bancrofti* and the vector mosquito transmitting this type of infestation is *Culex fatigans*. "Malayi" type of filariasis has not been recorded, though the species of mosquitoes transmitting this type of filariasis, viz., *Mansonioides*, in association with *Pistia*, has been recorded in entomological collections.

State schemes.—'Anti-mosquito' schemes and 'anti-filarial' schemes, have been in operation in several local bodies with grants-in-aid from State funds. The local bodies carried out organised anti-larval measures which consisted of treatment of *Culex fatigans* breeding places mainly with effective mineral oils and occasionally with synthetic larvicides. Necessary technical advice and guidance regarding the planning, organisation, programme and technique were given by the Regional Malaria Organisations. Detailed half-yearly surveys of the schemes were conducted and the progress reported by the Malaria Organisations. Recommendations for better working of such schemes based on evaluations were made to the local bodies concerned wherever necessary.

National Filaria Control Programme.—The four National Filaria Control Units established during 1957-58 in the State under the National Filaria Control Programme continued to function in the districts of Thanjavur, South Arcot, Chingleput and North Arcot. Each unit was expected to cover a population of 3.0 lakhs for purposes of control operations. The control operations envisaged a two-way attack, viz., mass hetrazan therapy and anti-culicine measures. The mass hetrazan therapy aimed at the reduction of the quantum of *Microfilariae* in the blood of infected persons living in filarial endemic localities, thereby minimising the chances of spread of the disease to healthy persons in the area. Concurrently the anticulicine measures aimed at the reduction in the density of *Culex fatigans*, the vector mosquitoes, thereby further minimising the chances of transmission of the disease. In areas where the units were operating, intensification of anti-culicine measures already in existence was also specially undertaken. A brief resume of work carried out by each of the units is given below.

National Filaria Control Programme Unit in Thanjavur district.—Having completed the delimitation of endemic areas, the mass hetrazan therapy campaign commenced in February 1958 was completed in February 1959. Four urban areas and 87 rural areas comprising a population of 3.96 lakhs were covered through these operations.

As per the recommendations of the Central Government, residual adulticidal spraying with Dieldrin 50 per cent W.P. at 50 Mgs. dosage per square foot was carried out in the various urban and rural areas of Kumbakonam and Nagapattinam taluks during 1958. Unfortunately, owing to an unexpected influx in the housefly density in the sprayed areas as a result of an increase of the biotic potential of the housefly, the further use of this insecticide was altogether given up during 1959 in this and other unit areas. The insecticide B.H.C. provided as a larvicide had already been found to be unsatisfactory in the various anti-mosquito and anti-filariasis schemes. Intensive efforts were made to procure larvicidal oil for anti-mosquito operations, which were successful in the end, and anti-larval operations were intensively adopted during 1959 as the most effective measure for the control of *Culex fatigans* mosquitoes.

The operations consisted of minor engineering measures, like filling up of pits, canalisation of drains and pools, construction of soak-pits, cleaning of masonry drains, removal of scum from disused wells, filling up of unused wells and removal of tank vegetation, etc., supplemented by spraying of larvicidal oil. Minor engineering and anti-larval operations were undertaken in Kumbakonam, Tiruvarur, Mannargudi and Nagapattinam municipalities and the intensification of anti-larval work by spraying mosquito control oil was undertaken in nine rural areas.

Pest-control and routine entomological surveys were undertaken for assessing the effects of control measures. Sustained health education activities were maintained to enlist active co-operation of the public in the activities of the unit and the anti-filarial schemes of the local bodies in the Unit area.

National Filaria Control Unit in Chingleput district.—The delimitation of the endemic areas having been completed, mass hetrazan therapy was commenced in September 1958, and completed in September 1959. Two urban areas and 72 rural areas comprising a population of 3.51 lakhs were covered. In selected margin areas, B.H.C. was used as a larvicide on an experimental basis. Anti-larval measures by way of minor engineering operations enumerated above and further intensification of the measures by spraying mosquito control oil as larvicide was carried out in the urban and rural areas of Chingleput, Kancheepuram, Madurantakam, Kunnathur, Kovur, Mangadu, Poonamallee and Sriperumbudur.

Post-operational blood surveys and routine entomological surveys were carried out. Check-up entomological activities were undertaken by this unit was also the successful fulfilment of anti-filarial operations in the local bodies of the unit area.

An interesting experiment was carried out in Poonamallee to ascertain the periodicity of the micro-filaria in the human blood both during the night and day blood smears. It was found that in 0.9 per cent of day blood smears micro-filaria could be identified.

National Filaria Control Unit in North Arcot district.—The unit was engaged up to the early part of the year under report in the surveys to demarcate the endemic areas for filariasis. Mass hetrazan therapy campaign was commenced in January 1959 and was continued during the year under report. Five urban areas and 62 rural areas were taken up covering a population of 4.12 lakhs.

During the year under report, anti-larval measures in three urban areas of Arcot, Ranipet and Wallajapet and in eight rural areas through minor engineering works, were initiated besides intensification of anti-larval measure through the use of mosquito control oil. Post-operational blood surveys and routine entomological surveys were conducted. Sustained health education activities were intensified for the continuance of the operation of mass hetrazan therapy and anticulicine measures.

An experiment regarding the periodicity of micro-filaria trace, both in the night and day blood smears, was conducted at Vellore and Ranipet. It was found that 0.5 per cent of the blood smears were positive for micro-filaria both during day and night.

National Filaria Control Unit in South Arcot district.—The unit was engaged in preliminary surveys, disease enquiries and entomological investigations during the early part of the year 1959. Surveys to demarcate endemic areas for filariasis were completed. Four urban and 48 rural areas were surveyed and a population of 0.28 lakhs were examined for evidence of external manifestations of filariasis and for the presence of microfilaria in their blood. The disease rate and infection rate worked out to be 2.7 per cent and 11.4 per cent respectively. Out of 3,067 *Culex fatigans* mosquitoes dissected, 282 were positive for infection with filarial worms, giving a mosquito infection rate of 9.2 per cent.

Having completed these preliminary surveys, mass betrazan therapy campaign was commenced in October 1959 and was in progress since. The population covered was 73,000.

Anti-larval measures by way of minor engineering works were undertaken in the urban areas of Cuddalore and Chidambaram and in the rural areas of Varakalpattu, Karamanikuppam, Tiruvendipuram, Kurinjipadi and Nellikuppam. Intensification of anti-larval measures by the use of mosquito control oil was carried out in Cuddalore, Chidambaram, Villupuram and Tindivanam towns and in the rural areas of (1) Varakalpattu, (2) Karamanikuppam, (3) Tiruvendipuram, (4) Valavanur Panchayat, (5) Srinushnam panchayat, (6) Kurinjipadi Panchayat and (7) Nellikuppam Panchayat.

Entomological investigations were carried out. Sustained health educational activities were adopted in the Unit area for the successful continuance of the mass betrazan therapy campaign and anti-filaria measures in the local bodies.

RESPIRATORY DISEASES.

The following statement shows the mortality from respiratory diseases registered in the different regions in 1958 and 1959 :—

Area.	Deaths from respiratory diseases.			
	1958.		1959.	
	Number.	Rate.	Number.	Rate.
State	42,258	1.3	40,855	1.2
Rural	22,019	0.9	20,910	0.9
Urban	20,239	2.4	19,946	2.3
Municipal towns	18,230	3.2	17,894	3.0
Census towns	2,009	0.7	2,052	0.7

In the State as a whole and in urban areas the mortality from this group of diseases has slightly decreased as compared with 1958. The death rate is high in urban areas especially in municipal towns and comparatively very low in rural areas and census towns. These diseases were responsible for 10.4 per cent of the total deaths in 1959.

Statement XI of the appendix gives the monthly and annual deaths from the group in each district and the State. Maximum number of deaths was recorded in the fourth quarter and the minimum in the second quarter. As usual, the Nilgiris district recorded the highest death rate of 1.7 and Thanjavur district the lowest rate of 0.6. The municipalities that registered high death rates were Kancheepuram (5.6), Madras (4.9), Ootacamund (4.8), Tuticorin (4.2) and Kodaikanal (4.1).

TUBERCULOSIS

The curative and preventive medical care of tuberculosis is under the administrative control of the Medical Department. A note on the activities of the Government Tuberculosis Institute, Madras sent by the Director of Medical Services is summarised below.

The primary work of this institution was diagnosis and treatment of cases of pulmonary tuberculosis. Pre and post sanatorium treatment was carried out for patients before admission and after discharge from sanatorium. Periodical check up of arrested cases was also done. Examination of contacts was carried out to detect cases of tuberculosis among contacts. The Medical Officers and the Health Visitors paid 1,464 house visits in 1959 and 1,029 pulmonary cases among contacts were detected.

Mass Miniature Radiography Unit of the Institute was employed to detect early cases of pulmonary tuberculosis among college and school students, police personnel, factory workers, etc. The number of persons X-rayed was 8,054 of whom 75 were suffering from pulmonary tuberculosis.

Four tuberculosis clinics attached to the Government hospitals in Madras catered to the needs of the respective locality. House visiting and contact examination by the staff of the clinic were also continued in the respective areas.

The public health staff carried out health education by distributing leaflets and posters, whenever they visited villages and advised those afflicted with the disease to take prompt treatment in medical institutions maintained for the purpose.

B.C.G. Vaccination Campaign.—Two B.C.G. units continued to function in the State. The campaign in Ramanathapuram, South Arcot and Thanjavur districts was completed and was under way in Madurai district. During the year 765,863 persons were tuberculin tested and 214,558 were vaccinated. Since its inception in 1954, the campaign was conducted in all district headquarter towns including a belt area of 5 to 6 miles and in all districts except Chingleput, Tiruchirappalli and Tirunelveli districts. So far 3,855,374 persons were tested and 1,295,337 were vaccinated.

There was some anti-propaganda against the campaign by certain sections of the people in Thanjavur district. This was met by active and intensive educational campaign by the B.C.G. staff by distribution of leaflets and pamphlets on B.C.G. and also by group talks with the people, particularly teachers, panchayat members, etc. Two thousand seven hundred and eighty-six cinema shows were conducted, 670 meetings were held, 11,308 talks were delivered and 7 exhibitions were conducted.

The posts of Team leaders hitherto held by Assistant Surgeons have since been ordered to be filled up by selection grade Health Inspectors owing to dearth of qualified medical personnel.

The WHO/UNICEF continued their assistance to the B.C.G. campaign by supply of transport, spare parts, equipments for testing and vaccination, etc.

INFLUENZA.

There was no epidemic of influenza during the year. A few cases of "flu" of a mild type occurred in some parts of the State. In municipal areas, where deaths from influenza are separately registered, only nine deaths in five municipal towns were registered. However, sufficient quantities of

sulpha drugs and APC tablets were stocked by the Health Officers to meet any emergency.

KALA-AZAR.

The joint enquiry on the incidence of kala-azar in households in the city of Madras which was instituted during 1956-57 in collaboration with the Professor of Medicine, Madras Medical College, was continued. Periodical visits to households of active kala-azar cases were made to assess (i) the number of active cases amongst other members of the households, (ii) previous occurrence of kala-azar and deaths if any in the households and (iii) sandfly density. Out of 561 cases studied, 333 were diagnosed as kala-azar, 146 as dermal leishmanoid, 69 were found suffering from other diseases including pyrexia of unknown origin and 13 were doubtful. Sandfly collections were made in both infected and non-infected houses. The following species of sandflies were collected.

<i>P. argentipes</i>	..	..	..	126 males and 215 females
<i>P. papatasi</i>	..	..	..	35 „ 44 „
Others	..	..	..	1 male 17 „

All the *P. argenteipes* females collected were dissected and examined for leptomastix forms but were found to be negative.

The number of kala-azar cases treated and the number died in medical institutions in the coastal districts in the State are as follows :—

	Total cases treated.	Number of deaths.	Dermal leishmanoid cases.
Madras City	852	2	24
Madras State excluding Madras City ..	2,059	2	40

GUINEAWORM.

Guineaworm disease is prevalent in rural areas only where there is no protected water-supply. It is prevalent in the districts of South Arcot, North Arcot, Tiruchirappalli, Madurai, Salem, Coimbatore, Ramanathapuram, Thanjavur and Chingleput.

The temporary staff of one Entomological Assistant, two Health Inspectors and two attenders sanctioned for research work were continued. The two Health Inspectors employed for research schemes continued control measures in Gingee and Wandiwash taluks. The following statement shows the number of villages taken up for control and other relevant details :—

Name of taluk.	Number of villages taken up for control.	Number of water points treated.	Number of cases recorded.
(1)	(2)	(3)	(4)
Gingee	370	660	890
Wandiwash*	51	62	290

* Exclusive of the work carried out by the guineaworm eradication staff posted in this taluk.

In Wandiwash, the villages of Thellar, Avaniapuram, Katteri, Athipakkam, Ramasamudram, Nallore and Embalam which were heavily infected reported a few cases only due to the constant and intensive treatment of water sources.

In connection with the treatment of water sources in Gingee and Wandiwash taluks, 297 lb. of bleaching powder, 748 lb. of DDT, and 3,513 lb. of Gammexane D. 120 were spent.

District Board Guineaworm Schemes.—Guineaworm schemes were undertaken by the district boards of South Arcot, North Arcot, Tirunelveli, Madurai, Thanjavur, Salem, Coimbatore and Ramanathapuram districts till the introduction of guineaworm eradication programme in November, 1959. The following statement shows the districtwise data as to the number of villages taken up for control, cases recorded and special staff employed :—

Name of district.	Number of villages taken up for control.	Number of cases recorded.	Special staff employed.
(1)	(2)	(3)	(4)
Ramanathapuram ..	27	73	1 Field Assistant.
Tiruchirappalli ..	448	3,523	1 Sanitary Inspector and 6 Field Assistants.
Thanjavur	27	286	2 Sanitary Inspectors.
Madurai	33	658	2 Sanitary Inspectors and 5 Field Assistants.
North Arcot (exclusive of Wandiwash).	55	982	2 Sanitary Inspectors and 2 Field Assistants.
South Arcot ..	219	1,198	1 Sanitary Inspector, 1 Health Inspector and 3 Field Assistants.
Salem	15	175	....
Coimbatore	65	65	....

The control measures consisted of superchlorination of water sources in the districts of Ramanathapuram, Thanjavur, Madurai, South Arcot, Coimbatore and Salem and treatment of water sources with DDT, and Gammexane D. 120 according to the kind of water sources in North Arcot district. In Tiruchirappalli, the water sources were treated with DDT, and bleaching powder.

North Arcot district board was given full grant of Rs. 11,000 by Government and Tiruchirappalli and Madurai district boards were given one-third grant. The grant-in-aid given to all these district boards was withdrawn from 1st December 1959.

In August, 1959 a scheme for the eradication of guineaworm disease in the State was sanctioned by Government. Six Entomological Assistants, 19 Health Inspectors and 55 Field Assistants were sanctioned for the eradication programme. Five Entomological Assistants, 18 Health Inspectors, 51 Field Assistants were recruited during the period September to November, 1959 and were given necessary training in the investigation and control measures of guineaworm disease at the Research Laboratory of this Department.

The districts where the disease is prevalent were divided into six units for purpose of eradication programme. The areas covered by the units are mentioned below :—

Unit.	Areas covered.
Villupuram	Gingee, Tindivanam, Villupuram and Cuddalore taluks of South Arcot district.
Tirukkoyilur	Viruddhachalam, Tirukoilur, Kallakurichi and Chidambaram taluks of South Arcot district.

Unit.	Areas covered.
Polur	The whole of North Arcot district.
Tiruchirappalli	Thanjavur and Tiruchirappalli districts.
Madurai	Madurai and Ramanathapuram districts.
Bhavani	Coimbatore and Salem districts.

In December 1959, the Health Inspectors and Field Assistants began a survey of the villages in each unit area to find out the sources of drinking water, their nature, quantity of water available in each source, etc., so that intensive treatment with appropriate chemicals might be carried out during the on-season. The survey was continued in 1960.

Exhibits on guineaworm disease control and on control of Yaws were displayed at the All-India Khadi, Swadeshi and Industrial Exhibition conducted during 1959-60. Demonstrations on the epidemiological and entomological aspects of kala-azar and guineaworm diseases were arranged for the students of the Madras Medical College, the Orientation Training Centre and the Vellore Medical College.

LEPROSY.

Leprosy institutions in this State continued to be under the control of the Medical Department. The activities of the department as furnished by the Director of Medical Services are summarised below :—

Five leprosy centres were opened during the year 1959, bringing the total to 213. Leprosy relief and control scheme for Wallajah taluk in North Arcot district with 16 sub-centres was sanctioned and the scheme was implemented during the year.

The Hind Kust Nivaran Sangh, Madras State Branch, is considered as a wing of the leprosy campaign of the State. A grant of Rs. 1,300 per annum was sanctioned for the Sangh for running the publicity welfare organisation for leprosy in the State. The Sangh has a publicity van with a public address equipment system, a projector with generator and a tape-recorder. Education on leprosy was carried out in association with leprosy control centres, sanatoria, etc. As a result of the educational activity, the attendance at the leprosy clinics had improved and several early cases turned up for treatment. Several posters on leprosy have been prepared and distributed to various clinics and leprosy control centres. The Sangh participated in the All-India Khadi, Swadeshi and Industrial Exhibition at Madras during the year. It conducted a Publicity Campaign in September with the slogan "Rehabilitate the Leprosy Patients". Persons suffering from leprosy are generally treated by the public with apathy and are denied to respect in society. In order that the public may develop a quickened sense of duty in this matter of rehabilitation the campaign was organised.

Leprosy surveys were conducted whenever possible by the public health staff and 10,328 cases of leprosy were detected. The coverage is not complete. Health education to the extent possible was done by the health staff during their visits to villages. The leprosy patients were advised to take treatment in the nearest hospitals, clinics, treatment or subsidiary leprosy centres and Primary Health Centres. The nature of the disease and the desirability of the infected persons living separately from children were also explained. To enable the health staff to carry out surveys and take preventive measures efficiently, 27 Health and Sanitary Inspectors were trained in Leprosy Institutions in the State in four batches, each batch undergoing a course of six weeks.

VENEREAL DISEASES.

The Venereal diseases clinics and institutions in the State are under the control of the Medical Department. The Director of Medical Services has reported that the number of tests done for diagnosis of syphilis in the Serological section of the King Institute, Guindy was 41,596. Of these, 4,615 proved positive. V.D.R.L. microflocculation test for all blood specimens received were done and quantitative test was also done for all positive specimens.

This Department carried out health education as far as possible during their visits to the villages. The patients were advised to take treatment in the nearest clinics or hospitals.

The WHO sponsored venereal diseases control scheme started in Madurai Municipality in 1953 with a subsidy of the municipal council at the beginning, is at present being undertaken entirely by the Municipal Council, Madurai. In addition to the venereal diseases clinic and serological laboratory already functioning, the Government have sanctioned the opening of another venereal diseases clinic in the western part of the town. The existing clinic continued its useful work. Priority was given to ante-natal cases and their contacts referred to from the maternity and child welfare centres. During the year 12,232 ante-natal cases were examined for V.D.R.L. test and 975 proved positive. The patients and the contacts of these positive cases were followed up for periodical check up and given regular course of treatment. In all 22,291 blood specimens were examined and 2,707 proved positive. A total of 19,642 cases were treated at the clinic, out of which 8,101 were males 11,513 females and 25 children.

YAWS.

Yaws is prevalent widely among the socio-economically backward people, mostly the Harijans of Avanashi, Palladam and Erode taluks of Coimbatore district. Surveys and treatment of cases of yaws were carried out in Avanashi and Palladam taluks. The prevalence of yaws in these areas was controlled. With a view to stabilise the results achieved, a maintenance programme for one year in Avanashi taluk was sanctioned. One Health Inspector, one Health Assistant and one peon were appointed to detect and treat cases of yaws. The scheme was implemented from June, 1959. In addition to the treatment of yaws cases, treatment was given to patients suffering from itches, eye-sore and other minor ailments. In the survey conducted to detect cases of yaws, 19,250 persons in 3,307 houses in 339 villages were examined. Two hundred and ninety four active cases of yaws and 312 non-active cases (late yaws) were detected. Among the active cases, only 19 were infectious. All these cases were treated. The quantity of P.A.M. spent was 3,148.5 c.e.

In addition to the surveillance work, the staff conducted a survey to detect cases of yaws in five villages in Perundurai range and treated them. The number of persons examined in 102 houses was 635. Of these, 26 active non-infectious cases and 32 late yaws cases were observed. All the cases were treated.

INFECTIOUS DISEASES HOSPITALS.

Among the control measures adopted for communicable diseases the most important is the isolation of infected persons and treatment. It is therefore essential that infectious diseases hospitals or wards in hospitals should be provided in every local area. Under the provisions of the Madras Public Health Act, the Government may require local bodies to construct infectious

diseases hospitals. The Government have approved of the proposal to construct infectious diseases hospitals in 35 centres in the State and have agreed to pay grants up to 50 per cent of the initial non-recurring cost and to the extent necessary in respect of maintenance costs to such of the local authorities as need grants.

CHAPTER III—HEALTH SERVICES.

MATERNAL AND CHILD HEALTH SERVICES.

Introduction.—The maternity and child health services in rural areas were further extended by opening 112 maternity and child welfare centres under Government schemes under the second five year plan and the primary health centres in National Extension Service and Community Development Programmes, etc. The local bodies opened 12 new centres. The voluntary agencies also played an important role in augmenting the maternity and child health services by opening 72 new centres. The increased provision for maternal and child care during the past few years has paid good dividends in that there has been a gradual fall in infant and maternal mortality.

Maternal and Child Health Services under the Backward Area Scheme.—

The 19 maternity and child welfare main centres with four sub-centres attached to each opened during 1955-56 with the staff of one Health Visitor and one ayah for the main centre and one Maternity Assistant and one ayah each for sub-centre in backward areas continued to do useful work. The entire expenditure on this scheme (Rs. 2.90) lakhs approximately) during 1959 was borne from the State funds.

Maternal and Child Health Services under the Second Five Year Plan.—

Ninety-six maternity and child welfare centres were opened during the year bringing the total number to 393, out of 189 sanctioned under the second-five-year plan for the State including Kanyakumari district. Each centre was staffed with one Maternity Assistant and one ayah.

At the end of 1959 there were 1,759 maternity and child welfare centres and maternity homes under all the schemes as against 1,563 in 1958. The details of the maternity and child welfare centres and maternity homes maintained by Government, local bodies and voluntary organizations are shown in the statement hereunder :—

Name of the institution or scheme.	Maternity Homes.		Maternity and child welfare centres with beds.		Maternity and child welfare centres without beds.	Total number of maternity homes and maternity and child health centres.
	Number.	Bed strength.	Number.	Bed strength.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Government—						
1 Health Unit, Poonmalai ..	7	32	..	..	1	8
2 Backward Area Scheme ..	..	..	12	12	83	95
3 Second Five-Year Plan Scheme ..	..	..	..	..	393	393
4 Other Schemes ..	..	..	..	..	479	479
Total ..	7	32	12	12	956	975

Name of the institution or scheme.	Maternity Homes.		Maternity and child welfare centres with beds.		Maternity and child welfare centres without beds.	Total number of maternity homes and maternity and child health centres.
	Number.	Bed strength.	Number.	Bed strength.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
II. Local Bodies—						
1 District Boards (inclusive of Panchayats) ..	9	60	47	112	266	322
2 Municipalities ..	41	481	55	157	114	210
3 Corporation ..	20	295	..	..	24	44
Total ..	70	836	102	269	404	576
III. Voluntary agencies—						
Private and aided ..	33	422	84	203	91	208
Grand total ..	110	1,290	198	484	1,451	1,759

The sanctioned strength of the staff for maternity and child welfare services employed by all agencies is shown in the statement below :—

Maternity and child health staff.

Staff and agency.	Number.			
	At the end of 1958.	Sanctioned in 1959.	Withdrawn in 1959.	At the end of 1959.
(1)	(2)	(3)	(4)	(5)
Women Medical Officers—				
Government ..	3	..	..	3
District Boards ..	20	..	..	19
Municipalities ..	46	1	2	45
Corporation of Madras ..	31	..	..	31
Voluntary Agency ..	14	1	..	15
Total ..	114	2	3	113
Resident Matrons—				
Government ..	2	..	..	2
District Boards ..	2	..	..	2
Municipalities ..	13	..	..	13
Corporation of Madras ..	16	..	..	16
Total ..	33	..	..	33
Health Visitors—				
Government ..	138	5	..	143
District Boards ..	18	..	1	17
Municipalities ..	49	..	..	49
Corporation of Madras ..	88	..	..	88
Voluntary Agencies ..	1	..	..	1
Total ..	294	5	1	298
Maternity Assistants—				
Government ..	754	287	2	1,039
District Boards ..	410	59	..	469
Municipalities ..	429	16	..	445
Corporation of Madras ..	290	..	..	290
Voluntary Agencies ..	153	110	..	263
Total ..	2,036	472	2	2,508

STAFF.

Women Medical Officers.—Excepting the district boards of North Arcot, Tirunelveli, the Nilgiris and Kanyakumari, all others had sanctioned posts of Women Medical Officers numbering 19 in all. The post of the Woman Medical Officer in Tirunelveli district was abolished during the year. One post of a Woman Medical Officer was sanctioned for the newly constituted Kurichi Municipality. There was an increase of one post under this category employed by the voluntary agencies.

Resident Matrons.—No additional post was sanctioned during 1959, the total number of sanctioned posts being 33.

Health Visitors.—There was an increase of five posts of Health Visitors under the primary health centres, while one post of Health Visitor under Government in Kanyakumari district was reduced. The strength of Health Visitors was 298 under all agencies as against 294 in the previous year.

Maternity Assistants.—The total sanctioned strength of Maternity Assistants under all agencies in the State was 2,506 as against 2,049 in the previous year.

The distribution of the maternity and child welfare staff in municipal and non-municipal areas in each district is shown in Annexure K.

Outturn of work.—The details of the outturn of work carried out by the staff, total number of mothers brought under care, home visits made, clinics conducted, mother's classes held, lantern lectures given and schools visited for health education, etc., are furnished in the Annexure J. The percentage of births attended to by the Maternity Assistants in districts exclusive of municipalities was 17.7 and that in municipalities was 43.0 as against 13.3 and 42.4 respectively in 1958.

Voluntary organisations.—The following voluntary organizations, viz., Social Welfare Extension Projects, Avvai Rural Medical Service, Kasturba Gandhi National Memorial Trust and Velacheri Welfare Association continued to render maternal and child health services to mothers and children. One hundred and seventy-five centres and 33 homes were maintained by voluntary organisations as compared with 125 centres and 11 homes in the previous year.

Finance.—The expenditure incurred on maternity and child welfare schemes undertaken by Government was Rs. 10.89 lakhs during 1959. A sum of Rs. 26.96 lakhs was spent on maternal and child health services by local bodies representing 1.18 per cent of total income. The municipalities and the Corporation of Madras spent Rs. 21.56 lakhs and the district boards Rs. 5.40 lakhs. A sum of Rs. 3.98 lakhs was paid by Government towards maintenance grant for maternal and child health services during the year to local bodies other than the Corporation of Madras.

Thayis Training Scheme.—Thayis training scheme under the Second Five-Year Plan was continued. The main objective is to educate the unskilled barber midwives by imparting technical training for a period of six months. To induce them to take up this course a thayis kit costing about Rs. 50 was given free to each trainee. In addition, a cash reward not exceeding Rs. 20 per mensem was also paid to each at the rate of 8 annas for each ante-natal or post-natal case and Rs. 2 for each labour case. This reward was raised to Rs. 30 from December 1959 by the Government of India in order to improve the response for undertaking the course. Further, refills costing Re. 1 for each delivery case attended to by them were supplied.

The total estimated cost of the scheme in 1959 was Rs. 6.08 lakhs. During the year, 900 thayis were proposed to be trained under the Second Five-Year Plan in 15 primary health centres. But, of these, 342 thayis received training while 559 were still undergoing training. Since the beginning of the training scheme, the total number trained was 1,534 and the number under-training was 422.

All-India Thayis Training Scheme.—This training scheme sponsored by the Director-General of Health Services and aided solely by the UNICEF was continued. Out of 125 dais to be trained in the five districts of Chingleput, South Arcot, North Arcot, Madurai and Tirunelveli, 11 dais were trained during the year bringing the total number to 82 from the commencement of training.

Health Visitors Training.—Under the Second-Five Year Plan, the batch of 37 candidates who were undergoing training under the integrated course of 2½ years have passed out at the end of the year. The cost of the scheme in 1959 (Rs. 0.28 lakhs) was shared by the Central and the State Governments.

The Health Visitors Training school was shifted to the new permanent building. Twenty-six candidates were admitted to the regular Health Visitors course for 18 months and 24 admitted in the previous year completed their course successfully.

Twenty-one general trained sick nurses were given short Public Health Nursing course training for a period of three months with a view to post them as Health Visitors under the primary health centres. The stipends for these trainees were borne by the UNICEF.

Family Planning.—The Family Planning clinic at Poonamallee under this department continued to function during the year under report. Its activities which were till now confined to the Poonamallee panchayat area only were extended to the whole Health Unit area. An ayah was additionally appointed to the clinic to assist the Assistant Surgeon and the Health Visitor particularly during their out-door work. The work turned out by this clinic is summarised below.

Out of 2,874 persons were contacted, 2,376 were given advice in the family planning methods. Of these, 243 adopted contraceptive method excluding sterilisation, while 35 women and 5 men underwent sulphingectomy and vasectomy operations respectively. Contraceptives were supplied free to the beneficiaries in 1959.

Family Planning clinics continued to function in Coimbatore and Madurai municipalities with grant-in-aid from the Government of India. The post of one Social Worker was sanctioned additionally to Coimbatore Municipality for the Family Planning clinic at Seethalakshi Maternity Home.

The Municipal and the District Health Officers were instructed to direct health visitors and maternity assistants to carry on propaganda on family planning during their home visits and also to take the family planning nurse attached to medical institutions in the respective areas during their visits.

Sixty-seven Health Visitors employed in Primary Health Centres were given 10 days' training in Family Planning technique at the Women and Children Hospital, Egmore in 1959.

UNICEF aid for maternal and child health work.—UNICEF assistance to the 98 maternity and child health centres run by the Government, local bodies and other voluntary organizations was continued. The centres were

supplied with basic equipments and midwifery kits, drugs and diet supplements for the use of the expectant and nursing mothers and children. The drugs and diet supplements were very useful for carrying out maternal and child health services as they attracted the beneficiaries to the centres. The UNICEF also supplied 15 lady bicycles for the use of pupil Health Visitors who were undergoing training in Health Visitors school.

MATERNAL MORTALITY.

A steady and gradual decline in the maternal mortality rates recorded since 1956 will be evident from the following figures:—

Year.	Maternal deaths.		
	Number.	Rates per 1,000 live and still births.	
(1)	(2)	(3)	
1956	4,502	5.0	
1957	4,020	4.6	
1958	3,795	4.2	
1959	3,742	3.9	

Considering the maternal mortality rates recorded in the composite Madras State prior to 1956, the maternal mortality rate of 3.9 in 1959 is the lowest on record.

The declining trend is perhaps indicative of the benefits accruing from the rapid increased maternity services during the past few years.

The number of mothers who died as a result of child birth in the different areas of the State and the maternal mortality rate registered in 1958 and 1959 are compared in the statement given below:—

Area.	1958.		1959.	
	Number of maternal deaths.	Maternal mortality rate.	Number of maternal deaths.	Maternal mortality rate.
(1)	(2)	(3)	(4)	(5)
State	3,795	4.2	3,742	3.9
Rural	2,448	4.1	2,270	3.6
Urban	1,347	4.4	1,472	4.6
Municipal towns	1,055	4.4	1,043	4.1
Census towns	292	4.5	429	5.8

The maternal mortality rate in rural areas has slightly decreased, while that in census towns has increased as compared with 1958. In the other areas, the variations in rates are negligible.

The maternal mortality and rates registered in the districts are given in statements II of the appendix and those in rural districts, municipal and census towns in statement VI of the appendix. The rates ranged from 2.65 in the Nilgiris district to 5.57 in Thanjavur district. The other districts that recorded high rates were Tirunelveli (5.46), Tiruchirappalli (5.24) and Kanyakumari (5.20). In municipal areas, the rates varied from nil in 4 towns to 17.9 in Palayamkottai. The other municipalities which returned high rates were Chingleput (15.4), Srivilliputhur (12.5), Kancheepuram (11.5) and Erode (10.7).

INFANT MORTALITY.

The infant mortality rate for 1959 is the lowest recorded in the present reorganised State during the past 11 years for which records are available, as will be evident from the following statement.

Year.			Infant mortality rate.	Year.			Infant mortality rate.
(1)			(2)	(1)			(2)
1949			113.0	1955			107.8
1950			129.6	1956			117.0
1951			120.5	1957			110.7
1952			103.3	1958			103.4
1953			119.4	1959			91.1
1954			105.6				

There is a definite downward trend in the recorded infant mortality rates. A straight line is fitted to the observed data in 1949 to 1956 and is represented in Chart No. 2. The question to the straight line is $Y = 2.07 X + 110.04$ with 1954 as origin.

The fall in the infant mortality rate is reflected in all the regions of the State as compared with 1958. The rates for the different regions are given hereunder:—

Area.	Infant mortality.			
	1958.		1959.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
State	91,513	103.4	86,151	91.1
Rural	62,244	105.4	57,795	91.7
Urban	29,269	99.5	28,356	89.9
Municipal towns	23,905	104.5	23,126	95.1
Census towns	5,364	81.8	5,230	72.5

The details of infant mortality rates for the age groups under one year in rural and urban areas and in the State are extracted below from statement IV of the appendix:—

Age group.	Rural.	Urban.	State.
Under 1 week	12.0	25.4	16.5
1 week and under 1 month	32.2	14.7	26.4
1 month and under 6 months	19.1	24.6	20.9
6 months and under 1 year	28.4	25.2	27.4
Total under 1 year	91.7	89.9	91.1

The rate for the age group 'under one week' for urban areas is very much higher and that for age group 'one week and under one month' is very much lower than that recorded for rural areas. Taking the neo-natal period, the infant mortality rate is 40.1 and 44.1 in urban and rural areas respectively. In view of the fact that skilled aid is available for a larger percentage of births in urban areas than in rural areas, the very low infant mortality rate recorded for the age group 'under one week' in rural areas is perhaps due to wrong entry of age at death.

The infant deaths represent 21.8 per cent of the total deaths at all ages in the State. Of the infant deaths neo-natal deaths account for 47 per cent.

Statement IV of the appendix gives the infant deaths in rural and urban areas in each district. Annexure E gives the infant deaths and infant mortality rates in municipal and non-municipal areas in each district and in each district as a whole. The infant mortality rates in the districts ranged from 63.4 in Kanyakumari district to 111.4 in Chingleput district. The infant mortality and rates recorded in each community in each municipality are given in statement IV (a) of the appendix. Kuzhithurai (30.8), Nagercoil (36.8), Srirangam (38.6) and Tiruvarur (39.8) returned low infant mortality rates, while Tiruvottiyur (246.2), Madras (129.2), and Gudiyatham (127.1) recorded the highest rates.

In municipal areas, the infant mortality rates for communities were as follows:—

Community.	Infant mortality rate.
Hindus	94.7
Muslims	115.8
Christians	71.8

The rate among the Christian community was the lowest.

INDUSTRIAL HYGIENE.

The Health Officers, as additional Inspectors of Factories under the Factories Act, 1948 inspected the factories under their respective jurisdiction. During the year, 1968 factories out of 3,511 functioning in the first half of 1959 and 1,785 factories out of 3,271 working in the second half of 1959 were inspected by the health officers. The defects noticed during inspection regarding matters of health—cleanliness, ventilation, disposal of effluent and wastes, dust and fume, over crowding, provision of latrines and urinals and spittoons, employment of child labour, etc., were reported to the concerned Inspectors of Factories for necessary action.

A summary of the report sent by the Chief Inspector of Factories in so far as public health in the factories is given below:—

The Inspectors of Factories paid special attention to the protection of the workers against industrial diseases and maintenance of general health. The occupiers and managers of the factories were required to carry out necessary measures in conformity with legal provisions regarding premises and the health of the workers. Full and part-time medical officers were appointed for big factories to give medical treatment to the workers who suffer from industrial diseases. Child labour was not allowed and "young persons" as defined under the Factories Act were allowed to work only after certificates of fitness from the certifying surgeons were obtained. Twenty-six prosecutions were launched in 1959 for infringement of the provisions relating to employment of "young persons". No epidemic diseases were reported and the health of the workers had been generally good. The factory premises were generally kept clean and guards for dangerous parts of machineries were provided and maintained well. In almost all factories adequate steps were taken wherever necessary to mitigate dust nuisance in textile mills, decorticating factories, tea and coffee curing factories and to prevent as far as possible inhalation of dust. Most of the factories provided first-aid boxes or

cupboards and necessary adequate washing facilities. In most of the factories which employed more than 50 women workers, creaches were provided and in every factory with 250 or more workers, canteens were run. Medical facilities as far as possible, were provided. The problem of housing in many industrial areas has not been solved satisfactorily. Persuasive measures were being taken with the management to provide necessary housing facilities under the Industrial Housing Scheme sponsored by the Government of India.

RESIDENTIAL AND INDUSTRIAL AREAS.

Forty-six out of 64 municipalities have notified residential areas under section 89 of the Madras Public Health Act. But in respect of most of the other municipalities, proposals are pending approval or notification. Out of the 144 class I panchayats declared as urban local authorities, 69 have notified residential areas. During the year, 68, proposals pertaining to the notification of residential areas and exclusion of sites from the notified residential areas received from municipalities and panchayats were examined and 21 were approved.

Almost all the municipalities and a large number of panchayats have declared industrial areas. With increasing industrialisation more industrial areas were called for and consequently proposals for expansion of industrial areas were received. Industrial areas in four local bodies were approved during the year.

HEALTH EDUCATION.

Health education is one of the main planks on which public health problems are fought. Several sectors of the population—the old and the young, the literate and the illiterate, people pursuing different professions, people in rural and urban areas, school children, etc.—have all to be reached so that they might observe principles of public health. Proposals for expansion of the Health Education Branch of this Department were forwarded to Government for sanction. It is hoped that they will be implemented in the next year. A foreign Health Education Expert under the T.C.M. assisted the Health Education Officer of this Department to set up the Health Education Bureau.

To enable this Department and the health staff of the local bodies and other agencies to conduct health education, a film library has been set up where 16 m.m. health films are stocked for circulation on hire basis system at a nominal rent of Rs. 2 per reel per week. Three films were purchased for the library in 1959, bringing the total number to 116. Municipalities, district boards and other health organisations were supplied with 110 films on health subjects and a sum of Rs. 280 was realised in 1959.

Leaflets, posters and exhibits on various health subjects were also stocked in the Education Branch of the Department. Leaflets on Venereal Diseases, Guinea worm, Malaria Eradication and Cancer were printed in 1959. These were distributed to the health staff free of cost and to local bodies and others on cost. Posters, charts, models, etc., on health subjects on Water, Insects as carriers of disease, Guinea worm, etc., were lent to Coimbatore, Salem, Tirunelveli, Kancheepuram municipalities and to the District Medical Officer, Tirunelveli district to organise exhibitions in connection with festivals and other celebrations.

The public health staff in the local bodies undertook several health educational activities, such as organising exhibitions, cinema shows, enacting dramas, delivering lectures and talks, etc. The details of these activities are given below :—

1. Lectures (with and without magic lantern)	13,720
2. Talks	74,140
3. Exhibitions	217
4. Cinema shows	2,337
5. Dramas	17
6. Folders and leaflets distributed	1,00,000
7. Audiance	63,30,729

The provisions of the Madras Prevention of Couching Act and the dangers of couching were given wide publicity at many fairs and festivals.

This department participated in the All-India Khadi, Swadeshi and Industrial Exhibition held in Madras in December, 1959. Models, charts, etc., on malaria eradication, guineaworm, nutrition, activities of the Research-cum-Action Project, insects as carriers of disease and tuberculosis were exhibited. Exhibits dealing with development schemes undertaken by this Department in the Community Development areas were displayed to show progress made in the field of public health. Films on health subjects were also screened during the exhibition. This Department also participated and was awarded certificates and medals in the Chithrai exhibition by Madurai municipality and also in the exhibition held in the Pilot Health Project area at Gandhigram.

The health education and publicity van of this Department with all cine equipments was sent to Madurai and Coimbatore municipalities to organise health education and publicity work in connection with anniversary celebrations. It was also sent to districts and municipal areas in connection with implementation of Mass Hetrazan Therapy and National Filaria Control Programme.

In collaboration with the Medical Department and other agencies, an exhibition on the theme "Mental Illness" and "Mental Health" was organised at the Madras Medical College on the World Health Day celebrated on 21st July 1959. A folder in Tamil in two colours on the theme was prepared by the Department and distributed to the public and educational institutions free of cost.

The public health staff at Poonamallee Health Unit consisting of five health inspectors, five health visitors, one resident matron and 18 maternity assistants were given training in the various methods and techniques in health education by making them undertake health education activities in the Unit area under the guidance of the Health Education Officer. Films were exhibited as part of training course to various trainees in public health work, such as, Health Visitors, Health Inspectors undergoing training in malaria, filaria control work and nutrition.

PRIMARY HEALTH CENTRES AND HEALTH SCHEME UNDER THE SECOND AND THIRD FIVE-YEAR PLANS.

During 1959 the opening of six primary health centres was sanctioned. The centre at Kuzhithurai, Kanyakumari district has been converted into a headquarter hospital and the public health staff of the centre have been

withdrawn. The total number of primary health centres sanctioned to be opened up to the end of December, 1959 is 116. Of these, 96 centres were functioning with full complement of staff.

The health staff of the centres visited 63,980 houses and improvement in sanitary conditions was effected by disposing of fly breeding places, white washing houses and provision of windows. They got 6,596 latrines, 19,885 soakage pits and 114,354 yards of drains were constructed. The number of wells constructed was 1,153 and number renovated was 1,655. Necessary vaccinations were performed by the staff. To educate the people in public health, talks on rural sanitation were conducted and film shows, dramas, exhibitions on health subjects were organised.

Thirty-nine maternity and child-welfare centres were opened during the year and 63,216 labour cases were conducted in all the centres.

The schemes under the second-five year plan and the outlay for the plan period and the estimate of expenditure incurred during the period 1956-60 are shown below :—

Schemes.	Total outlay for five years (1956-61).	Total expenditure for four years (1956-60).
	RUPEES IN LAKHS.	RUPEES IN LAKHS.
1 Mobile Epidemic Unit	3.75	1.75
2 Environmental Hygiene	6.14	2.30
3 Maternal and Child Health Service	17.93	12.55
4 Training of Health Visitors	3.14	0.98
5 Health Education and Publicity	6.40	1.76
6 Registration of births and deaths in Kanyakumari district.	1.19	0.88
7 National Malaria Eradication Programme	33.15	47.18
8 National Filaria Control Programme	32.39	7.24
9 B.C.G. Vaccination Campaign	11.50	10.54
10 Training of Thais*	0.24*	0.07*
11 School Medical Inspection	8.39	0.01
		(Scheme dropped since 1958).
12 Opening of training centres for auxiliary Health Workers.	2.35	..
		(Scheme deferred).
Total ..	126.33	85.19

* The expenditure on this scheme is borne by Medical department and hence excluded from the total.

The last two schemes have not been implemented. The expenditure on the first six schemes was met from State funds, while that on the schemes 7 to 10 was shared by the State and the Centre. The details of the scheme and the progress made are explained under the relevant subjects.

During the first five-year plan, six schemes were undertaken at a cost of Rs. 62.67 lakhs only. Under the second five-year plan ten schemes are being implemented the total outlay being Rs. 126.33 lakhs. Schemes for

inclusion in the third five-year plan have been worked out and proposals for 27 schemes at a total cost of Rs. 360.50 lakhs have been submitted to Government. In suggesting these schemes emphasis has been laid on training programmes and control of communicable diseases.

HEALTH UNIT, POONAMALLEE.

The Health Unit, Poonamallee, which continued to function as in the previous years, has been placed on a permanent basis from 4th July 1959. The Unit area comprise an area of 36 square miles extending over 39 revenue villages with a population of 62,833 as per 1951 census.

In connexion with the up-grading of the Hygiene Department of the Madras Medical College, a Rural Health Centre was necessary, so that the upgraded Department may conform to the prescribed model. It was considered that the Poonamallee Health Unit might serve as the Rural Health Centre for the Department of Hygiene. The Government of India have agreed to bear 50 per cent of the expenditure in respect of the staff approved by them and certain items of contingent expenditure. The State Government bears the balance of expenditure on the Health Unit.

The vital statistics recorded in the Health Unit area are shown below :—

	1958.		1959.	
	Number.	Rate.	Number.	Rate.
Births	2,917	46.9	2,928	46.6
Deaths	1,375	20.8	1,282	19.1
Infant deaths ..	398	135.1	405	138.3
Maternal deaths ..	2	0.6	2	0.6

There is no abnormal variation in the birth rate, infant and maternal mortality rates as compared with 1958, while the general death rate has decreased a little. The numbers of unregistered births and deaths detected by the health staff were 123 and 169 respectively in 1959 as against 114 and 161 in 1958. It will be seen that a good proportion (4 per cent in the case of births and 13 per cent in the case of deaths in 1959) of vital events were unregistered, indicating that people have not still realised the need for registering vital events.

Three attacks with no death from cholera were recorded in one village. All the cases were imported and were removed to the Infectious Diseases Hospital, Madras for treatment. Three thousand six hundred and ninety-nine anti-cholera inoculations were done in the infected locality.

Small-pox caused 18 attacks and two deaths in six villages. Of these seven cases were imported and the source of infection in respect of the others was not traceable. Sixteen cases were removed to the Infectious Diseases Hospital, Madras for treatment. Three thousand four hundred and eighty-seven primary vaccinations and 13,818 re-vaccinations were done in the infected and other areas of the Unit.

Mass Hetrazan treatment was given to over 75 per cent of the population in Poonamallee, Thirumushi, Nazarethpet, Mangadu, Koyur and Kunrathur villages which are endemic for filariasis. National Malaria Eradication Programme was also undertaken in the unit area.

To control the mosquito nuisance, D.D.T. was sprayed in breeding places in the major panchayat areas. The expenditure on insecticides, etc., was met by the panchayat boards.

Intensive and extensive survey of leprosy incidence was conducted in the area. Ten cases of lepromatous type and 12 non-laromatous type were detected. These cases were referred to the concerned institutions in Madras for treatment.

A part-time Tuberculosis Clinic was started on 6th October 1959. An Assistant Surgeon from the Tuberculosis Institute, Madras is attending the clinic every Tuesday. Comycin injections and I.N.H. tablets were administered to patients. The cases are followed up in their houses regularly. Sputum cups were also distributed to the patients and advice as to the disposal of sputum and observance of hygienic habits was given to the patients. The contacts were tuberculin tested and medical relief given if necessary.

One maternity home at Kolappancheri was opened in 1959. There are now seven maternity homes and a maternity and child welfare centre in the area. The maternity and child health staff conducted 2,322 labour cases, while the other qualified maternity assistants attended to 122 cases. Difficult cases were removed to the hospitals at Madras. Eighty-four per cent of the cases were removed to the hospitals at Madras. Eighty-four per cent of the total number of births recorded in the year received skilled assistance as against 88.4 per cent in the previous year. In the clinics held, 10,383 expectant mothers, 12,806 nursing mothers, 5,100 infants and 10,422 pre-school children attended. The staff treated minor ailments of 10,383 mothers, 5,094 infants, 10,424 pre-school children and 12,832 persons. Shark liver oil was given to 1,619 nursing mothers, 1,654 infants, 2,671 pre-school children and 1,453 ante-natal cases. The number of house visits made by the Woman Medical Officer was 265 and that by other staff is shown below :—

	Health visitors.	Maternity Assistants.
Ante-natal	2,175	32,916
Post-natal	1,158	15,838
Infants	5,674	15,384
Pre-school children	9,115	..

Under the scheme for training dais, 11 dais were trained to conduct labour cases under hygienic conditions during the year under report bringing the total number trained to 40. They were supplied with dais kits also.

There is a family planning unit consisting of one lady Doctor, one Health Visitor and one ayah. The activities of the unit were extended to cover the entire Unit area from the beginning of 1959. Expectant and nursing mothers were contacted both at the ante-natal and post-natal clinics and in their homes. Talks about the necessity for spacing children and limiting the size of the families and the various methods of achieving it were given. Out of 2,874 persons contacted for giving advice on family planning education, 2,376 were advised to adopt any of the methods. Of these, 243 adopted family planning methods other than sterilisation. At the end of the year the number of persons using the methods were :—

Number using Condoms	21
Number using Foam tablets	169
Number following husband careful method	16
Number adopting elementary pre-caution	5

The Family-Planning Day was celebrated on 18th December 1959 when films on Family-Planning and Healthy Home were shown. A drama on Family-Planning was also enacted by the Health Unit staff.

One bore-well and one tube-well with pump were put up in two villages during the year. Of the 59 bore-wells including the one constructed during the year, 49 were functioning. All the eight tube-wells including the one constructed during the year and seven wells fitted with pumps were functioning. All the public wells were chlorinated systematically during 1959.

One hundred and fifty-three private latrines of the bore hole type with water seal squatting slabs were constructed during the year under report. Three hundred and eight manure and soakage pits were also constructed or repaired.

The health staff surveyed 655 houses and revisited 1,193 houses for rectification of defects. Eight hundred and six backyards were cleaned, 540 fly breeding places were disposed off and 71 houses were lime washed.

The number of children examined in 14 schools was 1,300 and the parents of the defective children were contacted through the concerned school teachers and advised to attend to the defects found in the children immediately.

The health staff visited all the villages in the Unit area and conducted group talks on health subjects. They participated in three health exhibitions and arranged for three health dramas, three cinema shows and 1,804 lectures on various health subjects.

Two batches of pupil Health Visitors, four batches of Sanitary Inspector students and 30 Auxiliary Nurse Midwives underwent training in the Health Unit. One hundred and twenty-seven pre-registration medical graduates had their internship in batches in the Health Unit, Poonamallee.

Skim milk, soap and fish oil capsules, gifted by UNICEF were distributed to the ante-natal and nursing mothers, pre-school children and infants in the maternal and child health centres. Skim milk gifted by CARE organization was also distributed to ten schools in the Health Unit area during the year under report. On an average 900 children were benefited daily.

A number of visitors both from abroad and India visited the Health Unit, Poonamallee.

ORIENTATION TRAINING CENTRE, POONAMALLEE.

The objective of this training is to reorient doctors and auxiliary health personnel in the philosophy of rural health work and to equip them to discharge their duties at Rural Health Centres efficiently. Since its inception in 1954, thirty-two batches of health personnel of all categories underwent the course as shown below :—

Doctors, Health Officers, Civil Assistant Surgeons.	281
Health Inspectors	298
Public Health Nurses	9
Health Visitors	130
Maternity Assistants	348
Private Institutions and WHO	11
Total ..	1,077

The training programme for the year was drawn up in advance and communicated to the participating States and was strictly followed. A total of 183 health and medical personnel of various categories underwent this training in five complete batches in 1959. Details of the personnel trained are given below :—

	(1)	(2) All States.	(3) Madras State.
Doctors, Health Officers and Civil Assistant Surgeons.		40	10
Health Inspectors		58	10
Health Visitors		29	12
Maternity Assistants		56	14
Total ..		183	46

The States of Madras, Bombay, Andhra Pradesh and Mysore deputed trainees, while the States of Kerala and Pondicherry did not. The State of Andhra Pradesh stopped payment of stipends to their trainees and replaced it by an allowance. Other States continued to pay Rs. 75 per mensem to each trainee as stipend.

The special features of the training programme described in my previous annual reports were continued during the year under report, emphasis being laid on practical work in the campus as well as in the field. Occasionally special sessions on higher standards were held exclusively for doctors. A library containing books of reference and dailies was maintained.

In spite of the fact that the eight week training programme was a crowded one, the trainees organised themselves into small groups during holidays and visited places of historical and archaeological and cultural importance.

The Orientation Training Centre was visited by prominent officials and non-officials both from India and abroad during the year. Dr. H. R. Leavell, Chief Consultant (Health), Ford Foundation in South-East Asia Region, visited the Training Centre in June 1959. He expressed satisfaction at the progress of work at this centre.

The teaching staff of the centre gave special lectures and demonstration to the Medical undergraduates, Medical interness from Health Unit, Poonamallee; the engineering graduates undergoing public health Engineering Course, trainees in Public Health Nursing, the under-graduates of the Government College of Integrated Medicine and the personnel of the Community Development Department.

The year under report is the sixth year of the training Scheme. The importance of this training programme has been recognised by the Government of India and all participating States. The budget estimate of expenditure for this scheme is Rs. 98,300 during 1959-60. The Government of India has agreed to meet half the operational expenditure of the Training Centre.

The Railways (Southern and Western) will in future depute their medical and health personnel for training at the Centre.

PORT AND MARINE HYGIENE.

The number of vessels, foreign and coastal, which arrived in and departed from the minor ports of this State, the number of vessels inspected in respect of cargo, crew and passengers, number of inoculations and vaccinations done, are shown in Annexure L.

CHAPTER IV.—FOOD AND NUTRITION.

RAINFALL AND PRICES OF FOODSTUFFS.

The rainfall in the State in 1959 as a whole was below normal as will be seen from the following statement :—

Period.	Average monthly district rainfall in millimetre.		
	1958.	1959.	Normal.
(1)	(2)	(3)	(4)
Inter-monsoon (January to May)	44.1	34.5	37.2
South-West monsoon (June to September).	86.4	85.8	93.2
North-East monsoon (October to December).	134.3	152.4	168.1
Total ..	264.8	272.7	298.5

Though the seasonal rainfall was unfavourable, the production of food-grains had increased by 1.3 per cent. There was however a set back in the production of cholam and ragi.

The average wholesale prices of principal foodgrains were higher than those in the previous year as shown below :—

Year.	Prices in rupees per standard maund.			
	Rice (II Sort).	Cholam.	Cumbu.	Ragi.
(1)	(2)	(3)	(4)	(5)
1958	21.82	13.31	13.33	12.65
1959	22.90	15.15	14.95	14.06
Percentage of increase	5.0	13.8	12.2	11.1

To control the steady rise in prices of rice, the Government of India fixed ceiling prices and a scheme of procurement was launched. The price of rice decreased in October and the procurement was stopped.

The agricultural labour was generally fully employed and the economic condition of agriculture population was satisfactory.

NUTRITION.

Diet surveys.—Diet surveys were continued on occupational basis in different areas. Twelve diet surveys were undertaken during 1959 among 314 families pursuing different occupations in six districts as shown below :—

Districts.		Number of families.							Total.
		Factory workers.							
(1)		Weavers.	Cycle factory.	Sugar factory.	Textile mills.	Beedi factory.	Sweepers.	Miscellaneous.	(2)
Madras	.. .. .	30	..	..	..	..	..	30	60
Chingleput	.. .. .	60	30	..	..	..	29	45	164
South Arcot	.. .. .	..	..	30	..	..	..	..	30
North Arcot	.. .. .	..	..	..	..	30	..	..	30
Madurai	.. .. .	30	..	..	..	..	..	..	30
Tirunelveli	.. .. .	..	..	..	30	..	..	..	30
Total		120	30	30	30	30	29	75	344

The families were classified into three groups according to their income to see if diet patterns varied according to their economic status. There were 85 families with income less than Rs. 50 per mensem, 163 between Rs. 50 and Rs. 100 and 96 above Rs. 100.

Diet surveys of five institutions.—New College Hostel and Health Visitors Training School Hostel in Madras City, Muslim Orphanage and Devasthanam Charities in Chingleput district and the Certified School Hostel in North Arcot district were also undertaken.

The average quantity of foodstuffs consumed per consumption unit in different occupational groups, with their average monthly incomes and the calorie value of diets are given in Annexure M1, M2, and M3. The nutrient values of these diets have also been analysed and presented in Annexures N1, N2 and N3.

The intake of cereals was a little in excess of 14 ozs. recommended for a balanced diet. But the consumption of rice forms the bulk of the cereals consumed. The quantity of all other foodstuffs consumed, especially leafy vegetables, milk, meat, fish, eggs and fruits was very inadequate.

The intake of protein, particularly animal protein was very low. The consumption of calcium was inadequate while that of iron and phosphorous was about normal requirements. The diets were defective in respect of Vitamin A, Riboflavin and Vitamin C. Vitamin B1 (Thiamine) and B2 (Nicotinic acid) in the diet were adequate. No perceptible differences in the nutrient values of the diets among the different occupational groups were noticed.

Institutional diets.—The analysis of diets in five institutions according to the chief ingredients and nutrient values is given in Annexures 01 and 02.

The calorie value of diets was very low in three out of the five institutions. The intakes of leafy vegetables, milk and milk products, meat, fish, eggs and fruits, were uniformly low.

Special study of consumption of cereals.—The question of how far cereals other than rice had replaced the staple grain (rice) in the diet of people during the past decade and over was studied. In order to examine the trend in the composition of cereals consumed over a period, data regarding diet should be available for several years. Such data were available only for four districts—Tiruchirappalli, Madurai, Tirunelveli and Coimbatore districts—for the years 1946 to 1959. The number of diet surveys in the latter two districts was however small. Although diet surveys conducted since 1956 were on occupational basis, they may be taken to represent the diet of people in general, as no perceptible difference was noticed in diets of people pursuing different occupations.

The percentages of each cereal to total cereal consumed by families with different income groups have been worked out in Annexures P-1, P-2 and P-3. An examination of the Annexures reveals the following salient features: (a) In Madurai district, the diets include ragi, cholam and cumbu in fair proportion in all the income groups during the period. (b) In Tiruchirappalli district, ragi, cholam and cumbu were included in fairly satisfactory proportions in the pre-1955 period in families with income less than Rs. 100. In post-1955 period, the quantities of these cereals included were negligible. In the group with an income of Rs. 100 and above, the consumption of cereals other than rice was very low. (c) In Tirunelveli district rice formed practically the bulk of cereals consumed in all the income groups. (d) The consumption of ragi and cholam was fairly high in Coimbatore district in the groups with an income of less than Rs. 100. (e) Wheat did not seem to be largely consumed in those districts.

Nutrition Surveys.—Besides the children examined for nutritional status under the F.A.O. scheme detailed below 569 boys and 78 girls were examined in the arcas where diet surveys were conducted. No abnormal nutritional deficiency was noticed.

Laboratory studies.—The Nutrition Laboratory undertook analysis of food prepared in institutions, canteens and companies and of raw vegetables and conducted animal feeding experiments.

During the year, 15 samples of a whole day's diet from eleven institutions in Madras were analysed. Details of analysis are given in Annexure Q. The food served in the Nurses' Home of the Government General Hospital, the Infectious Diseases Hospital, Chennamallikeswara Free Hostel and the New College Hostel was generally satisfactory. The food served in Seva Sadan Orphanage was deficient in both calories and essential nutrients.

Samples of food packets of "Sambar Bath", "Curd Bath" and "Lemon Bath" served at Khadi Gramodyag Canteen, Madras, were analysed—(vide Annexure R). These preparations were said to be made with hand-pounded rice. The samples were found to contain only 9.25 per cent, 8.4 per cent and 12.0 per cent respectively of protein; pulses, curd and lemon formed the chief ingredients in the recipes.

A sample of food obtained from a street food vendor usually sold at low price at street corners and consumed by stray labourers, was analysed.

Two samples of "Nutro Biscuits" sent by Britannia Biscuit and Company, Calcutta, were also analysed for their nutritive values. The analysis showed that these biscuits contain proteins (16 per cent), fat (14 per cent) and calcium (0.13 per cent.)

The nutrient values of samples of the vegetables Mavalikilangu, Kotti kilangu, Pulichaikai, Goa Beans, Pumpkin Tender, Plain Gourd and Chekkurimanis (green leafy vegetables called in Tamil Thavasi Murungai). The results of analysis are given in Annexure S. The first three vegetables are usually used for pickles. The green leafy vegetable, "Chekkurimanis", is commonly grown in Malaya. It is found to contain high protein (7.8 per cent) as in Agathi, Manathakkali, etc., and high iron as in Amaranth, Manathakkali, etc. Of the other vegetables studied, Goa Beans and Pulichaikai were rich in iron content. Besides these vegetables, a sample of cholam (puffed) was also analysed.

Experiments on rats which were fed with supplemental foods were undertaken. Basal diets and these reinforced with groundnut cake flour so that protein contents were increased by 10 per cent and 20 per cent as compared with that in the basal rice diet. The increases in the weights of animals were small as compared with those fed with basal diet. As the results were not conclusive, it is proposed to continue the experiment.

The Department of Fisheries analysed during the year fourteen varieties of food fishes for their nutritive contents. The details of the results of analysis are given in Annexure T.

Nutrition relief measures—Skim milk distribution.—(i) The UNICEF assisted long range feeding programme of skim milk distribution to under-nourished and malnourished children and expectant and nursing mothers through the maternity and child welfare centres and hospitals which commenced in 1950, was continued during 1959 also. On an average, over 25,000 persons were benefited under this scheme irrespective of caste, creed, religion and status. For the programme during 1959, the UNICEF offered 12 lakhs of lbs. of skim milk powder, but released only 599,978 lbs. which were distributed to all districts.

The scheme of distribution of UNICEF gift milk powder to children through schools in selected areas in National Extension Service Blocks started in April, 1955 was continued during 1958-59 and a quantity of 311,985 lbs. of skim milk powder was supplied and distributed to all the schools in the block areas. As the administrative control over the schools rests with the Director of Public Instruction, the question of implementing the school feeding programme directly by him is under the consideration of Government.

The State Co-ordinating Committee and the District Co-ordinating Committee in each district facilitated the efficient working of the supplementary feeding programme.

(ii) A quantity of 135,000 lbs. of skim milk powder was received from CARE during August, 1958. This was distributed to the following agencies:—

- (a) Madras Corporation—114,500 lbs.;
- (b) Health Unit, Poonamallee—9,600 lbs.;
- (c) Sri Ramakrishna Mission Students' Hostel, Madras—7,300 lb.

and

- (d) Paediatric Department of the Madras Medical College—3,600 lb.

The scheme provided for the feeding of approximately 11,250 children for a period of six months.

The allotment of milk powder made to the Health Unit, Poonamallee was distributed to ten schools in the Unit area. The distribution of milk powder under this scheme which commenced in October, 1958 was continued for a few months in 1959.

(iii) The scheme of supplementary feeding of children and mothers of families with low fixed income groups started by the Nutrition Bureau of this Department in 1957 with the surplus gift skim milk powder made available by the National Christian Council of India was continued. This scheme covered 379 families comprising 325 mothers and 873 children.

Provision of midday meals to school children.—(i) Under the Harijan Welfare Department, the children of eligible communities attending 852 labour schools under Government continued to receive midday meals.

(ii) The Corporation of Madras continued its own scheme of provision of midday meals to the poor and the ill-nourished children attending the Corporation Elementary Schools in Madras City. About 28,000 children were benefited daily under this scheme.

(iii) Under the Education Department, a large scale scheme for providing the poor elementary school children with free midday meals was organized in 1956. At first, this scheme was run purely on voluntary basis with the people's help and later in 1957 the Government gave subsidy to this scheme. At the beginning of the year 1959, this scheme was in operation in 11,158 schools and included 362,680 children. It was gradually extended to 18,678 schools covering 657,970 children at the end of November 1959. The cost per meal is 10 nP. (6 nP. by Government and 4 nP. by people's contribution). It has been proposed to further extend this scheme to cover one lakh additional children during 1960-61 at an additional cost of Rs. 12 lakhs. Pupils attending 411 high schools in the State were also provided with midday meals on a voluntary basis.

Distribution of food supplements.—Food supplements, viz., fish liver oil, vitamin tablets, etc., were distributed to the deserving children in selected institutions in areas where diet surveys were conducted. Besides this, the maternity and child health centres also distributed these food supplements to expectant and nursing mothers and children. In Madras City, school children were treated for chronic stomatitis with food yeast. Calcium lactate and fish liver oil were also distributed for treatment of specific deficiencies by the Corporation of Madras.

Experimental milk feeding.—The experimental scheme to demonstrate the comparative merits of low-fat milks, "Toned milk", skim milk as against buffalo's milk was continued and completed in June 1959.

Under the scheme 3,070 children between 5 to 16 years of age in Madras City and Uthukottai block area (Chingleput district) were fed with milk on school working days during the period June 1958 to May, 1959. Of these, 2,193 children consumed milk for over 100 days, the rest were fed for less than 100 days and the feeding was irregular for personal or family reasons. Nearly 500 children were enrolled as controls and of these only 394 were available for continuous observation. Students in Madras City were divided into three groups and each group was given one kind of milk under study,

whereas skim milk alone was tried in Uthukottai block area. The weights and heights of children in the experimental and control groups at the initial and final stages of the experiment were recorded. The observations on the children in Madras City alone were statistically analysed.

The study comprised also simultaneous dietary and nutritional assessments. The diet surveys in the families have revealed a diet low in all essential ingredients, especially of milk. Nutritional assessments showed the signs of specific deficiencies of protein, fats, vitamin A, vitamin B2 and calcium among a good proportion of the children. Skin signs, oral signs and eye signs were more obvious. The daily feeding of 8 ozs. of milk showed improvements in the clinical manifestations of malnutrition as compared to the control children.

The increases observed in weights and heights of children in each year of age fed on skim milk, 'toned milk' and buffalo's milk were compared with those of controls. The increases in heights were no more than $\frac{1}{4}$ inch in most groups. The increases in weights in two age groups fed with skimmed milk and another group fed with buffalo's milk were statistically significant as compared with the corresponding control group, while in all the other age groups the increases were not significant. The field conditions of these trials, especially, the unavoidable interruptions in the working of the schools and not too regular attendance of children at milk feeding, did not serve fully the purposes of a continuous and controlled experiment to enable strict comparisons. Thus it may be stated that under the conditions of these trials it was not possible to establish conclusively the relative merits of the three kinds of milk. A detailed report on the above trials was submitted to Government.

Nutrition, Education and Publicity.—Education of public in matters relating to nutrition was continued as one of the major functions of the Nutrition Bureau. In all the exhibitions organised by the Department in connection with general exhibitions, important festivals, conferences, etc., exhibits on nutrition were put up. On these occasions the chief defects in the diets as revealed in the diet surveys, cheap methods of remedying them and the nutrient values of locally grown foodstuffs were demonstrated. The common deficiency diseases arising from ill-balanced diets and also scientific methods of cooking were all specially explained. Cinema shows on 'Food and Nutrition' were arranged during exhibitions and in the districts. The All-India Radio-stations at Madras and Tiruchirappalli broadcast as a routine talks on different aspects of Food and Nutrition.

The "More Milk Day" was celebrated on the Tamil New Year's Day on 14th April, 1959 throughout the State with a view to educating the people on the importance of consumption of milk and its products. In Madras City this celebration was arranged by the Animal Husbandry Department and in the districts by the Collectors and this Department actively co-operated in the celebration.

The following publications on nutrition were printed during the year for distribution among the health personnel to help them as aids in nutrition education work. The publications of FAO on Nutrition, namely, (i) school feeding and its contribution to child health, (ii) Kwashiorkor-Protein malnutrition and its prevention; and (iii) FAO/WHO Report on Nutrition, were suitably abridged and published in Tamil. The Health Bulletin No. 23 on "Nutritive value of Indian Foods and Planning of Satisfactory Diets", published in English by the Indian Council of Medical Research, was

printed in Tamil during 1959. Another pamphlet on "Low cost balanced diets" prepared by the Indian Council of Medical Research, was translated into Tamil and its copies were under print.

Training.—A course of training in scientific nutrition for subordinate health personnel for a period of one month was held during May-June 1959 and 13 candidates underwent the course successfully. Special lectures and demonstrations were given to the trainees at the Orientation Training Centre at Poonamallee and the Women Medical Officers undergoing the Diploma course in Maternal and Child Health and Public Health Nurse Trainees. As the programme of training and teaching of personnel in nutrition has become one of the regular and routine activities of the Nutrition Bureau, it has been proposed to construct a Nutrition Training Centre and Laboratory at a cost of about Rs. 1 lakh under the Third Plan.

Other activities.—The Eighth Conference on Nutrition held in February reviewed the progress of Nutrition work.

FOOD ADULTERATION.

The Government Analyst continued to analyse food samples from local bodies under the Prevention of Food Adulteration Act, 1954. Sixty-three municipalities and 96 panchayats sent samples for analysis. The total number of samples received during the period under report was 11,572. Of these 6,751 samples were analysed and 21.5 per cent were found to be adulterated as against 34.2 per cent in 1958.

The following table gives the details of the nature of samples received and analysed and number declared adulterated:—

Nature of samples. (1)	Total number of samples received. (2)	Number of samples reported. (3)	Number adulterated. (4)	Percentage of samples adulterated. (5)
1 Milk	6,357	3,816	1,291	33.8
2 Gingelly oil	1,627	899	135	15.0
3 Coconut oil	837	487	20	4.1
4 Coffee powder	827	455	27	5.9
5 Flours	309	165	5	3.6
6 Ghee	301	158	38	24.0
7 Turmeric	290	187	16	8.6
8 Tea	266	136	17	12.5
9 Groundnut oil	264	158	23	14.6
10 Butter	149	82	49	59.8
11 Miscellaneous	146	95	20	21.0
12 Dhall	133	78	14	18.0
13 Honey	54	31	2	6.4
14 Sweets	12	4	..	..
Total	11,572	6,751	1,657	24.5

Analysis of food has been confined to only routine examination of stable articles of food as heretofore, due to lack of facilities and heavy pressure of high in samples of butter, milk and ghee. Adulteration was very has been encountered. Addition of coal-tar colours to tea, aerated waters, sweet meats and use of saccharin, without indication by a label, have been detected in a number of cases. A good proportion of edible oils has been found to contain a high percentage of free fatty acids.

The fines imposed on offenders under the provisions of the Act have been fairly heavy.

On the recommendation of the Public Health Board, Government have transferred the Government Analyst Department from the administrative control of the Director of Medical Services to that of the Director of Public Health from 16th October 1959.

HOTEL SANITATION.

The recommendations made by the Hotel Sanitation Committee regarding the upkeep, maintenance and supervision of hotels were implemented by the Health Officers during the year.

CHAPTER V—ENVIRONMENTAL HYGIENE.

NATIONAL RURAL WATER-SUPPLY AND SANITATION SCHEMES.

A resume of the working of the Rural Water-supply (Comprehensive) Scheme as furnished by the Board of Revenue is as follows.

The Rural Water-supply (Comprehensive Scheme is intended to provide drinking water facilities in rural areas with a population of not more than 10,000 through bore wells with pump attached, closed wells with over-head tanks and taps, connections from existing water mains of municipalities and protected draw wells in places where the above three types of water-supply cannot be provided.

The expenditure on the scheme was met from State funds to start with. Subsequently, in order to have uniform procedure in respect of rural water-supply works executed under different programmes, it was decided in October, 1954 that a contribution of 25 per cent should be collected from the beneficiaries for works taken up under rural water-supply comprehensive programmes. In respect of works which are purely for the benefit of Harijans, poor and backward people, no contribution is insisted upon and the entire cost is met from the State funds. Works are executed by the Revenue Department with the assistance of Public Health Engineering staff and Minor Irrigation staff. After completion, the works are handed over to the local bodies concerned for future maintenance as they are statutorily responsible to meet their maintenance charges. The expenditure up to the end of the year 1958-59 was Rs. 101.06 lakhs. The physical target for the Second Five-Year Plan is 8,500 wells and 340 composite scheme works, of which 8,028 wells and 106 composite schemes have been completed up to the end of the year 1959-60.

While the progress on "Well Works" has been very satisfactory, there is short fall in the physical target under "Composite Scheme" because of shortage of iron and steel materials required for the completion of these works.

NATIONAL RURAL WATER-SUPPLY AND SANITATION SCHEME.

(The scheme is one of the developmental schemes under the Second Five-Year Plan with a plan provision of Rs. 120 lakhs, the cost of the scheme being met equally by both the Central and State Governments.) The scheme is implemented by the Board of Revenue. Advice regarding the selection of villages and site for sinking wells is given by the Public Health Department.

The object of the scheme is to control the prevalence of water borne diseases by the provisions of safe water-supply and sanitation facilities. Villages with a population of less than 5,000 which are endemic for cholera, dysentery and diarrhoea in the districts of South Arcot, Thanjavur, Tiruchirappalli, Ramanathapuram and Tirunelveli were first selected. It has been extended to villages in Madurai, North Arcot and Chingleput districts during 1959.

During the year 1958-59, water-supply works were completed in 45 villages and were in progress 147 villages. Sanitation works were completed in 39 villages and were in progress in 162 villages. Investigation for provision of water-supply and sanitary conveniences in 269 villages was completed.

The physical target achieved during the year 1958-59 is given here-under.

Details of work.

Number of water-supply through pipe system	4
Number of borewells with hand pumps put up	782
Number of open wells sunk	3
Number of old wells improved	38
Number of individual bore-hole latrines constructed	18,256
Number of community latrines constructed	454

URBAN WATER-SUPPLY AND DRAINAGE SCHEMES.

The work relating to the investigation, design and the maintenance of water-supply and drainage schemes in municipal and panchayats continued to be under the Sanitary Engineering Department. The investigation (Public Health) Division formed in 1955 was expanded by the addition of a new subdivision with a view to accelerate the investigation of water-supply and drainage schemes.

(Detailed plans and estimates for 24 water-supply schemes aggregating to Rs. 197.7 lakhs were forwarded to the Chief Engineer for technical sanction. In respect of 28 schemes the formulation of the designs was in progress. Nineteen schemes were under various stages of investigation.)

The working of the detailed plans and estimates in respect of three drainage schemes costing Rs. 2.8 lakhs was taken up during the year. Seven drainage schemes, four in municipalities and 3 in panchayats, were under different stages of investigation.

Periodical inspections and check up of the water-supply and drainage pumping installations were arranged and the local authorities concerned given suitable advice wherever necessary for their proper maintenance and upkeep. The experimental Filter Station at Kilpauk (Madras) continued to be under the control of the Sanitary Engineer.

RURAL AND URBAN SANITATION—CONSTRUCTION OF LATRINES.

The progress of Environmental Hygiene Scheme included under the Second Five-Year Plan with the object of providing sanitary type of latrines in rural areas was satisfactory. According to the plan, it was proposed to construct 2,550 latrines during the year 1959-60 at an estimated cost of Rs. 47,550. But 2,649 latrines were constructed during the period April to December

1959, thus exceeding the target for 1958-59. Besides this, 1,546 latrines were completed in the period January to March, 1959. The cost of the scheme is borne equally by the District Boards and the Government.)

The health staff took effective steps for the provision of suitable private sanitary conveniences by persuasion, propaganda and prosecution under the provisions of the Madras Public Health Act, where necessary.

At the Health Officers' Conference held in August, 1959, it was resolved to form a committee of officers of the Public Health Department to prepare a comprehensive scheme for popularising the use of latrines in the State.

WATER ANALYSIS.

The Water Analysis Department was transferred from the Medical to Public Health Department on 16th October 1959.

All protected water-supplies in municipal, panchayat, railway areas and jails were subjected to analytical control three times during the year. The water-supplies to the hospitals in the city were brought under special hygienic control from April, 1959 onwards. A Health Inspector was appointed for this purpose. He visited the hospitals once a week to ascertain the sanitary conditions of the water-supply systems and for carrying out field tests for residual chlorine. Samples were collected from various points and examined.

During 1959, a total of 11,319 samples of water were examined from the protected water-supply systems, rural water-supply schemes and other miscellaneous investigation sources for their physical, chemical, bacteriological and biological characteristics. One hundred and thirty-four out of 1,072 water samples from the rural water-supply schemes were unfit for human consumption on account of high fluorine, dissolved solids and iron and manganese contents. The local opinions and observations were found to be quite often at variance with the laboratory findings. In the interest of public health, the former should not be too much relied upon for permitting wells for use as sources of public water-supplies. A laboratory examination of the samples of water from all the schemes is quite essential. Proposal to restore the procedure laid down in G.O. Ms. No. 2678, Health, dated 4th September 1957 is still engaging the attention of Government.

Field investigations on water quantity and control of aquatic growth in water-supply continued to form the normal activities of the Water Analysis Department. The following researches were carried out:—

(i) Experiment on water purification of the Red Hills Lake water using break point method of chlorination prior to slow sand filtration.

(ii) Studies on a suitable substitute for bilesalt (Sodium taurocholate) which is the chief constituent of Macconkey's broth used for the coliform test of water and which is not available because of import restrictions.

The Chief Water Analyst and his assistants continued to teach the post-graduate students in Public Health Engineering in the College of Engineering, Guindy. The students were also given facilities in the laboratory.

WATER AND SEWAGE PURIFICATION COMMITTEE.

The Committee met once and discussed the following questions:—

(a) The results of the research studies carried out on the application of the break point chlorination for the Red Hills Lake water prior to sand filtration were considered and it was concluded that the advantages of the method of pre-treatment to prevent the formation of Hydrogen-sulphide in

the filters were established. It was resolved that the effect of pre-treating Red Hills Lake water using chloramine also be investigated to obtain comparative data with the break point method of chlorination.

(b) The Committee was unanimously of the opinion that the water research station at Kilpauk should be improved further and new lines of researches on important problems relating to water purification should be started.

(c) Regarding fish culture and farming in the Sholavaram lake, the Committee reiterated that fish culture and fish-farming should not be permitted in the lake except under the condition that the water from the lake should not be drawn into the Red Hills lake during the period of fish removal and at least two weeks thereafter.

(d) The Committee after a review of the results of the investigation carried out on the chemical quality of the water taken from the infiltration well at Manapparai, after restricting the draw off to the surface layer by means of a floating foot valve, was of the opinion that even this does not improve the chemical quality of the infiltration well and resolved that another source yielding water of better quality for the Manapparai water-supply might be investigated.

(e) The progress of work on treatment and disposal of tannery wastes was reviewed and considered satisfactory. It also approved the design that has been prepared for the construction of the Pilot Plant at Vaniyambadi based on the results of the laboratory experiments.

COMPOST MANUFACTURE.

Compost manufacture is undertaken by 62 municipalities and 214 panchayats besides the Corporation of Madras, Mettur, Courtallam and Bhavanisagar Township Committees. A loan of Rs. 8,00,500 was sanctioned during the year to local bodies for improvement of compost manufacture on right lines and an amount of Rs. 2,62,502 was sanctioned as a subsidy to cover the loss on account of the sale of compost at the rate of Rs. 2 per ton fixed by Government.

A quantity of 324,441 tons of compost was produced and 318,364 tons were distributed to ryots. About 63,676 acres might have been benefited by the application of compost resulting in additional production of food-grains.

A good number of Sanitary Inspectors, Executive Officers, Health Assistants, Sanitary Maistries and Menials from panchayats and municipalities were trained in compost manufacturing. As a result of the training, it is hoped that the local bodies will be able to manufacture compost on right and hygienic lines.

BUILDINGS AND TOWN-PLANNING SCHEMES.

The enforcement of the provisions of Chapters IX and X of the Madras District Municipalities Act relating to street control and building regulations was satisfactory in all the municipalities. The above provisions were in force in 160 panchayats and in 150 villages of the Chingleput district around Madras City. There was also considerable improvement in the enforcement of these provisions in the panchayats and the living conditions were improved.

Two town-planning schemes were sanctioned by the Government during the year. There were in all 80 sanctioned schemes. All the schemes were under various stages of execution and some of them had been fully implemented.

THE MADRAS CITY IMPROVEMENT TRUST.

The Director of Public Health continued to be an ex-officio trustee of the Madras City Improvement Trust and took part in its deliberations.

FAIRS AND FESTIVALS.

As usual, adequate sanitary arrangements were made during the fairs and festivals. About 500 festivals (200 major and 300 minor) were conducted and all the festivals passed off without any outbreak of epidemic diseases. The authorities in charge of fairs and festivals generally carried out the suggestions of this Department regarding sanitary arrangements.

RESEARCH-cum-ACTION PROJECT, POONAMALLEE.

The Research-cum-Action Project was sponsored initially in September, 1956 for a two-year period. This has been extended for a further period of two years, i.e., till September 1960. It is financed entirely by the Ford Foundation. The expenditure incurred during 1959 was Rs. 1,23,221.33.

The Research-cum-Action Project team comprises an Administrative Officer, a Health Educator, a Public Health Engineer, a Social Scientist (Research Analyst), a Research Aide, 3 Mass Interviewers and 3 Health Inspectors.

There is a Central Team of the Ford Foundation consisting of a Public Health Consultant and a part-time Public Health Engineer. The National Counterpart of the Team is in the office of the Director-General of Health Services, Government of India.

The main object of the Research-cum-Action Project is to study environmental sanitation in rural areas with a view (i) to find out the most effective educational approach which will make people not want latrines but also use and maintain them properly, (ii) to evolve the most suitable design of latrine under rural conditions, (iii) to test and demonstrate organizational set ups, whereby the improved design and educational methods may be most effectively applied under prevailing rural conditions and (iv) to assist in utilisation of findings under the above 3 categories by providing field consultation as needed to help in the process of application of such findings.

During the first 1½ years, the project had experimented with two main health education approaches, viz., Community Organization and Media, in thirteen villages distributed in Tiruvallur, Kadambathur and Uthukottai blocks. The results of the two approaches were evaluated. Incorporating the success factors of both the methods, a "New Approach" method was framed. These factors were formulated in the form of guidelines or work principles for rural latrine programme.

Eighteen villages distributed over the above three blocks and in Sriperumbudur Block were selected to try the "New Approach" method from February, 1959. The health education programme in these villages was put through by the block staff. Research-cum-Action Project staff only guided and helped the workers individually and in groups to interpret the principles and apply them in the field.

Health Education Programme.—One of the main principles suggested for health programme is to get the widest participation and develop local leadership. The leaders in villages were brought together and health committees were formed in villages. Four camps of the leaders in the four block areas were organized. They were helped to participate in construction of latrines, trained in the use of education materials such as demonstration of flashcards and taught discussion techniques in education programmes, so that they might take active interest in the education of the people in their own villages. The research staff studied how best health committees could be organised and formed into a functioning force.

In the education and construction programmes an attempt was consciously made to reach all the groups in villages. To this end, women, school children and the Harijans were involved in health education activities. Excursions for women were organised to demonstrate construction of latrines and to discuss the subject. Special programmes were given, where possible, to the Harijans in their own colonies. Teachers in schools were trained in the demonstration of flashcards to teach pupils. A scheme for teaching health principles in gradual stages was prepared to guide the teachers. In order that the teaching may be realistic, the project proposed that schools should be provided with properly maintained latrines with adequate water-supply. Proposals for school sanitation and water-supply programme have since been included in the Third Five-Year Plan.

An important principle evolved by the Project is that the co-ordinated effort of the existing organizations will yield better results. Increasing participation of block personnel such as Social Education Organizers, Village Level Workers, Health Inspectors, etc., the Primary Health Centre staff, school teachers, and Women Welfare Workers, was aimed at. A conference of Block Development Officers, Primary Health Centre staff and workers from other agencies, was held to plan a co-ordinated programme.

The work in each village was discussed, reviewed and planned at the monthly block staff meetings which helped different workers to co-ordinate their activities and to evaluate the progress of work.

To examine more closely some of the work principles so that specific recommendations for an action programme can be based, a survey in three villages was made to study factors which created interest among villagers to use latrines.

To test the hypothesis, viz., "the more the participation by villagers in educational activities, the greater their learning and greater their acceptance of latrines", a study was made in five villages. To evaluate the place of village leaders' camp in the health education programme, a study has been planned and is now under way.

An attempt was also made to evaluate the effectiveness of posters in health education. This study was carried out in two villages through the trainees of Orientation Training Centre, so that they may be stimulated to think more intelligently about visual aids.

To see how far the educational approach evolved by the Project can be projected in a rural area, the health education activities in four villages of the Health Unit area, were reorganised by the Health Unit staff with the help of the project staff and State Health Educators. These activities have made the public take a new interest in the health programmes. Similarly, it was felt, that the Primary Health Centres could play a vital role in educating

the villagers in prevention of diseases. The project staff discussed with the doctors of the centres at Avadi and Uthukottai the possibility of trying out ways of imparting essential information on prevention of diseases during the clinical work. With a view to find out prevalent ideas of village people regarding cause, treatment and prevention of diseases and their health practices, so that the Primary Health Centre staff can plan an effective and realistic education, the Research staff of the project carried out a base-line study at Avadi and Uthukottai centres, with the help of Medical Internees attached to the Health Unit, Poonamallee. The two common diseases with which patients reported at the clinic, viz., dysentery and scabies were taken up for the study.

Programme for design of latrines.—In connexion with design of latrines for rural areas, the following studies were undertaken:—

(i) A study of the design aspect of the water seal pan and trap was undertaken. The results have been published in the October issue of the Indian Public Health Journal.

(ii) The work undertaken in evolving cheap enclosures for latrines relates to use of consolidated soil-lime mixture. Three enclosure walls using the specification for soil-lime mix as determined after analysis at the Soil Laboratory at Chepauk has been put up for observation.

The study of plastering mud wall with soil-bituman mixture is under-way. Materials are being gathered for the same.

(iii) Studies were made to calculate the volume of sludge accumulation in latrine pits for an average rural family. On the basis of observation of 54 water seal latrines functioning in the area, a design capacity of 1.60 c.ft. of sludge per person per year appeared necessary in the local area.

(iv) To determine the manurial value of digested night soil and the survival of pathogens therein, latrine pits were chosen for study. Samples of sludge were collected and analysed bacteriologically, chemically and for presence of parasites. The pits have been closed with earth. Subsequently samples from closed pits will be taken and subjected to further study.

(v) To determine the minimum quantity of reinforcement with which pit covers can be cast, 28 cover slabs of varying thicknesses and reinforcement have been cast. A special feature is that bamboo reinforcement has been used for comparative testing. These slabs were subjected to load test. Based on the results obtained, it is proposed to cast another 28 slabs and subject them to further testing before drawing final conclusions.

(vi) A comparative study of five types of pans and traps was undertaken. The types comprise the designs evolved by the Research-cum-Action Project, Poonamallee, Indian Council of Medical Research Unit, and the W.H.O. Latrines have been constructed and testing of the same will be undertaken soon.

(vii) A special 'Y' bend has been designed to fit in the place of the junction box now being used. The design is such that the top of the bend is provided with a cleaning eye.

The people who wanted to construct latrines were asked to apply in a prescribed form. In filling up the form which has pictures of latrine parts, the villager is made to realise and understand the use of the various parts of a latrine.

It was found very necessary for the staff to visit the completed latrines frequently to see that they were used and maintained properly. Demonstrations on how to flush and clean the latrines, had to be carried out in many cases.

Success of a latrine programme involves an adequate supply of water in the village. Lack of such water-supply was found to impede progress in three villages, although other conditions were favourable. Attempts were made to provide water-supply to these villages through the Rural Water-supply Organisation.

Finding solution to the problems of procurement and supply of latrine material was another factor for successful implementation of the latrine programme, it is now proposed to manufacture materials like squat plate, cover for pit, etc., in a workshop at the Block Headquarters under the supervision of the Junior Engineer for the Block. The services of the Mason-cum-Maistry should be utilised for this purpose when he is not engaged in the construction work. This would not only reduce the cost of materials, but also avoid delays in procurement. In this connection the Ford Foundation has been requested to meet the expenses of these pilot workshops as they are really part of the action stage of the project. The Government have since approved the proposal and work is now under way.

A conference of Junior Engineers of the four blocks was also organised to plan local production of lining rings for collapsed pits in the Harijan area of three blocks.

To help the Block Development Officers in the programme of construction of latrines, the soil sanitation Health Inspectors in the blocks were given necessary training in construction of latrines.

Other activities of the Project.—The Project staff brought out the following publications :—

- (a) A Guide on Health Education for Rural Sanitation Workers.
- (b) How to work in villages.
- (c) A flashcard story "The Woman who changed the village".
- (d) A revised booklet on the location, construction, use and maintenance of latrines.

The Project staff availed themselves of the opportunity of the conference of Block Development Officers of Madras State at Madras, followed by the Conference of Health Officers of Madras State at Coimbatore, to present their findings and to explain the scope and objectives of the Research-cum-Action Project. An exhibition of the new latrine models and health education materials was also organised in connection with these conferences.

Project Advisory Committee.—In order to support the programme of the Research-cum-Action Project, a Project Advisory Committee was organised. This committee consisted mostly of Heads of Departments concerned with the sanitation programme and was of great help to the project in developing its programme in collaboration with the Community Development Department. The committee met twice in 1959. The need for collaboration with the National Water-supply and Sanitation Scheme was discussed and agreed to. Plans for wider application of Research-cum-Action Project methods to

two other districts were prepared and discussed and the proposals were accepted by this Committee in principle. Sanction of Central Government is awaited for implementation of these proposals before the term of the Research-cum-Action Project.

General.—Several important persons from abroad and other States in India visited the Project. In particular, Doctor Hugh R. Beavell who initiated the Project in 1956, visited the Project to review the progress made.

CHAPTER VI—GENERAL ADMINISTRATION.

PUBLIC HEALTH STAFF.

The strength of the Officers in the Public Health Department on 31st December 1959 is shown in Annexure U. In the year under review, a special staff for the National Malaria Eradication Programme was sanctioned as shown in the Annexure M.

The services of one Chief Entomologist and one Health Officer have been placed at the disposal of the World Health Organisation. The services of a Health Officer have been placed at the disposal of Pilot Health Project, Gandhigram. The post of the Automobile Engineer sanctioned in connection with the maintenance of vehicles allotted to the National Malaria Eradication Programme and the three posts of Medical Officers in the grade of Assistant Surgeons sanctioned for the School Milk Feeding Programme have been abolished. The post of Regional Transport Officer under the Director of Public Health has been sanctioned to ensure proper control over the large number of motor vehicles supplied by the UNICEF, etc., to the Medical and Public Health Departments.

Four Health Officers underwent training in Malariology at the Malaria Institute of India, New Delhi, and one Health Officer in Epidemiology at the All-India Institute of Hygiene and Public Health, Calcutta.

Dr. N. Parthasarathy, Director of Public Health, retired from service on 14th September 1959 after attaining the age of superannuation, but the Government were pleased to re-employ him in the same post. Two Health Officers retired from service and one died.

The attraction for the post of Health Officer continued to be slack in view of poor remuneration offered. Since the department is still short of Health Officers, Government permitted the re-employment of some retired officers up to 30th June 1960.

Subordinate Health Staff.—The strength of the Public Health Subordinate Service at the end of year 1959 is shown in Annexure V. Health Inspectors of this Department have been lent to other Departments (Medical, Electricity, etc.), for performing public health work in the special areas under their control. They are also indicated in the Annexure V.

Health staff under the local bodies.—The public health staff employed under the district boards, municipal councils and the Corporation of Madras is shown in Annexure W. Besides the staff shown in this Annexure, a large number of sanitary staff were employed for conservancy and other works. A few posts of Medical Officers (Maternity and Child Welfare) and Health Visitors were kept vacant due to dearth of qualified candidates. Some of the posts of Health Assistants were filled by emergency trained candidates for want of qualified persons.

FINANCE.

The actual expenditure incurred on "Public Health" during the year 1958-59 is as detailed below :—

	RS.	RS.
I. Under the control of the Director of Public Health—		
(a) Staff—		
(i) Pay of officers	4,00,509	
(ii) Pay of establishment	13,05,741	
(iii) Dearness allowance	10,01,295	
(iv) Travelling and other compensatory allowances.	4,87,316	
(v) Fixed travelling allowances	1,02,908	
(vi) Stipends to trainees	65,641	
(vii) Honoraria	7,506	
		33,70,916
(b) Other charges		14,61,060
Total ..		48,31,976
II. Under the control of others—		
1 Sanitary Engineer	(—) 5,40,959	
2 Director of Medical Services	17,46,067	
3 Director of Town-Planning	96,004	
4 Director of Industries and Commerce	2,690	
5 Board of Revenue	78,429	
6 Charges in England	4,751	
		13,86,982
Grants for Public Health purposes ..		22,86,072
Grand total under the head "39. Public Health".		85,05,030

Out of the total grants of Rs. 22,86,072 incurred under the head "39. Public Health" grants amounting to Rs. 6,70,794 relate to this department.

Besides the expenditure of Rs. 48,31,976 controlled by the Director of Public Health, expenditure amounting to Rs. 2,25,608 was also incurred by this department during the year 1958-59 (Rs. 12,796 in respect of Vital Statistics Establishment and Rs. 2,12,812 in respect of training of thayis).

The total receipts under Revenue account for the year 1958-59 were Rs. 6,995.07 lakhs and the total expenditure incurred under the heads "39. Public Health" and "38. Medical" were Rs. 85.05 lakhs and Rs. 441.59 lakhs respectively representing 1.2 and 6.3 per cent of total receipts.

Percentage of expenditure incurred by this department to the total expenditure under the head "39. Public Health" is 64.7 as shown below :—

Head of account.	Total expenditure incurred.	Expenditure incurred by the Public Health Department.	Percentage of expenditure incurred.
(1)	(2)	(3)	(4)
	RUPEES IN LAKHS.	RUPEES IN LAKHS.	
39 Public Health	85.05	55.03	64.7

A statement showing the expenditure and receipts in respect of the Corporation of Madras, Municipalities and District Boards for the year 1958-59 is given below :—

Statement showing the expenditure and receipts for the year 1958-59 in respect of Corporation of Madras, Municipalities and District Boards.

Subject.	Expenditure.		
	Corporation of Madras.	Municipalities.	District Boards.
	(2) RS.	(3) RS.	(4) RS.
1 Medical relief	13,70,398	12,82,523	34,28,648
2 Preventive medicine	71,96,019	1,37,88,352	17,65,000
3 Water-supply and drainage	84,42,572	1,55,75,048	..
4 Town-planning	3,74,529	15,67,980	1,35,429
Total ..	1,73,83,518	3,22,13,903	53,29,077

Subject.	Receipts excluding Government grants and contributions		
	Corporation of Madras.	Municipalities.	District Boards.
	(5) RS.	(6) RS.	(7) RS.
1 Medical relief	35,879	17,920	32,584
2 Preventive medicine	3,64,233	28,82,083	2,54,429
3 Water-supply and drainage	84,98,578	1,53,58,677	..
4 Town-planning	65,905	22,61,845	2,417
Total ..	89,64,595	2,05,20,525	2,89,430

PUBLIC HEALTH BOARD.

The Public Health Board met twice during 1959 and dealt with several public health questions referred to it by the Government. The most important subjects discussed by the Board were—

(i) Scheme for provision of more epidemic vans (one for each district) for effective control of cholera and smallpox.

(ii) Establishment of isolation hospitals.

(iii) Construction of wash houses with grants and loans from the Government of India.

(iv) Formulation of town-planning schemes in non-municipal areas.

(v) Integration of Municipal Engineering services with that of Public Works and Highways Departments.

(vi) Provincialisation of cadre of Sanitary Inspectors in local bodies.

(vii) Control of private hospitals, medical institutions, nursing homes, Radiographic institutions from the public health point of view.

The Board reviewed the progress of public health schemes sanctioned under the Second Five-Year Plan and was generally satisfied with the progress made.

The Board constituted two Committees, one for examining the question of public health set up in districts consequent on the liquidation of the District Boards and another for examining the text books prescribed for the lower classes and suggesting texts which could be included in them so that the principles of the public health might be inculcated in the minds of the pupils at the early ages.

The former Committee met six times and examined a detailed note on the subject prepared by the Director of Public Health as a basis for discussion. It examined in detail the provisions contained in the Madras Public Health Act, the Madras Local Boards Act and the Madras Panchayats Act, 1958, in so far as the administration of public health in local bodies was concerned. It also took into consideration the proposals under the Madras District Development Councils Act, 1958. It recommended in respect of each category of health personnel the minimum staff to be set up after the abolition of the District Boards. It also suggested amendments to the Madras Public Health Act consequent on the recommendations.

The Committee constituted to examine text books met four times and discussed the subject in detail and with experts on Health Education. It recommended a list of specific health topics which should be dealt with by authors who publish books for the lower and higher secondary classes. It also emphasised the need for practice of health principles among school children and the preparation of nutritious dishes at cheap cost.

HEALTH OFFICERS' CONFERENCE.

A Conference of the Health Officers was held at Coimbatore from 20th to 22nd August 1959. Various subjects were discussed and the resolutions passed at the Conference were examined and forwarded to Government and their orders are awaited.

CHAPTER VII—CONCLUSION.

During the year under report, there was no severe and wide spread epidemic of cholera and smallpox. The mortality from these diseases decreased considerably as compared with 1958. The death rates recorded under the different groups of diseases have all decreased as compared with 1958. The infant mortality rate and the maternal mortality rate are the lowest on record. A fall in the mortality rates in all age groups is recorded. The general death rate has consequently decreased and this reduction is reflected in rural, municipal and census town areas. Compared with 1958 the birth rate has slightly increased. The infant mortality rate which is generally taken as an index of public health condition in an area has been the lowest on record and as such, progress in the public health conditions in the State may be claimed.

The excess of recorded birth rate over the death rate in 1959 was 16.6 and is very large. If the progressive decline in death rate as a result of various health measures is maintained, the population of the State will rapidly increase even if birth rate is steady. In order to check the rapid growth in population, it is imperative that a decline in birth rate is ensured. This calls for intensive family planning programme in the State.

Proposals to eradicate smallpox have been finalised and a pilot eradication programme in Chingleput district has since been organised to be implemented.

Two mobile epidemic units each with one ambulance van and two jeeps with necessary health staff have been stationed in two central places (Salem and Madurai) of the state. These have enabled the Department to rush health staff with equipment to control cholera and small-pox epidemics and undertake preventive measures in affected areas with the least possible delay. Epidemic outbreaks have been smothered and their dissemination of diseases has been checked as far as possible. The proposal to provide one mobile epidemic unit for each district under the Third Five-Year Plan, if implemented, will facilitate greater control of the epidemic diseases on a state-wide basis.

The malaria eradication programme has been completely implemented and is in full swing. The malariometric indices show marked improvement in the incidence of malaria in the state. The filaria control units completed their initial survey and have launched control work in the endemic districts.

The B.C.G. campaign has been pushed on in all except three districts and it is hoped that the units will complete their work in the next year excepting in Chingleput district where the campaign will not be undertaken as pilot project of small-pox eradication programme has to be implemented.

Yaws is prevalent among the Harijans and socially backward people in Palladam, Erode and Avanashi taluks of Coimbatore district. It has been controlled by special measures undertaken for treatment of the disease. To maintain the results achieved, surveillance work has been established.

The maternity and child welfare services to reach the rural population are gradually and steadily extended. The effects of these services are already seen in the steady decline in infant and maternal mortality.

A Health Visitors' Training School has been housed in a permanent building and the institution is run on sound lines with the result that the problem of dearth of Health Visitors has since been solved. The normal and special courses proposed to be undertaken will supply enough number of Health Visitors for the maternity and child welfare schemes under the Third Five-Year Plan in the State.

The schemes for the provision of protected water-supply and drainage in rural and urban areas undertaken by the Board of Revenue and the Sanitary Engineering Department, the aid given to house owners in rural areas for the provision of sanitary conveniences, the research conducted in the techniques of health education and design of latrines, will go a long way to reduce the incidence of bowel diseases.

The Government Analyst and Chief Water Analyst departments have been transferred to the Public Health Department from the Medical Department on the suggestion of the Public Health Board. The provisions of the Prevention of Adulteration Act are administered by the health staff and the transfer of the Government Analyst Department will help to control adulteration in food-stuffs more effectively.

In view of the ignorance of the people in public health matters, one of the important methods of making them understand and accept hygienic principles is by health education. As the percentage of literacy in the State is very low, the people could be reached only by personal contact and by employing educational techniques. With this in view, the health education branch of the Department is being developed.

The health programmes under the Second Five-Year Plan were limited in scope owing to financial consideration. The 27 schemes proposed for the Third Five-Year Plan as against 6 and 10 in the First and Second Five-Year Plans respectively, are broad based and cover wider fields of public health, emphasis being placed on training and control of communicable diseases.

There has been sustained improvement in the health conditions in the State as a result of several achievements in public health measures during the recent past. In spite of dearth of Health Officers, this has been rendered possible by concentrating the available health staff on the special schemes undertaken and by the increased tempo in the out-turn of work of health staff during the past few years.

The work of the officers and the Public Health staff continued to be generally satisfactory.

Madras.

N. PARTHASARATHY,
Director of Public Health.

CHART NO 1

MADRAS STATE
BIRTH AND DEATH RATES (1949-59)
(CORRECTED FOR NON-RECEIPT OF
BIRTH AND DEATH RETURNS)

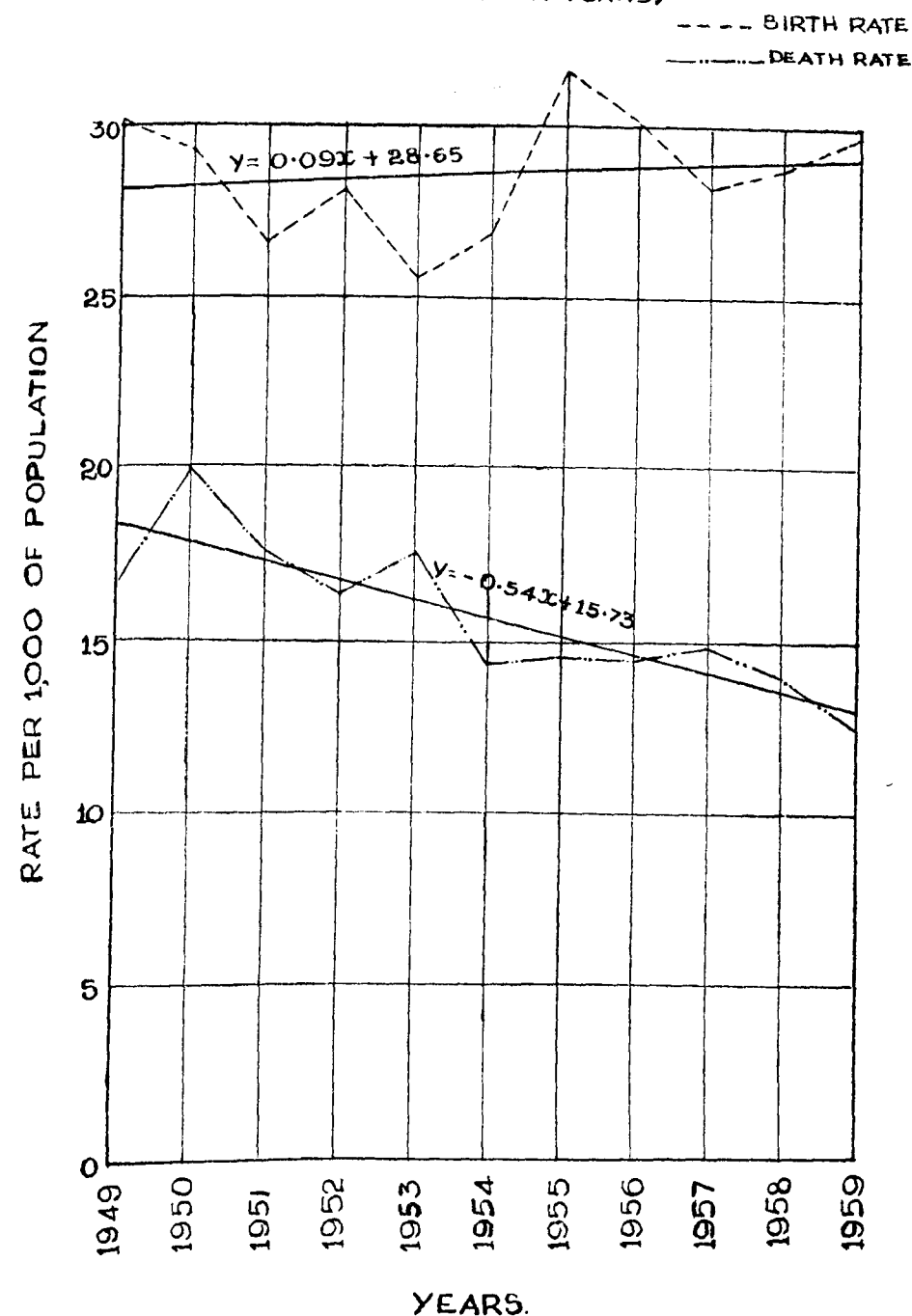


CHART NO 2

MADRAS STATE
INFANT MORTALITY RATES (1949-59)

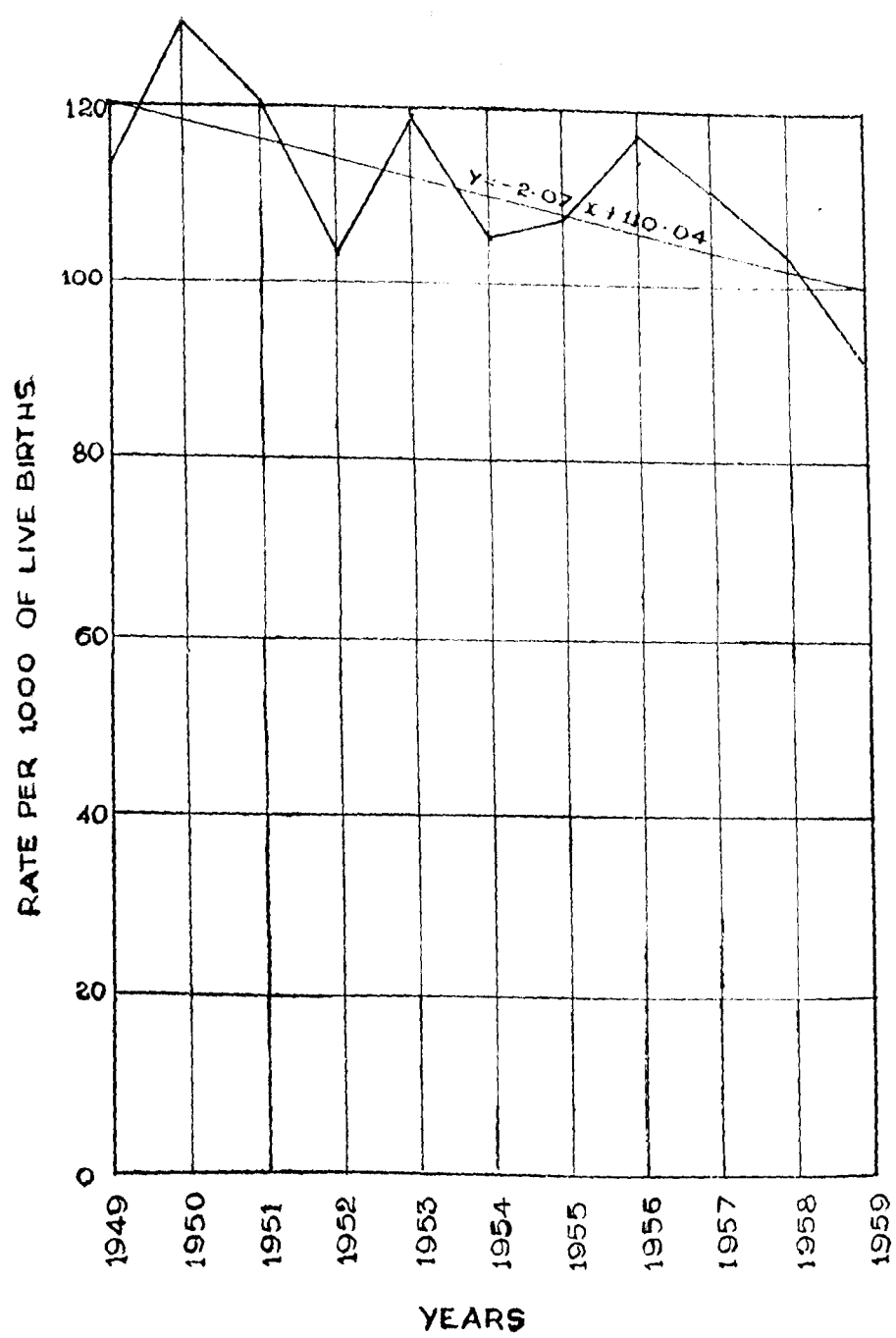
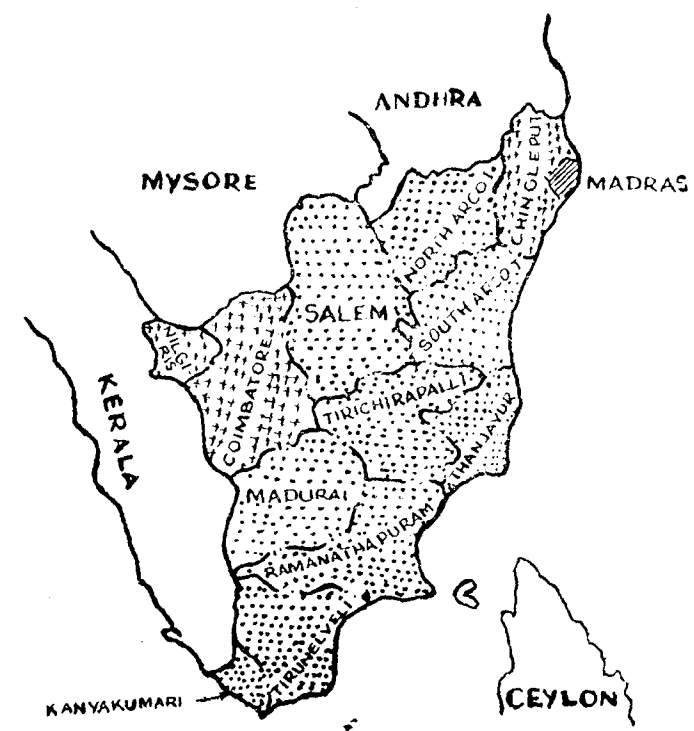


CHART NO 3

MADRAS STATE
MAP OF SMALL-POX MORTALITY RATES
(1959)



DEATH RATES PER 100,000 OF POPULATION

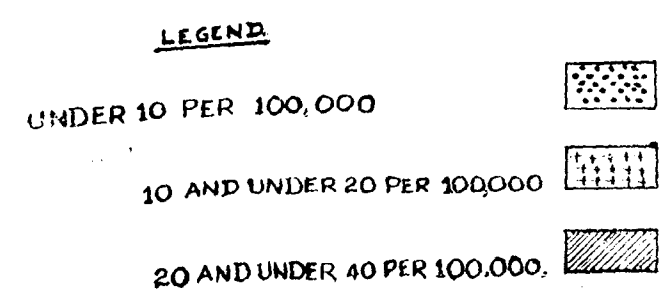
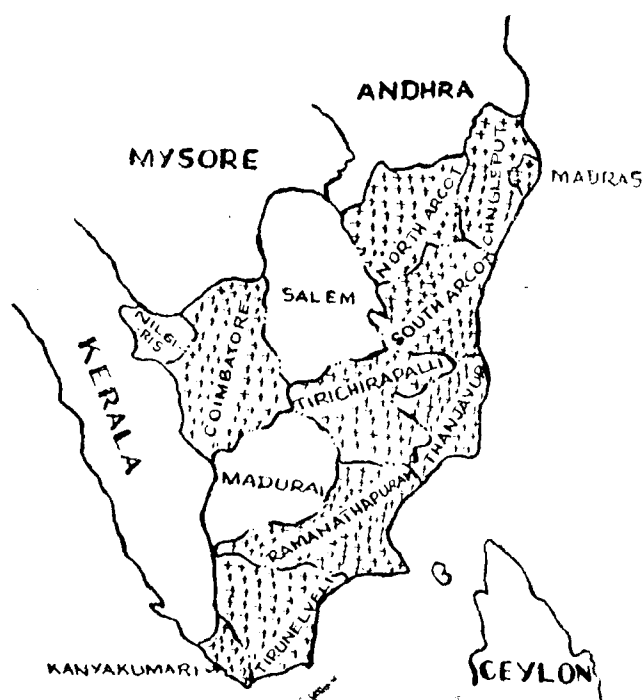


CHART N^o 4

MADRAS STATE
MAP OF CHOLERA MORTALITY RATES
(1959)



DEATH RATES PER 100,000 OF POPULATION

LEGEND

FREE AREA

UNDER 5 PER 100,000

CHART N^o 5

MADRAS STATE
DEATHS FROM SMALL-POX (1951-59)

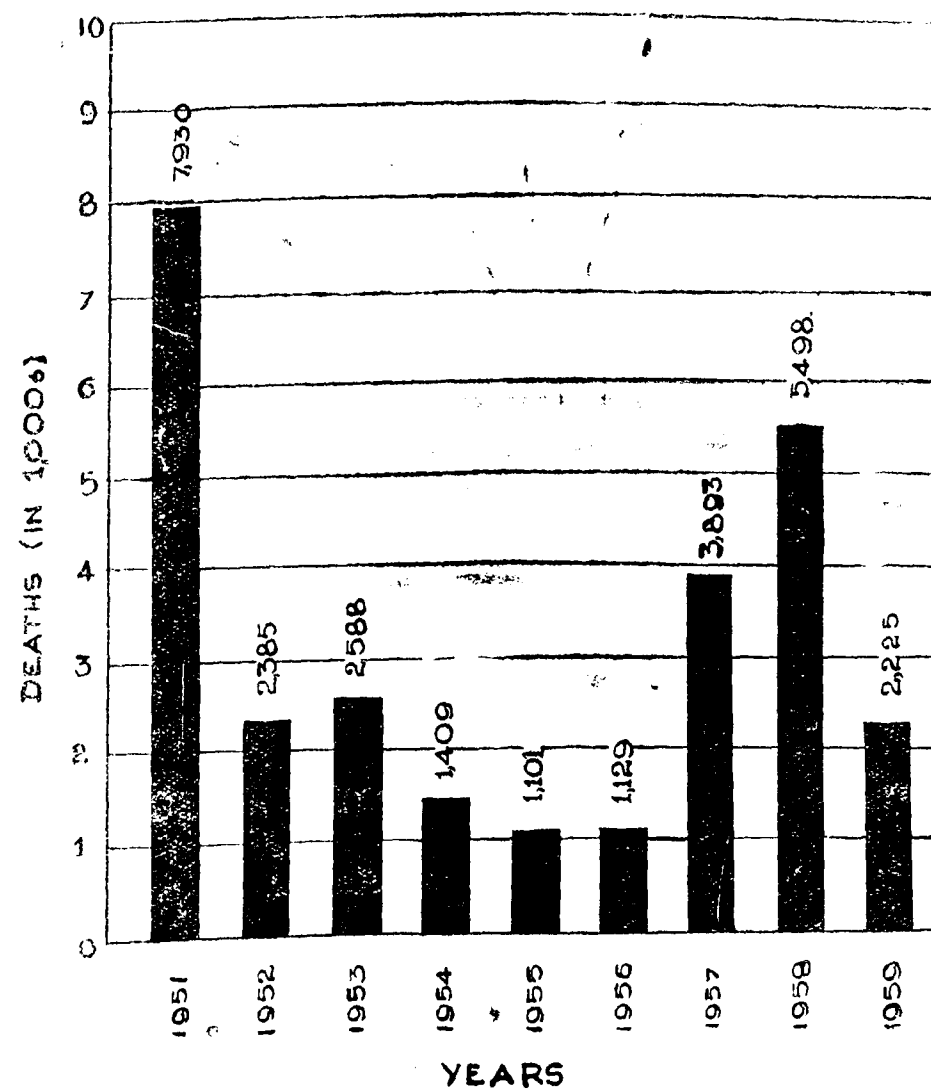


CHART N° 6

MADRAS STATE

DEATHS FROM CHOLERA (1951-59).

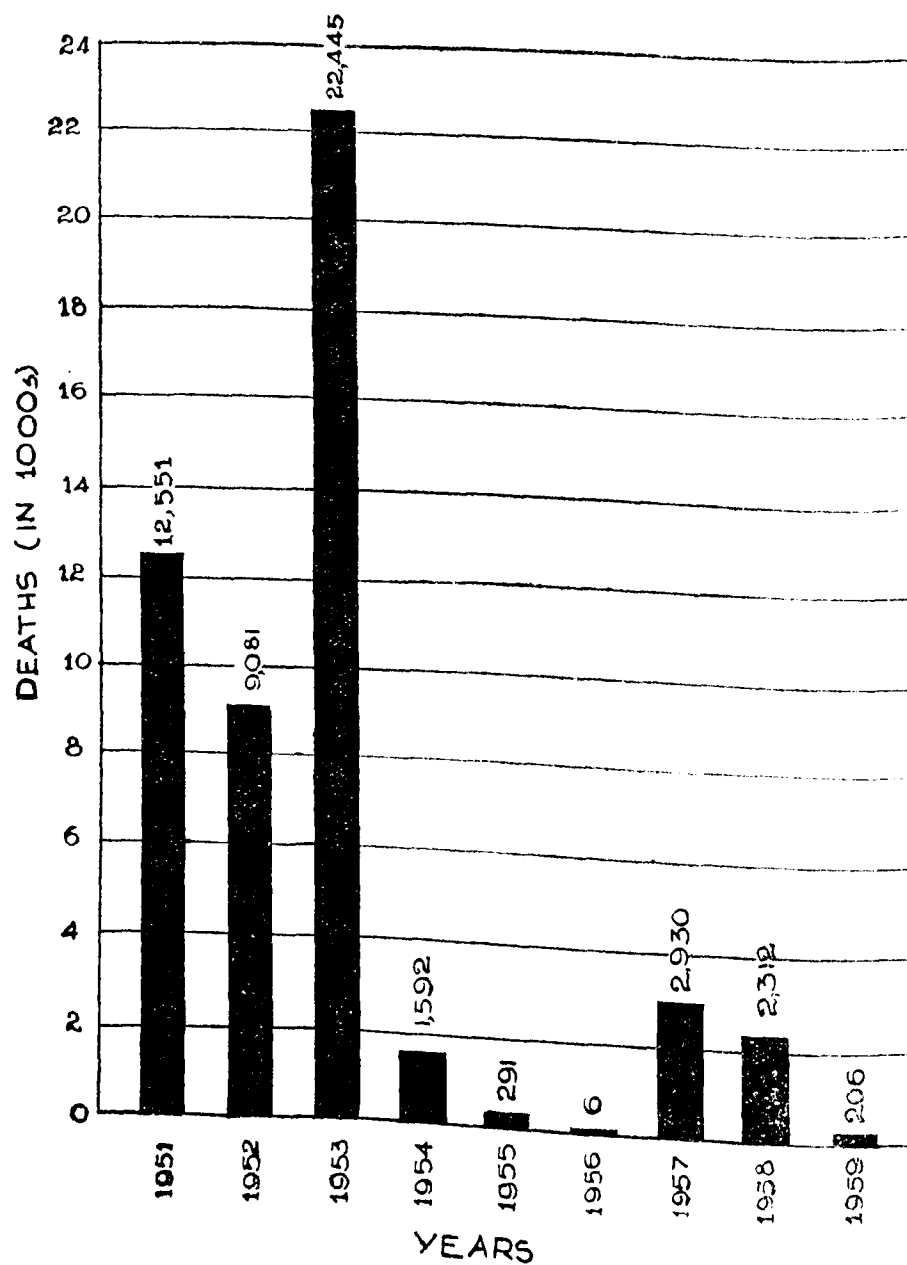
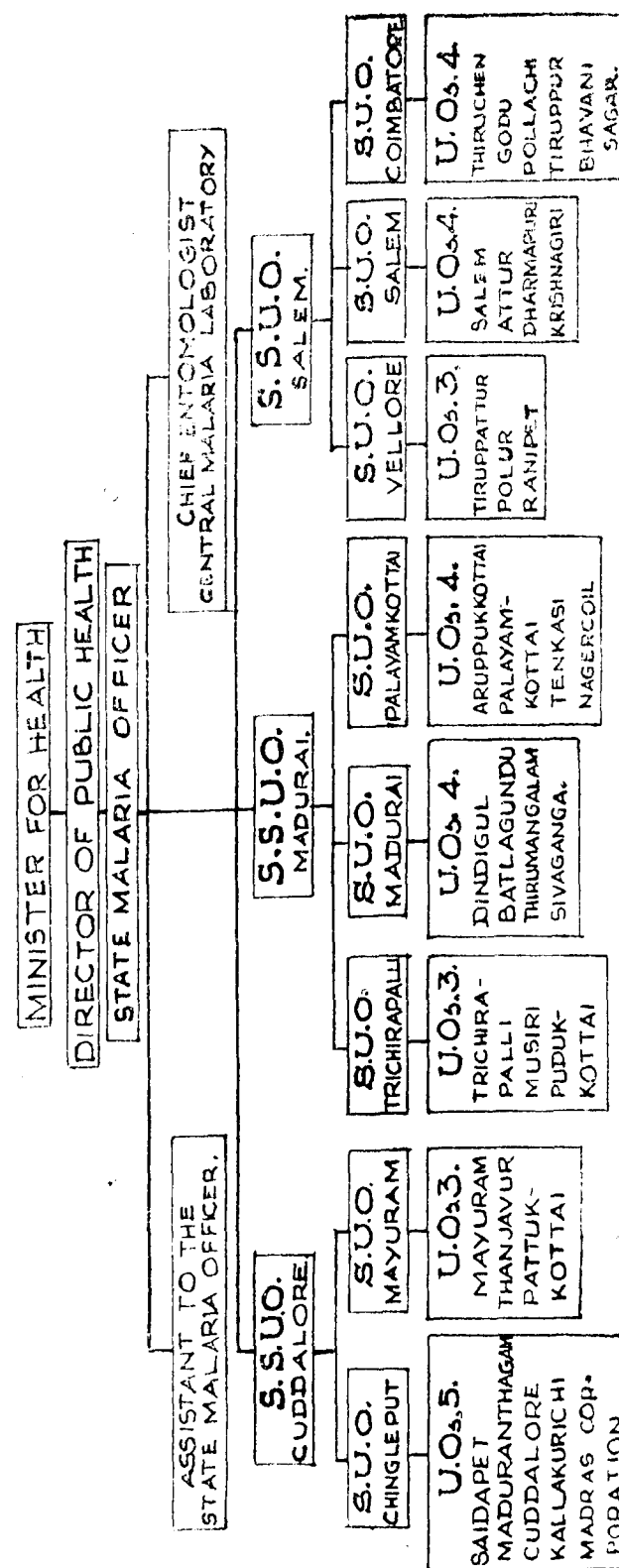


CHART N° 7

• ORGANISATIONAL CHART OF THE

NATIONAL MALARIA ERADICATION PROGRAMME, MADRAS STATE.



NOTE

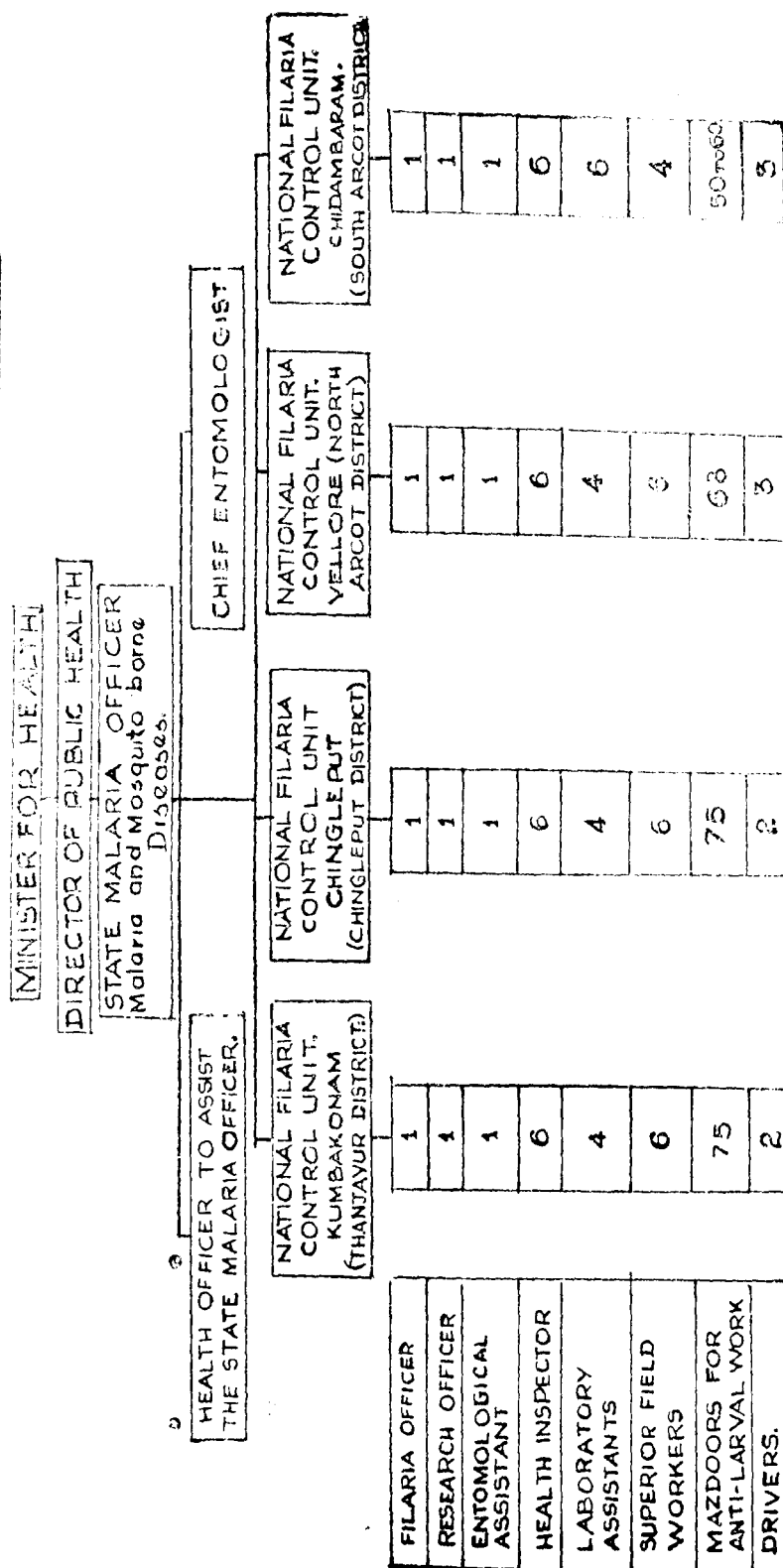
S.S.U.O. SPECIAL SUPERVISORY UNIT OFFICER

S.U.O. SUPERVISORY UNIT OFFICER

U.O. UNIT OFFICER.

ORGANISATIONAL CHART OF THE NATIONAL FILARIA CONTROL PROGRAMME - MADRAS STATE

CHART No 8.



ANNEXURE A.

STATEMENT SHOWING THE NUMBER OF MONTHLY VILLAGE BIRTH AND DEATH RETURNS DUE FROM EACH DISTRICT AND NUMBER NOT RECEIVED FOR THE YEAR 1959.

Serial number and districts.	Number of returns due for 1959.	Number of returns not received for 1959.	Percentage of returns not received to total number due.
(1)	(2)	(3)	(4)
1 Chingleput ..	25,188	812	3.2
2 North Arcot ..	24,312	736	3.0
3 South Arcot ..	27,204	2,314	8.5
4 Thanjavur ..	29,148	2,657	9.1
5 Tiruchirappalli ..	19,296	514	2.7
6 Madurai ..	12,820	1,549	12.1
7 Pannanathapuram ..	18,336	1,126	6.1
8 Tirunelveli ..	13,260	255	1.9
9 Salem ..	19,392	803	4.1
10 Coimbatore ..	13,176	300	2.3
11 Nilgiris, The ..	1,920	222	11.6
12 Kanyakumari ..	912	..	..
Total ..	207,964	11,288	5.4

ANNEXURE B.

STATEMENT SHOWING THE LIVE-BIRTHS BY MONTHS, SEX AND AREA IN MADRAS STATE RECORDED DURING 1959.

Serial number and months.	Rural.			Urban.*			Total.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 January ..	24,577	22,824	47,401	11,672	10,918	22,590	32,249	33,742	65,991
2 February ..	21,569	20,015	41,583	11,239	10,706	21,945	32,807	30,721	63,528
3 March ..	24,900	23,134	48,034	12,394	11,974	24,368	37,294	35,108	72,402
4 April ..	26,310	23,897	50,177	13,425	12,228	25,653	39,735	36,095	75,830
5 May ..	27,103	25,005	52,108	12,915	12,245	25,160	40,018	37,250	77,268
6 June ..	28,135	25,810	53,951	13,868	13,171	27,039	42,093	38,987	80,990
7 July ..	29,546	27,422	56,968	14,601	13,534	28,135	44,147	40,956	85,103
8 August ..	31,371	28,557	59,928	13,623	13,126	26,749	43,094	41,683	84,777
9 September ..	31,543	29,445	60,988	14,477	13,593	28,070	46,020	43,043	89,063
10 October ..	30,272	28,553	58,825	13,201	12,578	25,830	43,533	41,131	84,664
11 November ..	26,910	25,678	52,588	14,373	13,620	27,995	41,285	39,298	80,583
12 December ..	25,291	23,636	48,927	16,298	15,467	31,765	41,589	39,103	80,692
Total ..	326,526	303,952	630,478	162,148	153,163	315,311	438,674	457,117	895,791

* Includes municipal and census towns with a population of 5,000 and above.

ANNEXURE C.

STATEMENT SHOWING DEATHS BY MONTHS, SEX AND AREA IN
MADRAS STATE RECORDED DURING 1959.

Serial number and month.	Rural.			* Urban.			Total.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 January ..	12,593	12,343	24,936	5,181	5,050	10,231	17,774	17,433	35,207
2 February ..	16,148	19,294	35,442	4,693	4,603	9,296	15,141	14,867	30,038
3 March ..	11,267	16,835	28,102	4,632	4,567	9,199	16,639	15,462	31,441
4 April ..	19,169	19,949	39,118	4,637	4,328	8,965	14,866	14,247	29,153
5 May ..	19,533	19,967	39,500	4,324	4,683	9,011	15,661	15,599	31,251
6 June ..	11,997	11,373	23,370	4,555	4,614	9,169	15,652	15,887	31,539
7 July ..	12,768	12,674	25,442	5,271	5,138	10,409	18,039	17,811	35,850
8 August ..	11,966	12,372	24,338	5,665	5,197	10,862	16,971	17,469	34,440
9 September ..	19,379	19,976	39,355	4,547	4,146	8,693	15,426	15,422	30,848
10 October ..	19,459	19,371	38,830	4,127	4,608	8,735	14,577	14,379	28,956
11 November ..	12,558	12,299	24,857	5,324	5,116	10,440	17,882	17,115	34,997
12 December ..	14,443	14,261	28,704	6,655	6,297	12,952	21,068	20,661	41,729
Total ..	193,481	188,616	382,097	59,855	58,967	117,822	199,636	196,713	396,349

(Includes municipal and urban towns with a population of 5,000 and above.)

ANNEXURE E.

INFANT DEATHS AND DEATH-RATES IN DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS
IN MUNICIPAL TOWNS AND DISTRICTS INCLUSIVE OF MUNICIPAL TOWNS IN 1959.

Serial number and name of districts.	Municipal areas.		Districts exclusive of municipal areas.		Districts inclusive of municipal areas.	
	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Madras ..	9,092	129.17	..	..	9,062	129.17
2 Chingleput ..	604	89.11	5,840	114.31	6,444	111.36
3 North Arcot ..	1,060	103.47	8,146	93.09	10,106	94.94
4 South Arcot ..	516	55.43	5,400	78.61	5,916	75.84
5 Thanjavur ..	1,229	60.14	5,855	93.62	7,084	84.96
6 Tiruchirappalli ..	991	61.58	5,864	83.51	6,855	79.42
7 Madurai ..	2,714	96.29	5,503	89.38	8,217	91.55
8 Ramanathapuram ..	867	69.39	3,815	75.89	4,682	74.60
9 Tirunelveli ..	1,281	99.88	7,317	100.77	8,598	100.64
10 Salem ..	955	95.96	6,436	81.70	7,391	83.30
11 Coimbatore ..	2,404	81.51	6,544	96.00	8,948	92.02
12 Nilgiris, The ..	331	92.48	740	91.59	1,071	91.73
13 Kanyakumari ..	212	43.00	1,565	67.76	1,777	63.41
Total ..	23,126	95.10	63,025	89.70	86,151	91.09

ANNEXURE F.

INFANT DEATHS BY AGE GROUPS IN THE MUNICIPAL TOWNS IN THE STATE OF
MADRAS RECORDED DURING 1959.

Serial number and name of municipal towns.	Under one month.		One to six months.		Six to twelve months.		Total under one year.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Madras ..	1,796	1,357	1,441	1,369	1,544	1,555	4,781	4,281	9,062
2 Kancheepuram ..	82	78	65	48	49	45	196	171	367
3 Tiruvalluore ..	11	11	9	6	8	5	30	25	55
4 Chingleput ..	30	33	21	8	13	17	47	55	102
5 Tiruvottiyur ..	13	8	9	8	95	95	414	335	749
6 Vellore ..	203	147	116	93	30	28	99	83	182
7 Tiruvannamalai ..	47	34	22	21	38	40	162	125	287
8 Gudiyatham ..	71	48	53	37	17	32	89	86	175
9 Vaniambadi ..	34	27	38	27	11	16	61	62	123
10 Tirupattur ..	38	28	12	18	2	8	21	28	49
11 Walajapet ..	12	13	7	7	17	25	82	87	169
12 Ambur ..	40	32	25	30	27	27	108	79	187
13 Arni ..	47	31	34	21	6	9	17	22	39
14 Arkonam ..	..	4	11	9	40	30	137	105	242
15 Cuddalore ..	53	47	44	28	10	10	64	40	104
16 Chidambaram ..	29	17	16	13	17	14	52	38	90
17 Villupuram ..	20	11	15	13	16	6	48	32	80
18 Thindivanam ..	22	15	10	11	35	42	199	170	369
19 Thanjavur ..	115	97	49	31	37	40	157	149	309
20 Kumbakonam ..	86	63	34	46	25	32	111	114	225
21 Nagapattinam ..	50	43	36	39	13	9	60	59	119
22 Mayuram ..	34	41	13	9	13	14	80	76	156
23 Mannargudi ..	48	39	19	23	7	9	29	25	54
24 Tiruvarur ..	15	8	7	8	77	82	316	317	633
25 Tiruchirappalli ..	181	170	58	65	8	14	57	62	119
26 Karur ..	41	38	8	10	7	8	38	32	70
27 Srirangam ..	23	21	8	3	9	12	105	64	169
28 Pudukkottai ..	76	44	20	8	232	204	1,074	878	1,952
29 Madurai ..	574	447	268	227	30	24	127	97	224
30 Dindigul ..	58	55	39	18	23	19	44	42	86
31 Bodinayakanur ..	10	16	5	7	32	17	110	69	179
32 Periakulam ..	62	34	16	18	16	7	77	63	140
33 Palni ..	50	43	11	13	4	6	37	31	68
34 Kodalkanal ..	24	18	9	7	8	7	35	30	65
35 Cumbam ..	21	17	6	6	15	17	81	59	140
36 Rajapalayam ..	45	26	21	16	16	12	115	72	187
37 Srivilliputhur ..	76	43	23	17	15	17	62	48	110
38 Virudhunagar ..	35	20	12	11	..	..	..	..	..

ANNEXURE D.

STILL-BIRTHS RECORDED IN DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS
AND IN DISTRICTS INCLUSIVE OF MUNICIPAL TOWNS IN 1959.

Serial number and name of districts.	Districts exclusive of municipal towns.			Municipal towns.			Districts inclusive of municipal towns.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Madras ..	..	..	..	1,202	1,051	2,253	1,202	1,051	2,253
2 Chingleput ..	..	..	..	190	137	327	534	402	936
3 North Arcot ..	..	..	..	616	451	1,067	763	555	1,318
4 South Arcot ..	..	..	..	391	253	644	425	352	777
5 Thanjavur ..	..	..	..	661	543	1,204	1,045	868	1,913
6 Tiruchirappalli ..	..	..	..	537	492	1,029	743	674	1,417
7 Madurai ..	..	..	..	679	597	1,276	816	730	1,546
8 Ramanathapuram ..	..	..	..	299	256	555	483	413	901
9 Tirunelveli ..	..	..	..	359	259	609	654	507	1,161
10 Salem ..	..	..	..	287	329	616	398	425	823
11 Coimbatore ..	..	..	..	802	641	1,443	945	787	1,732
12 Nilgiris, The ..	..	..	..	59	52	111	194	163	357
13 Kanyakumari ..	..	..	..	24	38	62	137	127	264
Total ..	2,333	1,964	4,297	6,016	5,090	11,106	7,341	7,054	14,395

ANNEXURE F—cont.

INFANT DEATHS BY AGE GROUPS IN THE MUNICIPAL TOWNS IN THE STATE OF MADRAS RECORDED DURING 1959—cont.

Serial number and name of Municipalities.	Under one month.		One to six months.		Six to twelve months.		Total under one year.		Total.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
39 Karaikudi	25	14	13	15	11	12	49	41	90
40 Devakottai	22	4	12	16	12	11	46	31	77
41 Sivakasi	20	15	10	4	8	4	38	23	61
42 Aruppukottai	56	43	28	27	25	25	107	95	202
43 Tuticorin	148	106	76	63	64	79	288	248	536
44 Tirunelveli	96	60	61	48	41	39	201	147	348
45 Palayamkottai	90	80	20	13	20	18	130	111	241
46 Melapalayam	21	20	8	7	8	13	37	40	77
47 Shencottah	19	32	5	2	11	10	35	44	79
48 Salem	110	120	171	166	151	168	432	463	895
49 Rasipuram	19	24	6	4	4	3	29	31	60
50 Coimbatore	382	310	215	192	182	159	779	661	1,440
51 Erode	48	33	23	24	23	18	94	75	169
52 Tiruppur	60	50	25	30	26	23	111	103	214
53 Pollachi	60	52	28	30	32	25	120	105	225
54 Dharampuram	20	18	10	11	14	9	44	38	82
55 Udumalpet	30	29	9	14	3	11	51	54	105
56 Mettupalayam	23	17	11	8	10	10	49	35	84
57 Gobichettipalayam	10	16	6	3	6	3	21	22	43
58 Kurichi	14	11	1	4	7	5	22	20	42
59 Ootacamund	63	57	25	12	15	19	108	88	196
60 Coonoor	40	33	20	9	17	11	77	58	135
61 Nagercoil	34	31	24	13	19	9	77	53	130
62 Colachel	9	9	7	4	4	3	20	16	36
63 Kuzhithurai	7	2	4	4	4	3	7	9	16
64 Palmanabhapuram	9	5	4	6	4	2	17	13	30
Total ..	5,632	4,420	3,428	3,077	3,298	3,262	12,358	10,768	23,126

ANNEXURE G.

MATERNAL DEATHS AND DEATH RATES IN DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS IN MUNICIPAL TOWNS AND DISTRICTS INCLUSIVE OF MUNICIPAL TOWNS, IN THE STATE OF MADRAS FOR THE YEAR 1959.

Serial number.	Districts.	Municipal towns.		Districts exclusive of municipal towns.		Districts inclusive of municipal towns.	
		Number.	Rate per 1,000 births (live and still).	Number.	Rate per 1,000 births (live and still).	Number.	Rate per 1,000 births (live and still).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 Madras	..	140	1.93	..	..	140	1.93
2 Chingleput	..	79	11.12	114	2.20	193	3.28
3 North Arcot	..	100	5.00	228	2.60	328	3.04
4 South Arcot	..	63	6.39	257	3.73	320	4.06
5 Thanjavur	..	141	6.52	334	5.25	475	5.57
6 Tiruchirappalli	..	84	4.91	376	5.32	460	5.24
7 Madurai	..	116	3.94	162	2.62	278	3.04
8 Ramanathapuram	..	59	4.52	1.9	2.71	108	3.11
9 Tirunelveli	..	111	8.26	362	4.95	473	5.46
10 Salem	..	80	7.57	261	3.30	341	3.81
11 Coimbatore	..	169	5.47	188	2.79	357	3.61
12 Nilgiris, The.	..	12	3.25	20	2.40	32	2.65
13 Kanyakumari	..	12	2.40	135	5.79	147	5.20
Total ..	..	1,166	4.58	2,576	3.64	3,742	3.99

ANNEXURE H.

STATEMENT SHOWING BIRTHS AND DEATHS AS PER DETAILED CAUSES AND AS PER AGES AT DEATHS IN MUNICIPAL TOWNS WITH A POPULATION OF 30,000 AND ABOVE HAVING HEALTH OFFICERS IN THE STATE IN 1959.

Municipal towns selected: Aruppukottai, Bodinayakanur, Chidambaram, Coimbatore, Cuddalore, Dinidigal, Erode, Gudiyatham, Kancheepuram, Karaikudi, Karur, Kumbakonam, Madurai, Mayuram, Nagapattinam, Ootacamund, Palani, Palayamkottai, Periyakulam, Pollachi, Pudukkottai, Rajapalayam, Salem, Srirangam, Srivilliputhur, Thanjavur, Tiruchirappalli, Tirunelveli, Tiruppur, Tiruvannamalai, Tuticorin, Vaniyambadi, Vellore, Vilupuram and Virudhunagar.

Age at the time of death.	Infectious diseases.													Fever.			Respiratory diseases.		
	Population for 1959.													Typhoid or enteric fever.			Tuberculosis of lungs.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Under 24 hours	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
24 hours and under one week	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
One week and under one month	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
One month and under 3 months	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Three months and under 6 months	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Under one year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total under one year	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1 and under 5 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 and under 10 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10 and under 15 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15 and under 20 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20 and under 30 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
30 and under 40 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
40 and under 50 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
50 and under 60 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
60 years and upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of all ages	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rate per 1,000 of estimated mid-year population	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

REPORT ON HEALTH CONDITIONS IN MADRAS STATE, 1959

ANNEXURE I.

BIRTH AND DEATH RATES CORRECTED FOR NON-RECEIPT OF BIRTH
AND DEATH RETURNS.

Serial number and districts.	Birth rate.		Death rate.	
	1959. (2)	1953. (3)	1959. (4)	1953. (5)
1 Chingleput	30.2	29.2	14.4	16.4
2 North Arcot	35.3	34.0	14.6	17.3
3 South Arcot	28.9	28.8	11.7	14.3
4 Thanjavur	26.9	25.0	11.4	13.8
5 Tiruchirappalli	27.3	25.8	11.7	13.3
6 Madurai	30.3	28.7	12.5	12.3
7 Ramanathapuram	30.6	30.1	12.8	13.7
8 Tirunelveli	32.2	30.8	14.4	15.5
9 Salem	24.3	23.4	9.1	10.7
10 Coimbatore	27.9	26.4	10.8	11.4
11 Nilgiris, The	33.1	31.6	16.0	9.1
12 Kanyakumari	29.5	25.3	9.9	9.9
Total	29.7	28.8	12.5	14.0

ANNEXURE J.

MATERNITY AND CHILD HEALTH SERVICES—1959.

Serial number.	Districts (exclusive of Municipalities).	Municipalities including Corporation of Madras.	Total.
(1)	(2)	(3)	(4)
I. Brought under care—			
Total number of mothers	3,76,906	2,22,353	5,99,259
Prenatal	3,44,925	1,73,693	5,18,618
Labours	1,24,696	1,04,485	2,29,181
Infants	1,25,181	1,05,396	2,30,576
Pre-schools	97,233	51,020	1,48,258
II. Home visits—			
(a) Women Medical Officers	15,922	50,849	66,771
(b) Health Visitors—			
Prenatal	1,86,123	71,975	2,58,103
Postnatal	5,86,656	46,162	6,32,818
Infants	85,707	1,99,496	2,83,203
(c) Maternity Assistants—			
Prenatal	8,03,219	6,92,500	14,95,719
Postnatal	5,86,653	5,12,127	10,98,783
Infants	3,51,075	2,66,433	6,17,508
III. Clinics—			
Number held	21,585	21,958	42,843
Prenatal	1,17,062	2,53,778	3,40,400
Infants	58,916	71,052	1,29,968
Pre-schools	71,097	1,06,216	1,77,223
Nursing mothers	59,684	1,01,561	1,01,245
IV. Other activities—			
Number of mother's classes held	39,200	10,327	49,527
Attendance	2,88,418	1,82,604	4,71,022
V. Milk distribution—			
Mothers	2,48,579	8,39,971	10,88,550
Children	8,94,497	12,68,487	21,62,984
VI. Lantern Lectures—			
Number given	132	337	469
Attendance	7,170	11,564	18,734
VII. School visits for Health Education—			
Number of schools visited	2,936	314	3,250
Number of health talks given	6,348	1,085	7,433
Attendance	1,29,798	55,743	1,85,541

n.p.h.—6A

ANNEXURE H—cont.

STATEMENT SHOWING BIRTHS AND DEATHS AS PER DETAILED CAUSES AND AS PER AGES AT DEATHS IN MUNICIPAL TOWNS
WITH A POPULATION OF 30,000 AND ABOVE HAVING HEALTH OFFICERS IN THE STATE IN 1959—cont.

Municipal towns selected: Aruppukottai, Bodinayakanur, Chikambaram, Coimbatore, Cuddalore, Dindigul, Erode, Gudiyatham, Kancheepuram, Karaikudi, Karur, Kumbakonam, Madurai, Mayuram, Nagapattinam, Ootacamund, Palani, Palayamkottai, Periyakulam, Pollachi, Pudukottai, Rajapalayam, Salem, Srirangam, Srivilliputhur, Thanjavur, Tiruchirappalli, Tirunelveli, Tiruppur, Tiruvannamalai, Tuticorin, Vaniyambadi, Villupuram and Virudhunagar—cont.

Age at the time of death.	Under 24 hours	24 hours and under one week	One week and under one month	One month and under 3 months	Three months and under 6 months	Under one year	Total under one year	1 and under 5 years	5 and under 10 years	10 and under 15 years	15 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 35 years	35 and under 40 years	40 and under 45 years	45 and under 50 years	50 and under 55 years	55 and under 60 years	60 years and upwards	Total of all ages	Rate per 1,000 of estimated mid-year population
Under 24 hours	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
24 hours and under one week	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
One week and under one month	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
One month and under 3 months	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Three months and under 6 months	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Under one year	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Total under one year	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
1 and under 5 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
5 and under 10 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
10 and under 15 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
15 and under 20 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
20 and under 25 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
25 and under 30 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
30 and under 35 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
35 and under 40 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
40 and under 45 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
45 and under 50 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
50 and under 55 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
55 and under 60 years	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
60 years and upwards	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Total of all ages	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
Rate per 1,000 of estimated mid-year population	111	2,037	3,330	3,771	2,230	2,330	4,568	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124

* Less than 0.01.

ANNEXURE K.

STATEMENT SHOWING THE MATERNITY AND CHILD WELFARE CENTRES AND HOMES MAINTAINED AND THE STAFF DURING THE YEAR 1959.

Serial number and name of the districts.	Maternity and child welfare centres and homes maintained by											
	Government.				Local bodies.				Voluntary agencies.		Women Medical Officers.	
	R	U	R	U	R	U	R	U	R	U	R	U
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Chingleput	73	..	33	10	14	..	7	2	..	..	11	2
2 Poonamallee Health Unit	8	..	..	..	..	..	2	..	2	..	5	..
3 South Arcot	56	..	25	15	11	..	2	3	..	1	11	1
4 North Arcot	86	..	17	15	10	4	..	2	..	..	14	1
5 Thanjavur	98	..	36	16	10	1	4	4	..	..	22	3
6 Tiruchirappalli	78	..	25	23	13	3	1	4	..	..	15	8
7 Madurai	99	..	24	21	16	19	2	9	..	6	17	3
8 Ramanathapuram	93	..	63	24	4	..	1	6	..	1	15	3
9 Tirunelveli	82	..	17	30	67	..	..	3	..	..	13	3
10 Coimbatore	109	..	22	30	13	3	4	17	2	4	15	11
11 Salem	81	..	43	11	19	..	2	2	..	..	10	4
12 The Nilgiris	47	..	19	8	5	..	..	2	..	1	7	2
13 Kanyakumari	35	..	2	7	..	1	..	2	..	..	5	3
14 Madras	..	..	..	44	..	..	..	32	..	16	..	39
Total	975	..	322	254	177	31	25	88	4	29	160	183
												1,651
												365

U = Urban.

R = Rural.

ANNEXURE L.

HEALTH OF MINOR PORTS IN 1959.

Serial number and name of the ports.	Arriving vessels.									
	Foreign.					Coastal.				
	Cargo vessels.		Passenger vessels.			Cargo vessels.		Passenger vessels.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Total number.	Number in which cargo was inspected.	Number of crew inspected.	Total number.	Passengers inspected.	Number of crew inspected.	Number in which cargo was inspected.	Total number.	Passengers inspected.	Total number.
1 Oddalore	20	..	841	..	..	..	..	..	..	..
2 Dhanushkodi	..	..	..	276	32,280	12,420	1	..	..	..
3 Nagapattinam	422	..	..	27	12,914	325	5	..	..	..
4 Kilakkarai	15	..	..	..	..	..	284	..	..	..
5 Adirampattinam	..	..	..	..	..	..	..	..	..	..
6 Porto Novo	..	..	..	..	..	..	..	..	..	..
7 Kulasekarapattinam	..	..	..	..	..	..	..	..	..	..
8 Tuticoria	277	187	2,034	..	6	..	90	..	..	..
9 Pamban	..	..	..	..	..	..	60	..	..	..

ANNEXURE L—cont.

HEALTH OF MINOR PORTS IN 1959—cont.

Serial number and name of the ports.	Departing vessels.										Number of deaths during the inspection of vessels.	Number of vaccination and cholera inoculation done.
	Foreign.					U. S. n.						
	Cargo vessels.		Passenger vessel.			Cargo vessels.		Passenger vessels.				
	Total number.	Number inspected.	Number of crew inspected.	Total number.	Number inspected.	Number of crew inspected.	Total number.	Number inspected.	Number of crew inspected.	Total number.		
1 Cuddalore ..	20	841	..	275	42,476	12,375	1	..	..	..	..	..
2 Dhanushkodi ..	..	..	..	..	..	..	..	..	..	..	..	..
3 Nagapattinam ..	414	3,470	26	13,855	1	21	19	2	..	1,171*	..	..
4 Kilakkarai ..	11	..	..	..	..	..	..	..	..	6,078†	..	..
5 Adirampattinam ..	5	33	..	..	..	289	..	..	..	..	..	..
6 Porto Novo ..	..	..	..	..	..	..	..	..	..	..	..	..
7 Kulasekarapattinam ..	..	..	..	..	..	..	..	..	..	1*	..	..
8 Tuticorin ..	305	..	..	..	..	71	..	..	..	20†	..	..
9 Pamban ..	..	..	..	..	..	36	..	..	276	..	..	..

* Vaccination.

† Inoculation.

* Vaccination

† Inoculation

ANNEXURE M-1.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OZ. PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "LESS THAN Rs. 50".

Name of foodstuffs.	Occupation.						
	Weavers.		Workers in Beedi factories.		Sweepers.		Miscellaneous.
	Madras and Chingleput.	Madurai.	North Arcot.	Chingleput.	Madras.	Chingleput.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Rice—							
Boiled and milled ..	14.4	13.66	12.7	14.3	13.5	15.5	
Raw and milled ..	0.1	..	0.2	0.9	..	0.2	
Raw and handpounded ..	..	..	..	..	..	..	
Puffed ..	..	..	..	..	..	..	
Wheat ..	0.1	0.89	0.2	..	..	0.1	
Ragi ..	1.2	..	0.2	0.2	..	3.5	
Cholara ..	..	0.09	..	..	..	..	
Cambu ..	..	0.24	..	..	..	..	
Others ..	..	..	0.7	..	..	..	
Total cereals ..	15.8	14.88	14.0	15.4	13.5	19.3	
Pulses ..	0.9	2.06	1.4	1.4	0.5	0.7	
Leafy vegetables ..	1.0	0.36	0.1	0.6	0.2	0.8	
Non-leafy vegetables ..	1.2	1.66	1.9	1.1	1.1	0.7	
Roots and tubers ..	0.6	1.10	0.6	1.0	0.3	0.6	
Total vegetables ..	2.8	3.12	2.6	2.7	1.6	2.1	
Milk ..	0.4	1.28	1.3	..	0.2	0.2	
Milk products ..	0.9	0.21	0.02	..	0.2	0.3	
Total of milk and milk products ..	1.3	1.49	1.32	..	0.4	0.5	

ANNEXURE M-1—cont.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OZ. PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "LESS THAN Rs. 50"—cont.

Name of foodstuffs.	Occupation.									
	Weavers.	Workers of Beedi factories.		Sweepers.		Miscellaneous.				
		District.								
	Madras and Chingleput.	Madurai.	North Arcot.	Chingleput.	Madras.	Chingleput.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)				
Fats and oils	0.3	0.30	0.3	0.3	0.1	0.2				
Meat/Fish/Eggs	0.7	0.42	0.3	1.2	0.3	0.7				
Condiments	0.9	0.88	0.8	1.2	0.9	0.6				
Fruits	0.8	0.38	0.3	0.6	0.5	0.2				
Sugar and Jaggery	0.1	1.09	0.7	..	..	0.04				
Nuts	0.1	0.26	0.2	0.3	0.3	0.2				
Others	0.6	3.51	0.7	0.2	0.5	0.1				
Calorie value	1.18	2.11.9	1.822	1,955	1,554	2,140				

ANNEXURE M-2.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OUNCES PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "Rs. 50 AND LESS THAN Rs. 100".

Districts.	Occupation.																
	Weavers.		Workers in				Workers in Beedi Factory.		Sweepers.		Miscellaneous.						
	Madras and Chingleput. (2)	Madurai. (3)	Cycle Factory, Chingleput. (4)	Sugar Factory, South Arcot. (5)	Textiles, Tirunelveli. (6)	North Arcot. (7)	Ching eput. (8)	Madras. (9)	Chingleput. (10)								
(1)																	
Name of foodstuffs.																	
Rice—Boiled and Milled	13.9	16.84	13.95	14.9	15.03	13.4	14.1	13.2	14.6								
Rice—Raw and Milled	0.5	..	2.19	..	0.07	0.2	0.3	1.1	0.2								
Rice—Raw and handpounded	..	..	..	..	..	..	..	..	..								
Rice Puffed	..	..	0.19	..	..	0.04	..	..	..								
Wheat	0.2	0.51	0.14	..	0.57	0.4	..	0.1	0.2								
Ragi	0.7	0.11	..	0.2	..	0.6	0.9	0.03	2.7								
Cholam	..	0.36	..	0.2	..	..	..	..	..								
Cumbu	..	1.32	..	..	..	..	..	..	..								
Others	0.01	0.03	0.05	..	..	0.9	..	..	..								
Total cereals	15.31	19.17	16.52	15.3	15.67	15.54	15.2	14.43	17.7								
Pulses	1.1	1.72	1.41	0.6	1.67	1.3	1.3	1.1	1.6								
Leafy vegetables	0.6	0.07	0.42	0.3	0.15	0.3	0.3	0.4	1.3								
Non-leafy vegetables	1.6	1.49	1.16	0.3	1.30	1.5	0.9	0.9	1.2								
Roots and tubers	0.9	0.46	1.06	0.6	0.88	0.6	0.6	0.8	0.5								
Total vegetables	3.1	2.02	2.64	1.7	2.23	2.4	1.8	2.1	3.1								
Milk	0.8	1.47	3.12	0.7	2.17	1.4	0.2	1.0	1.5								
Milk products	1.2	0.19	0.39	0.04	0.35	0.1	0.1	0.2	1.0								
Total of milk and milk products	2.0	1.66	3.51	0.74	2.52	1.5	0.3	1.2	2.5								

ANNEXURE M-2-cont.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OUNCES PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP
"Rs. 50 AND LESS THAN Rs. 100"—cont.

Districts.	Occupation.									
	Weavers.		Workers in		Workers in		Sweepers.		Miscellaneous.	
(1)	Madras and Chingleput.	Madurai.	Cycle Factory, Chingleput.	Sugar Factory, South Arcot.	Textiles, Tirunelveli.	North Arcot.	Chingleput.	Madras.	Chingleput.	Chingleput.
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Fats and oils ..	0.4	0.18	0.39	0.3	0.42	0.2	0.2	0.3	0.2	0.2
Meat, Fish/Eggs ..	0.6	0.52	1.04	2.5	0.27	0.4	1.2	0.4	1.0	1.0
Condiments ..	0.9	0.56	0.97	1.0	1.33	0.7	0.9	0.9	0.6	0.6
Fruits ..	0.3	0.28	0.46	0.6	0.22	0.5	1.0	0.5	0.3	0.3
Sugar and Jaggery ..	0.4	1.01	1.18	1.6	0.88	1.0	0.1	0.1	0.2	0.2
Nuts ..	0.1	0.13	0.17	0.2	0.31	0.1	0.2	0.1	0.2	0.2
Others ..	1.1	2.23	0.88	1.4	0.07	1.0	0.1	0.8	0.1	0.1
Calories value ..	2,008	2,442	2,386	1,971	2,155	2,046	1,880	1,811	2,196	2,196

ANNEXURE M-3.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OUNCES PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP
"Rs. 100 AND ABOVE".

Districts.	Occupation.									
	Weavers.		Factory workers.		Sweepers.		Miscellaneous.			
(1)	Madras and Chingleput.	Madurai.	Cycle Factory, Chingleput.	Sugar Factory, South Arcot.	Textile Mills, Tirunelveli.	Chingleput.	Madras.	Chingleput.		
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
Rice—Boiled and Milled ..	13.92	17.31	8.93	14.4	15.55	11.5	13.3	15.5		
Rice—Raw and Milled ..	0.30	..	4.79	0.04	0.04	1.0	0.1	0.6		
Rice—Raw and handpounded ..	..	..	..	..	..	..	..	..		
Wheat ..	0.20	..	0.88	0.02	..	3.1	0.2	0.3		
Ragi ..	0.74	..	0.08	..	..	..	..	0.7		
Cholam ..	..	..	..	..	0.48	..	..	..		
Others ..	0.01	0.22	0.01	..	..	..	..	..		
Total cereals ..	15.37	17.53	14.69	14.46	16.07	15.6	13.6	17.1		
Pulses ..	1.11	3.01	1.47	0.9	2.09	1.8	1.4	2.5		
Leafy vegetables ..	0.58	0.10	0.46	0.2	0.30	0.4	0.8	1.4		
Non-leafy vegetables ..	1.56	2.45	1.39	0.6	1.21	1.2	1.2	2.2		
Roots and tubers ..	0.86	1.09	1.00	0.7	1.20	0.8	0.9	0.9		
Total vegetable ..	3.00	3.24	2.85	1.5	2.71	2.4	2.9	4.5		
Milk ..	0.82	0.95	4.84	1.3	3.21	..	3.6	5.1		
Milk products ..	1.22	0.71	0.59	0.1	0.20	0.2	0.1	0.8		
Fats and Oils ..	0.38	0.36	0.47	0.3	0.48	0.3	0.8	0.3		
Meat/Fish/Eggs ..	0.55	0.66	0.51	1.9	0.44	1.3	1.1	2.2		
Condiments ..	0.88	0.92	0.93	0.9	1.03	1.4	1.3	0.8		
Fruits ..	0.30	0.77	0.52	0.5	1.88	0.9	0.6	1.1		
Sugar and Jaggery ..	0.36	0.08	0.83	1.4	1.19	0.2	0.9	0.3		
Nuts ..	0.08	0.45	0.18	0.2	0.44	0.2	0.3	0.2		
Others ..	1.06	0.66	0.32	0.9	0.11	0.1	0.8	0.2		
Calories ..	2,008	2,449.9	2,102.7	1,938	2,321.2	2,034	2,143	2,457		

ANNEXURE N-1.

AVERAGE DAILY INTAKE OF NUTRIENTS PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "LESS THAN Rs. 50".

Nutrients.	stricta.	Unit per week	Weavers.				Workers in Beedy factory,		Sweepers.		Miscellaneous.	
			Madras and Chingleput.		Madurai.	North Arcot.	Chingleput.	Chingleput.	Madras.	Chingleput.		
			Madras and Chingleput.	Madurai.								
Total Consumption	..	..	1,057.86	209.78	471.5	45.5	492.50	125.98				
Animal Protein (g. amses)	..	..	5.0	8.9	3.4	9.0	2.6	5.4				
Vegetable Protein (grammes)	..	..	40.7	49.2	40.5	41.9	29.9	43.6				
Total Protein (grammes)	..	..	45.7	53.1	43.9	50.9	32.5	49.0				
Fat (grammes)	..	..	14.7	22.7	11.4	18.4	9.2	10.4				
Carbohydrate (g. amses)	..	..	398.7	448.4	387.3	396.1	333.6	457.7				
Calcium (Milli grammes)	..	..	464.0	471.8	306.5	423.9	233.8	649.3				
Phosphorous (Milli grammes)	..	..	820.1	693.3	1,081.9	940.3	732.4	1,121.9				
Iron (Milli grammes)	..	..	22.7	31.1	19.3	21.1	15.9	22.1				
Vitamin A (I.U.)	..	..	87.8	67.6	330.3	8.6	13.6	20.9				
Carotene (International Vitamin A Unit)	..	..	2,370.2	1,118.5	574.6	925.1	456.9	2,202.8				
Vitamin B-1 (Micro grammes)	..	..	1,198.2	1,270.4	1,059.2	1,136.7	919.2	1,486.8				
Vitamin C (Milli grammes)	..	..	6.6	34.7	24.9	27.2	31.8	49.3				
Nicotinic Acid (Milli grammes)	..	..	18.4	20.9	17.0	10.0	16.0	19.5				
Riboflavin (Micro grammes)	..	..	218.8	408.2	312.3	299.0	128.9	142.4				

ANNEXURE N-2.

AVERAGE DAILY INTAKE OF NUTRIENTS PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "Rs. 50 AND LESS THAN Rs. 100."

Nutrients.	Occupation.									
	Weavers.		Factory Workers.			Worker in Beedy Factory.		Sweepers.		Miscellaneous.
	Madras and Chingleput.	Madurai.	Cycle Factory.	Sugar Factory.	Textile mills.	North Arcot.	Chingleput.	Chingleput.	Chingleput.	Chingleput.
Total consumption unit per week	1,364.91	500.29	188.4	523.8	551.40	524.65	365.19	666.4	683.34	683.34
Animal Protein (grams)	4.7	2.9	9.8	16.7	4.0	4.2	8.7	4.4	7.6	7.6
Vegetable Protein (grams)	41.2	45.7	42.7	37.1	45.8	40.9	40.4	38.4	45.1	45.1
Total Protein (grams)	45.9	48.6	52.5	53.8	49.8	45.1	49.1	42.8	52.7	52.7
Fat (grams)	18.4	16.4	20.5	17.6	26.8	17.2	13.7	16.3	18.3	18.3
Carbohydrates (grams)	408.6	427.5	445.6	409.8	426.8	424.0	387.7	371.0	445.8	445.8
Calcium (Milli grammes)	453.8	390.8	363.1	331.5	438.4	441.0	370.0	317.7	758.4	758.4
Phosphorous (Milli grammes)	761.9	1,035.2	980.2	1,046.9	1,064.8	925.1	919.1	865.9	850.9	850.9
Iron (Milli grammes)	21.6	27.1	17.3	26.0	2.2	22.1	18.3	20.8	26.2	26.2
Vitamin A (I.U.)	71.7	74.5	219.1	56.5	123.0	377.0	30.6	66.1	125.5	125.5
Carotene (International Vitamin A Units)	1,374.5	467.4	769.6	805.5	594.0	706.0	779.3	450.8	2,965.6	2,965.6
Vitamin B-1 (Micro grammes)	1,144.4	1,260.6	1,203.9	1,140.5	1,268.0	1,030.1	1,176.8	1,017.6	1,518.2	1,518.2
Vitamin C (Milli grammes)	46.4	15.7	83.1	32.6	27.4	30.1	30.9	36.4	73.0	73.0
Nicotinic Acid (Milli grammes)	17.9	18.1	23.1	20.1	20.0	17.6	18.8	16.6	22.1	22.1
Riboflavin (Micro grammes)	302.4	445.5	433.2	185.6	408.9	179.5	235.3	237.4	335.3	335.3

ANNEXURE N-3.

AVERAGE DAILY INTAKE OF NUTRIENTS PER CONSUMPTION UNIT PER DAY IN THE INCOME GROUP "RS. 100 AND ABOVE".

Nutrients.	Occupation.										
	Weavers.			Factory workers.			Sweeper.		Miscellaneous.		
	Madras and Chingleput.	Madurai.	(2)	(3)	Cycle Factory.	Sugar Factory.	(5)	(6)	Chingleput.	Madras.	
(1)											
Total consumption unit per week...			913.78	73.5	786.62	737.69	370.36	226.03	(7)	(8)	(9)
Animal Protein (grams)			9.5	5.1	7.5	13.1	5.5	8.4	10.2	455.21	251.80
Vegetable Protein (grams)			39.3	51.7	43.6	37.5	49.2	46.0	40.6	40.6	54.4
Total Protein (grams)			48.8	56.8	51.1	50.6	54.7	54.4	50.3	50.3	73.8
Fat (grams)			24.4	27.4	27.8	19.2	29.7	17.5	39.1	31.8	31.8
Carbohydrates (grams)			421.1	491.0	410.7	373.3	466.1	414.6	393.1	469.8	469.8
Calcium (Milli grammes)			563.2	441.1	492.3	308.6	469.7	647.4	534.0	919.0	919.0
Phosphorous (Milli grammes)			1,042.5	1,187.5	1,009.8	997.1	1,124.9	709.9	1,013.6	1,247.0	1,247.0
Iron (Milli grammes)			21.8	25.7	17.2	22.6	25.1	23.6	25.6	27.4	27.4
Vitamin A (International Units).			259.1	71.8	245.0	93.8	182.7	39.1	1,005.9	374.8	374.8
Carotene (International Vitamin A Units)			1,976.4	429.0	922.7	600.0	793.0	1,264.2	1,482.6	4,256.3	4,256.3
Vitamin B-1 (Micro grammes)			1,141.8	1,412.8	946.9	1,101.4	1,334.9	1,397.5	1,129.0	1,526.3	1,526.3
Vitamin C (Milli grammes)			63.1	23.2	41.3	25.3	43.4	40.0	62.0	104.0	104.0
Nicotinic Acid (Milli grammes)			17.9	23.0	64.0	19.0	20.9	17.4	18.4	22.6	22.6
Riboflavin (Micro grammes)			358.0	510.1	604.6	265.0	554.1	342.1	446.3	445.6	445.6

ANNEXURE O-1.

AVERAGE CONSUMPTION OF FOODSTUFFS IN OZ. PER CONSUMPTION UNIT PER DAY IN INSTITUTIONS.

Foodstuffs.	(1)	(2) New College Hostel, Madras district.	(3) Muslim Orphanage Hussainabad, Chingleput district.	(4) Devasthan Charities Hostel, Chingleput district.	(5) Certified School Ranset, North Arcot district.	(6) Health Visitor's Training School, Madras district.
1 Rice—						
Boiled and milled		8.6	14.2	14.5	..	9.69
Boiled and handpounded ..		..	..	..	7.5	..
Raw and milled		0.9	..	..	..	..
Ragi		..	0.5	..	..	..
Wheat		3.1	..	..	5.3	0.68
Cumbu		..	..	..	..	..
Vermicelli		0.1	..	..	..	0.26
Total ..		12.7	14.7	14.5	12.8	10.63
2 Pulses		1.0	1.1	2.3	2.9	1.89
3 Vegetables—						
Leafy		0.1	1.1	1.4	2.5	0.45
Roots and tubers		2.7	3.0	2.5	2.0	1.91
Others		1.3	2.5	2.4	4.0	2.44
4 Fruits		1.7	0.5	1.5	1.7	1.43
5 Fats and oil		1.7	0.2	1.0	1.3	0.95
6 (a) Milk		5.3	..	..	3.3	1.38
(b) Milk products: Curd, Butter milk and others.		1.3	..	1.0	..	1.59
7 Meat, Fish and Eggs ..		3.1	0.3	..	1.5	0.64
8 Sugar and Jaggery		0.9	0.3	..	0.9	1.66
9 Condiments		1.2	0.7	1.4	0.8	0.42
10 Nuts		..	..	..	..	0.21
11 Others		3.7	0.8	0.3	1.1	0.77
Calories ..		2,641	1,881	2,261	2,508	1,974

ANNEXURE O-2.

AVERAGE DAILY INTAKE OF NUTRIENTS PER CONSUMPTION UNIT PER DAY.

Nutrients.	Name of the Institution, district in which situated.					
	New College Hostel, Madras city.	Hussainabad Mus- lim Orphanage, Chingleput.	Sri. Mallikswara and Sri Chinnai Kesava perumal Devasthanam Charitra Hostel, Chingleput.	Junior certified School at Kail- pet, North Arcot.	Government Train- ing school for Health Visitors, Hostel, Madras city.	
(1)	(2)	(3)	(4)	(5)	(6)	
Animal Protein (grams) ..	21.50	1.70	10.29	10.46	6.61	
Vegetable Protein (grams) ..	46.90	37.72	50.77	68.33	37.79	
Total Protein (grams) ..	68.40	39.42	61.06	78.79	44.40	
Fat (grams) ..	86.73	15.10	36.68	75.10	40.89	
Carbohydrate (grams) ..	395.57	398.29	412.25	390.08	355.99	
Calcium (Milli grams) ..	743.93	449.47	800.10	829.58	459.78	
Phosphorus (Milli grams) ..	1,296.23	825.14	1,092.90	1,180.32	850.57	
Iron (Milli grams) ..	54.55	22.82	19.98	50.39	17.12	
Vitamin A (I.U.) ..	599.00	2.88	..	181.37	126.00	
Catutene (International Vitamin A Units).	1,067.03	1,297.00	2,391.55	1,061.56	845.85	
Vitamin B-1 (Micro grams) ..	1,396.44	1,065.79	680.88	2,239.97	1,007.40	
Vitamin C (Milli grams) ..	42.99	62.47	111.20	61.49	45.34	
Nicotinic Acid (Milli grams) ..	19.72	18.51	7.68	51.60	14.53	
Riboflavin (Micro grams) ..	683.77	293.40	764.12	1,371.65	448.55	

ANNEXURE P-1.

PERCENTAGE OF EACH CEREAL TO TOTAL CEREALS CONSUMED.

Tiruchirappalli district.

Year.	Number of survey.	Rice.	Wheat.	Ragi.	Cholam.	Cambu.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1946	5	(Income less than Rs. 50)					
1947	11	65.4	8.1	5.4	15.1	4.3	1.8
1950	6	63.7	1.7	4.0	1.5	23.8	5.4
1951	7	81.8	..	..	17.2	1.0	..
1952	5	87.8	..	..	9.2	2.9	..
1953	1	79.6	..	0.1	4.3	15.9	0.2
1958	1	*100.0	..	..	..	..	..
1950	7	(Income Rs. 50-100)					
1951	6	89.7	..	..	10.2	0.1	..
1952	6	80.8	0.8	5.0	4.6	8.6	..
1953	1	83.2	..	..	5.3	6.0	0.6
1957	1	100.0	..	..	..	..	..
1958	1	† 100.0	..	..	..	..	..
1950	10	(Income over Rs. 100)					
1951	5	99.4	0.2	..	0.2	..	0.2
1952	3	97.7	..	..	1.2	..	1.1
1953	1	57.0	..	..	7.0	86.0	..
1957	1	100.0	..	..	..	..	..
1958	1	100.0	..	..	..	..	..

* Weaver families only.

† Mill workers colony.

ANNEXURE P-2.

PERCENTAGE OF EACH CEREAL TO TOTAL CEREALS CONSUMED.

Madurai district

Year.	Number of survey.	Rice.	Wheat.	Ragi.	Cholam.	Cambu.	Others.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Income less than Rs. 50)							
1946	3	34.2	..	16.4	15.7	5.9	27.8
1947	1	100.0	..	..	..	..	..
1948	3	67.4	14.4	9.9	5.8	..	2.5
1953	4	59.4	..	15.5	21.8	3.3	..
1954	42	77.5	0.4	6.8	10.0	3.5	1.7
1955	8	83.0	..	6.4	10.8	..	..
1956	8	78.1	0.1	10.6	8.8	1.6	1.1
1957	1	73.9	..	9.8	7.6	5.3	3.8
1959	*1	91.8	6.0	..	0.6	1.6	..
(Income Rs. 50-100)							
1947	2	99.8	0.2	..	..	..	..
1953	4	74.5	..	14.3	7.6	3.6	..
1954	42	84.6	0.2	5.4	8.6	0.2	1.1
1955	8	85.2	..	11.3	3.5	..	..
1956	10	90.7	..	6.5	1.6	..	1.3
1957	1	83.2	..	14.3	2.5	..	..
1959	*1	87.8	2.7	0.6	6.9	1.9	0.1
(Income over Rs. 100)							
1947	2	61.0	0.8	2.2	8.2	13.5	..
1953	4	86.7	..	11.9	1.4	..	..
1954	42	86.2	0.9	6.3	6.5	..	0.1
1955	6	85.8	..	14.2	..	..	..
1956	7	92.1	1.5	6.2	..	0.2	..
1959	*1	98.7	..	..	..	..	1.3

* Weaver families only.

ANNEXURE P.3.

PERCENTAGE OF EACH CEREAL TO TOTAL CEREALS CONSUMED.

Tirunelveli district.

Year.		Number of survey.	Rice.	Wheat.	Ragi.	Cholam.	Cambu.	Others.
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Income less than Rs. 50.)								
1949	..	..	1	100.0	..	..	..	..
1957	..	..	1	66.7	..	..	..	..
1958	..	..	1	* 100.0	..	..	..	..

(Income Rs. 50—100.)

1947	..	..	3	97.3	..	..	0.6	..
1957	..	..	1	* 100.0	..	..	..	0.9
1959	..	..	1	96.4	3.6	..	..	..

(Income over Rs. 100.)

1949	..	..	1	100.0	..	..	..	..
1959	..	..	1	97.6	..	3.0	..	..

* Mat Weavers only.

Coimbatore District.

(Income less than Rs. 50.)

1949	..	..	3	44.2	5.3	7.1	42.4	..
1956	..	..	2	59.8	..	..	99.2	..
1957	..	..	1	76.8	..	23.2	..	..

(Income Rs. 50—100.)

1947	..	..	3	95.2	..	0.2	0.1	..
1949	..	..	3	64.1	4.2	11.2	13.3	..
1956	..	..	2	69.0	..	..	31.0	..
1957	..	..	1	33.9	..	12.0	..	..

(Income above Rs. 100.)

1956	..	..	2	93.9	1.9	..	4.1	..
1957	..	..	1	48.3	..	..	..	..
1958	..	..	1	94.9	2.1	..	3.0	..

ANNEXURE Q.

NUTRIENT ANALYSIS OF INSTITUTIONAL DIETS.

Number and name of the item.	Protein.	Fat.	Carbo- hydrate.	Fibre.	Minerals (Ash.)			Calcium.	Phos- phorus.	Iron (mgms.)	Calories.	Remarks.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
Government Institutions— 1 Government General Hospi- tal Nurses Hostel.	100.14	106.15	537.71	9.37	41.63	1.217	1.975	184.65	3,306.75	Vegetarian diet supplied to staff and trainees, age 18 to 55 years. Average cost Rs. 39 to 45 per head per month.	Vegetarian diet supplied to staff and trainees age 18 to 55 years. Average cost Rs. 39 to 45 per head per month.	
2 Government General Hospi- tal Nurses Hostel.	75.72	67.16	417.99	11.41	28.72	0.659	1.058	270.9	2,579.29	Non-vegetarian diet, supplied to staff and trainees age 18 to 55 years. Average cost Rs. 39 to 45 per head per month.	Non-vegetarian diet, supplied to staff and trainees age 18 to 55 years. Average cost Rs. 39 to 45 per head per month.	
3 Government Ophthalmic Hospital Nurses Hostel.	44.54	37.24	336.8	11.30	20.62	0.586	0.628	285.02	1,859.52	Indian vegetarian diet, age 20 to 55 years.	Indian vegetarian diet, age 20 to 55 years.	
4 Government Ophthalmic Hospital Nurses Hostel.	50.13	41.64	314.24	12.54	27.55	0.320	0.731	144.70	1,831.34	Non-vegetarian diet, age 20 to 55 years.	Non-vegetarian diet, age 20 to 55 years.	
5 Government Vigilance Home	45.74	26.44	251.65	7.97	25.30	0.573	0.818	49.41	1,427	Non-vegetarian diet.	Non-vegetarian diet.	
6 Government Vigilance Home	38.60	23.57	279.21	8.87	22.75	0.334	0.690	50.73	1,477	Vegetarian diet.	Vegetarian diet.	
7 Government Strisadana Home.	48.39	30.08	241.97	10.68	19.67	0.666	1.036	117.65	1,433	Non-vegetarian diet.	Non-vegetarian diet.	
8 Government Strisadana Home.	43.32	37.85	270.91	8.00	20.02	0.443	0.973	30.62	1,597	Vegetarian diet.	Vegetarian diet.	
9 Government Infectious diseases Hospital.	80.95	41.07	493.00	18.69	33.92	1.323	1.424	489.46	2,667	Non-vegetarian diet (For all rash cases).	Non-vegetarian diet (For all rash cases).	
10 Government Health Visitors Training School Hostel.	81.69	30.46	472.45	10.04	29.36	0.487	0.905	320.76	2,491	Non-vegetarian diet.	Non-vegetarian diet.	
11 Chennamallikeswara Free Hostel.	68.82	63.38	449.30	11.85	41.65	0.845	0.655	303.30	2,642.90	Non-vegetarian diet, age 16 to 25 years.	Non-vegetarian diet, age 16 to 25 years.	
12 New College Hostel	82.70	73.09	472.10	12.21	37.60	0.873	1.020	160.61	2,877.01	Non-vegetarian diet, age 16 to 25 years. Cost Rs. 35 per head per month.	Non-vegetarian diet, age 16 to 25 years. Cost Rs. 35 per head per month.	
13 Ha-sainabad Muslim Orpha- nage.	69.20	9.01	437.78	4.52	32.79	0.359	0.721	161.10	2,070.31	Non-vegetarian diet, age 10 to 17 years.	Non-vegetarian diet, age 10 to 17 years.	
14 Sevaseadnan Orphanage	48.86	11.58	320.90	4.26	25.30	0.791	0.877	80.81	1,583	Vegetarian diet.	Vegetarian diet.	
15 Andhra Mahila Sabha	83.19	101.84	653.57	17.39	43.01	0.628	1.326	97.16	3,847	Vegetarian diet.	Vegetarian diet.	

ANNEXURE R.

NUTRIENT ANALYSIS OF COOKED FOOD PREPARATIONS.

Number and name of the item.	Nutrients in grams per cent.										Calories.	Remarks.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
1 Sambar Bath ..	..	9.256	14.67	57.47	3.36	4.22	0.067	0.096	16.54	390.96	These items are prepared out of handpounded rice and vegetables and purchased at Khadi Gramodhog canteen maintained by Khadi and village industries Commission.	
2 Curd Bath ..	..	8.460	6.42	49.89	1.89	4.46	0.144	0.170	28.86	291.00		
3 Lemon Bath ..	..	12.00	18.06	58.60	2.00	4.16	0.090	0.130	10.06	446.00		
4 Nutro Biscuits 'Brita' Brand.	..	15.993	14.47	57.34	Nil.	2.19	0.133	0.163	9.88	423.55	The two samples received from Britannia Biscuit Co., Pvt., Calcutta for analysis.	
5 Nutro Biscuits 'Khasta' Brand.	..	16.34	14.31	57.04	Nil.	2.11	0.137	0.156	12.46	423.11		
6 Street food vendor's sample food.	..	17.01	6.40	94.0	3.23	7.36	0.072	0.080	10.04	301.64	Non-vegetarian. It is mostly used by labourers. Cost: 4 annas per meal.	

ANNEXURE S.

NUTRIENT ANALYSIS OF VEGETABLES.

Number and name of the item.	Nutrient in grams—per cent										Calories.	Remarks.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
		Moisture.	Protein.	Fat.	Carbohydrate.	Fibre.	Minerals (ash).	Calcium.	Phosphorus.	Iron (Mgms.)		
1 Mavalikilangu ..	..	89	1.086	0.58	14.42	2.56	1.352	0.168	0.013	6.9	67.44	Mavalikilangu is generally used for pickles.
2 Kottikilangu ..	..	79.5	1.156	0.80	16.87	0.58	1.088	0.015	0.007	0.93	79.32	
1 Gou Beans ..	..	91.54	1.084	0.12	4.65	1.82	0.788	0.064	0.024	35.95	24.00	
2 Pumpkin tender ..	..	95.00	0.542	0.14	3.32	0.56	0.439	0.011	0.014	0.71	16.70	
3 Plain gourd ..	..	90.00	1.523	0.15	5.44	2.01	0.882	0.023	0.044	1.54	29.16	
4 Palichaikud ..	..	94.49	0.828	0.23	3.40	0.77	0.279	0.057	0.046	34.37	18.99	
1 Chekurnanis Puffed cholan	..	16.00	7.840	0.84	9.03	2.63	2.61	0.256	0.027	..	71.24	
	..	..	8.089	1.59	40.26	2.86	2.10	0.034	0.171	15.38	323.80	



ANNEXURE V.

DETAILS OF THE NATIONAL MALARIA ERADICATION PROGRAMME.

Unit. (1)	Jurisdiction. (2)	Population benefitted. (3) (in lakhs).	Number of structures sprayed. (4)	Vector. (5)	Malaria metric Data in rate per cent. In 1959.		
					Spleen rate. (6)	Parasit rate. (7)	Morbidity rate. (8)
1 Bhavanasagar	Nilgiris, Avanasli, Gobichettipalayam and Bhavani taluks of Coimbatore district.	14	217,700	F, C and H	0.35	0.01	0.59
2 Tiruppur .. Tiruppur town. Erode town Other areas	Palladam, Dharmapuram and Erode taluks of Coimbatore district.	..	5,478	S and H	..	..	0.87
3 Pollachi ..	Coimbatore, Pollachi and Udumalpet of Coimbatore district.	..	4,679	..	0.002	0.01	5.10
4 Thiruchengode	Tiruchengode and Namakkal taluks of Salem district.	10	325,593	..	0.02	0.05	0.70
5 Krishnagiri	Hosur and Krishnagiri taluks of Salem district.	13	233,919	F, C and H	0.14	0.10	0.56
6 Dharmapuri	Dharmapuri and Omalur taluks of Salem district.	8.7	272,661	C, and H	0.10	0.02	3.80
7 Salem .. Salem town. Other areas	Salem, Yercaud and Harur taluks of Salem district.	7.0	187,598	F, C and H	1.31	1.10	2.70
8 Attur ..	Attur and Rasipuram taluks and Sendanai-galam block of Namakkal taluk of Salem district.	7.0	214,523	F, C and H	1.00	0.10	2.90
9 Tirupattur	Tirupattur, Gudiyattam and Vellore taluks of North Arcot district.	..	19,829	F, C, H and S	Nil.	Nil.	4.10
10 Polur ..	Chengam, Polur and Tiruvannamalai taluks of North Arcot district and Gingee taluk of South Arcot district.	8.0	192,457	..	(Survey not completed)	..	3.60
11 Ranipet ..	Ranipet, Arkonam, Cheyyar and Wandiwash taluks of North Arcot district.	6.0	182,412	F, C and H	1.00	0.04	1.54
12 Saidapet ..	Ponneri, Tiruvellore, Saidapet, and Sriperumbudur taluks of Chingleput district and the Periphery of Madras City.	10.7	217,348	C, F and H	0.10	0.85	1.50
13 Madurantakam	Chingleput, Madurantakam and Kancheepuram taluks of Chingleput district and Tindivanam taluk of South Arcot district.	10	249,800	C, F and H	0.19	0.20	0.50
14 Cuddalore	Villupuram and Cuddalore taluks and portions of Vriddhachalam and Chidambaram taluks of South Arcot district.	12	309,025	H	..	..	(Not available)
15 Kallakurichi	Kallakurichi, Tirukoilur and a portion of Vriddhachalam of South Arcot district.	11	287,585	H	..	..	0.10
16 Mayuram	Sirkali, Mayuram, Nannilam and Nagapattinam taluks of Thanjavur district and a portion of Mannargudi of Thanjavur district and a portion of Chidambaram taluk of South Arcot district.	10	291,493	F and H	0.1	..	0.05
17 Thanjavur	Kumbakonam, Papanasam and Thanjavur taluks and a portion of Mannargudi and Orathanad taluks of Thanjavur district.	11	163,339	H	..	0.02	1.70
		12	149,469	H	..	..	0.61

ANNEXURE T—*cont.*DETAILS OF THE NATIONAL MALARIA ERADICATION PROGRAMME—*cont.*

Unit.	Jurisdiction.	Population benefited.	Number of structures sprayed.	Vector.	Malaria metric data in year percent in 1959.		
					Spleen rate.	Parasite rate.	Morbidity rate.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
18 Pattukkottai ..	Pattukkottai, Arantangi and Tiruthuraiipoondi taluks and a portion of Orathanad and Mannargudi taluks in Thanjavur district.	10	183,207	H ..	..	..	0.90
19 Tiruchirappalli ..	Tiruchirappalli, Lelgudi and Udayarpalayam taluks of Tiruchirappalli district and a portion of Vriddhachalam taluk of South Arcot district.	13	253,373	H ..	..	..	0.52
20 Musiri ..	Kannur, Musiri and Perambalur taluks of Tiruchirappalli district and a portion of Vriddhachalam taluk of South Arcot district.	11	318,550	F and H ..	0.27	0.04	1.7
21 Pudukkottai ..	Kulittalai, Kulathur, Alangudi and Thirumayam taluks of Tiruchirappalli district.	9.5	276,898	C and H	0.02	Nil.	0.30
22 Dindigul ..	Palani, Dindigul and Melur taluks of Madurai district.	11	290,689	F, C and H	0.04	0.01	0.32
23 Battagundu ..	Nilakkottai, Kodakanal and Periyakulam of Madurai district.	10	268,915	F, C and H	0.05	0.07	0.56
24 Thiruvannamalai ..	Thiruvannamalai and Madurai of Madurai district and Srivilliputhur taluk of Ramanathapuram district.	14	238,669	C, F and H	0.60	..	0.10
25 Sivaganga ..	Tirupattur, Tiruvadanai, Sivaganga Paramakudi and Ramanathapuram taluks of Ramanathapuram district.	11	235,645	C and H ..	0.05	0.24	0.70
26 Aruppukottai ..	Satur, Aruppukottai and Mudukulathur taluks of Ramanathapuram district and Kolipatti taluk of Tirunelveli district.	10.7	310,733	H ..	..	..	0.11
27 Palayamkottai ..	Tirunelveli, Srivaikuntam, Tiruchendur and Nanguneri taluks of Tirunelveli district.	12.7	302,679	S, C and H	0.02	..	0.79
28 Tenkasi ..	Senkaranayinarcoil, Tenkasi, Ambasamudram and Shengottah taluks of Tirunelveli district.	10.5	370,185	F, C and H	..	..	0.16
29 Nagercoil ..	Kanyakumari district ..	9.4	245,983	F, C, H and S	..	..	0.16
30 Madras ..	Except peripheral areas ..	..	73,714	S and H ..	1.3	0.1	0.08

F = Anopheline Fluviatilis.
C = Anopheline Culicifacies.
S = Anopheline Stephensi.
H = Hypo-endemic.

ANNEXURE U.

THE STRENGTH OF THE OFFICERS IN THE PUBLIC HEALTH DEPARTMENT
ON 31ST DECEMBER 1959.

	Number of posts.
Director of Public Health	1
Officer-in-charge, Orientation Training Centre, Poonamallee (in the grade of Deputy Director of Public Health).	1
State Malaria Officer	1
Assistant Directors of Public Health including the Professor of Social and Preventive Medicine, Madras and Madurai.	7
Special Supervisory Unit Officers (in the grade of Assistant Director of Public Health) for Malaria Eradication Programme.	3
Health Officers	112*
* These include two posts of Regional Malaricologists, one post of Health Officer to assist the Assistant Director of Public Health in charge of Malaria and mosquito-borne diseases, eight posts of Supervisory Unit Officers, eight posts of Health Officers in National Filaria Control Units, one post of Nutrition Officer, one post of Health Officer (Health Education), two posts of Supervising Public Health Officers (B.C.G. Vaccination Campaign), one post of Assistant-in-charge, Orientation Training Centre, four posts of Assistant Professors of Social and Preventive Medicine, in the Medical Colleges at Madras and Madurai, one post of Health Officer to teach Hygiene in the Government College of Indigenous Medicine, Madras, one post of Research Health Officer, one post of Health Officer, Health Unit, Poonamallee, one post of Health Officer, Rameswaram Panchayat Board, one post of Health Officer, Government Leprosy Treatment and Study Centre, Tirukoilur, one post of Health Educator, Poonamallee, one post of Special Officer (UNICEF Supplies) and three posts of Assistant Municipal Health Officers.	
Chief Entomologist	1
Senior Entomologists	1
(including one post each in the Madras Medical College, Madras and Madurai).	
Unit Officers in the grade of Senior Entomologist, National Malaria Eradication Programme.	18
Statistician	1
Malaria Engineer	1
(kept in abeyance from 21st November 1957).	
Public Health Assistant Engineer, Health Unit, Poonamallee	1
Public Health Assistant Engineer, Orientation Training Centre, Poonamallee	1
Public Health Sanitary Engineer, Research-cum-Action Project, Poonamallee	1
Medical Officer (Maternity and Child Health), Grade I, Health Unit, Poonamallee	1
Medical Officer (Maternity and Child Health), Grade I, Government Training School for Health Visitors, Madras.	1
Publicity Officers	2
Research Analyst	1
Research Aide	1
Manager	1
Gazetted Assistant (Non-Technical) for Malaria Eradication Scheme	1
Regional Transport Officer	1
Special staff sanctioned for National Malaria Eradication Programme— State Malaria Officer	1
Special Supervisory Unit Officers (including the existing post of Assistant Director of public Health for Malaria).	3
Supervisory Unit Officers	8
Unit Officers (including Madras Corporation)	
Senior Entomologists	19
Entomological Assistants	3
Selection grade Health Inspectors	8
	30
Gazetted Assistant (Non-Technical)	1

ANNEXURE V.

STRENGTH OF THE PUBLIC HEALTH SUBORDINATE SERVICE FOR THE YEAR 1959.

Category.	Permanent posts.	Temporary posts.	Total strength.
(1)	(2)	(3)	(4)
1 Health Inspectors—			
Ranges in the district	127	..	127
Hydro-Electric Scheme	2	..	2
Regional Malaria Organization	2	..	2
Central Nutrition Bureau, Madras	2	2	4
Health Unit, Poonamallee	4	..	4
Leave and Epidemic Reserve	58	34	92
Anti-malaria Scheme merged with Malaria Eradication Programme	..	42	42
Health and Rural Sanitation Project (R.C.A.)	..	4	4
National Filaria Control Programme Units	..	24	24
Anti-plague work	..	12	12
Mobile Epidemic Units	..	2	2
National Malaria Eradication Programme	..	199	199
Guineaworm Eradication Programme	..	19	19
Primary Health Centres under Post-War Reconstruction Schemes	..	10	10
Primary Health Centres in projects	..	4	4
Primary Health Centres in National Extension Service Blocks	..	107	107
Primary Health Centres in Community Development Blocks	..	7	7
Community Development Stage I and II Blocks	..	8	8
Research	..	2	2
Orientation Training Centre, Poonamallee	..	1	1
Health Unit, Poonamallee (Vital Statistics)	..	1	1
Research-cum-Action Project, Poonamallee	..	3	3
B.C.G. Vaccination Campaign	..	61	61
Improvement of Backward areas (Lower Palani Hills)	..	1	1
Yaws Surveillance Unit	..	1	1
Health Inspectors working in other departments			
T. B. Sanatorium, Tambaram (Medical Department)	1	1	2
Government Leprosy Subsidiary Centre (Medical Department)	..	29	29
Mobile Medical Unit (Medical Department)	..	8	8
Reservoir Project (Electricity Board)	..	4	4
Hydro-Electric Scheme (Electricity Board)	..	5	5
National Extension Training Centre (Rural Development department)	..	7	7
National Water supply and Sanitation (Board of Revenue)	..	14	14
2 Propaganda—			
Technician	1	..	1
Artist and Photographer	1	..	1
Cinema Operator	..	1	1
Driver-Mechanic	..	1	1
3 Nutrition—			
Chemical Assistant	1	..	1
Laboratory Attendants	2	..	2
Laboratory Assistants	3	..	3
Technician	..	1	1
Driver	1	..	1
4 Research—			
Entomological Assistants	1	6	7
Laboratory Attendant	1	1	2
Trained Attender	..	2	2
5 Malaria and Filaria—			
Entomological Assistant	5	45	50
Laboratory Technician (Central Malaria Laboratory)	1	..	1
Laboratory Assistant	5	39	44
Field Assistant	7	139	146
Driver	..	41	41

ANNEXURE V—*cont.*

STRENGTH OF THE PUBLIC HEALTH SUBORDINATE SERVICE FOR THE YEAR
1959—*cont.*

	Category	Permanent posts.	Temporary posts.	Total strength.
	(1)	(2)	(3)	(4)
6	Orientation Training Centre and Research-action Project—			
	Health Education Officer	1	..	1
	Artist	..	1	1
	Cinema Operator	..	1	1
	Draughtsman	1	..	1
7	Epidemics—			
	Drivers	..	1	1
8	Health Unit—			
	Fitters	..	2	2
9	Transport—			
	Store-purchase Clerk	..	1	1
	Cleaners	..	2	2
	Foreman	..	1	1
	Mechanics	..	2	2
	Electricians	..	1	1
	Cleaners	..	2	2
10	Public Health Staff allotted from the former Travancore-Cochin State to Madras State—			
	Sanitary Inspectors	6	3	9
	Health Assistants	57	16	63
	Field Assistants	6	..	6
	Public Health Midwives	7	15	22
	Conservancy peons	14	2	16
11	Maternity and Child Health staff—			
	Women Medical Officer, Orientation Training Centre, Poonamallee	..	1	1
	Resident Matron, Health Unit	1	..	1
	Public Health Nurses, Health Visitors' School	..	2	2
	Public Health Nurses, Orientation Training Centre, Poonamallee	..	1	1
	Health Visitors, Primary Health Centres	..	127	127
	Health Visitors, Backward Areas Schemes	..	19	19
	Health Visitors, Health Visitors' School	..	1	1
	Health Visitors, Health Unit	1	..	1
	Health Visitors, Family Planning Clinic	..	1	1
		4	148	152
	Maternity Assistants, Health Unit	18	..	18
	Maternity Assistants, Primary Health Centres, Community Development, National Extension Service and Backward areas	..	727	727
		18	727	745

* Kept as separate categories in Kanyakumari district.

ANNEXURE W.

**STRENGTH OF THE HEALTH STAFF EMPLOYED UNDER THE DISTRICT BOARDS
AND MUNICIPAL COUNCILS AND IN THE CORPORATION OF MADRAS FOR THE
YEAR 1959.**

	Number of posts.
1 Lady Superintendents-in-charge of Maternity and Child Welfare Centres ..	2
2 Medical Officers (Maternity and Child Health), Grade I	69
3 Do. Do. II	25
4 Health Visitors	168
5 Resident Matrons	16
6 Maternity Assistants	954
7 Compounders	117
8 Ayahs	651
9 Sanitary Inspectors (<i>Selection grade</i>)	13
10 Sanitary Inspectors	360
11 Health Assistants (for vaccination and birth and death registration) ..	784
12 Field Assistants	120
13 Nursing Orderlies	146

Besides the staff shown in the annexure, a large number of sanitary staff were employed for conservancy and other works. A few posts of Medical Officers (Maternity and Child Health) and Health Visitors were kept vacant due to dearth of qualified candidates. Some of the posts of Health Assistants were filled by emergency trained candidates for want of qualified persons.

APPEN

STATEMENT NO. 1.--Vital statistics

Births registered in the districts and

Serial number.	Estimated mid-year population for 1959.			Districts.	Estimated mid-year population for which birth and death returns were received.		
	Males.	Females.	Total.		Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	967,000	895,000	1,862,000	Madras	967,000	895,000	1,862,000
2	1,091,000	971,000	1,972,000	Chingleput	1,091,000	971,000	1,972,000
3	1,533,000	1,554,000	3,094,000	North Arcot	1,533,000	1,554,000	3,094,000
4	1,458,000	1,459,000	2,917,000	South Arcot	1,458,000	1,459,000	2,917,000
5	1,951,000	1,681,000	3,332,000	Thanjavur	1,951,000	1,681,000	3,332,000
6	1,612,000	1,623,000	3,235,000	Tiruchirappalli	1,612,000	1,623,000	3,235,000
7	1,618,000	1,623,000	3,240,000	Madurai	1,618,000	1,623,000	3,240,000
8	1,030,000	1,125,000	2,155,000	Ramanathapuram	1,030,000	1,125,000	2,155,000
9	1,310,000	1,384,000	2,694,000	Tirunelveli	1,310,000	1,384,000	2,694,000
10	1,903,000	1,891,000	3,794,000	Salem	1,903,000	1,891,000	3,794,000
11	1,778,000	1,763,000	3,540,000	Coimbatore	1,778,000	1,763,000	3,540,000
12	206,000	190,000	397,000	Nilgiris, The	206,000	190,000	397,000
13	482,000	469,000	951,000	Kanyakumari	482,000	469,000	951,000
	16,555,000	16,628,000	33,183,000	Total for the State	16,555,000	16,628,000	33,183,000
	4,437,000	4,359,000	8,796,000	Urban areas	4,437,000	4,359,000	8,796,000
	12,117,000	12,270,000	24,387,000	Rural areas	12,117,000	12,270,000	24,387,000

DIX.

of the general population.

in the State during the year 1959.

Number of births registered (excluding still births).			Ratio of births per 1,000 of estimated mid-year population.			Average of the rates published for the previous five years (1954-58).		
Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
35,754	34,401	70,155	19.20	18.48	37.68	20.03	19.23	39.25
29,695	28,170	57,865	15.06	14.28	29.34	14.47	13.66	28.18
55,154	51,206	106,450	17.83	16.58	34.41	17.09	16.12	33.21
40,715	37,291	78,006	18.96	12.78	26.74	13.78	12.75	26.52
43,183	40,245	83,378	12.05	12.08	25.02	12.72	11.96	24.69
44,024	41,693	85,317	13.79	12.80	26.68	12.85	12.00	24.91
40,307	43,444	83,751	14.29	13.41	27.70	14.08	13.20	29.28
32,817	29,946	62,763	15.23	13.90	29.12	14.75	13.52	28.36
43,855	41,580	85,435	16.28	15.43	31.71	15.98	14.98	30.82
45,953	42,778	88,731	12.11	11.28	23.39	12.28	11.40	22.68
60,239	46,950	107,239	14.21	13.26	27.47	13.60	12.72	26.15
6,002	5,674	11,676	15.12	14.29	29.41	15.59	15.04	30.63
14,376	13,649	28,025	15.12	14.35	29.47	..	..	22.81
488,074	457,117	945,791	14.73	13.78	28.50	..	..	27.76
162,148	153,165	315,313	18.43	17.41	35.85	..	..	..
326,526	303,952	630,478	13.30	12.46	26.85	..	..	..

STATEMENT II.—Showing deaths registered in the districts in the State of Madras during the year 1959.

Serial number and districts.	Area in square miles.	Population per square mile as per 1951 census.	Number of deaths registered.			Ratio of deaths per 1,000 of estimated mid-year population.			Average of published rates for the previous five years.			Number of maternal deaths.	Maternal death rate per 1,000 births (live and still).
			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1 Madras	49	28,899	17,080	16,435	33,515	17.66	18.36	18.00	20.25	20.93	20.15	140	1.93
2 Chingleput	3,054	607	14,187	13,377	27,564	14.17	13.78	13.98	15.81	15.70	15.75	193	3.28
3 North Arcot	4,674	612	22,279	21,709	43,988	14.48	13.97	14.22	15.89	15.27	15.57	328	3.04
4 South Arcot	4,204	661	16,115	15,351	31,466	11.05	10.52	10.79	13.52	12.91	13.21	320	4.06
5 Thanjavur	3,740	798	17,099	17,865	34,964	10.36	10.63	10.49	14.19	14.20	14.24	475	5.57
6 Tiruchirappalli	5,514	534	18,389	18,575	36,964	11.41	11.44	11.43	15.49	15.41	15.41	460	5.24
7 Madurai	4,910	589	18,741	18,349	37,090	11.58	11.31	11.45	13.53	12.86	13.05	278	3.05
8 Ramana-thapuram	4,849	429	12,969	13,190	26,159	12.39	11.72	12.14	14.27	13.01	13.62	198	3.11
9 Tirunelveli	4,472	562	18,986	19,118	38,104	14.49	13.81	14.14	16.11	15.27	15.68	473	5.46
10 Salem	7,063	477	17,612	17,532	35,144	9.25	9.27	9.26	10.50	10.47	10.49	341	3.81
11 Coimbatore	6,014	524	18,900	18,813	37,713	10.63	10.67	10.65	11.29	11.22	11.24	357	3.61
12 Nilgiris, The	984	317	1,886	1,750	3,636	9.16	9.21	9.18	9.81	9.96	9.88	32	2.66
13 Kanyakumari	645	1,279	4,793	4,649	9,442	9.94	9.91	9.93	..	..	8.07	147	5.20
Total	50,172	598	199,036	198,713	397,749	12.02	11.88	11.98	..	..	13.84	3,742	3.89
Urban areas	..	..	59,855	58,067	117,922	13.49	13.32	13.41	..	..	..	1,472	4.49
Rural areas	..	..	139,181	138,646	277,827	11.49	11.30	11.39	..	..	..	2,270	3.58

STATEMENT No. III.—Statement showing the deaths registered in the State of Madras during each month of the year 1959.

Serial number and districts inclusive of municipal towns.	(1)	Month.												Total.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
1 Madras	(2)	2,709	2,722	2,752	2,223	2,530	2,369	2,906	3,081	2,758	2,224	2,965	4,285	33,515
2 Chingleput	(3)	2,836	2,203	2,278	1,879	1,995	1,966	2,299	2,557	2,197	1,896	2,505	2,948	27,564
3 North Arcot	(4)	4,134	3,374	3,472	2,941	3,161	3,043	3,848	4,109	3,355	3,347	4,215	4,889	43,988
4 South Arcot	(5)	3,072	2,574	2,754	2,496	2,440	2,306	2,877	2,564	2,479	2,167	2,356	3,381	31,466
5 Thanjavur	(6)	3,340	3,018	2,899	2,725	2,394	2,438	2,504	2,822	2,793	2,681	3,480	3,820	34,964
6 Tiruchirappalli	(7)	3,305	2,474	2,836	2,763	2,925	3,026	3,348	3,285	2,890	2,839	3,365	3,908	36,964
7 Madurai	(8)	3,239	2,853	2,861	2,815	3,200	3,319	3,479	2,896	2,684	2,627	3,286	3,781	37,090
8 Ramana-thapuram	(9)	2,292	2,050	2,000	1,867	2,110	2,217	2,393	2,055	1,861	1,849	2,454	3,011	26,159
9 Tirunelveli	(10)	3,315	2,895	3,000	2,782	2,936	3,380	3,453	2,972	2,801	2,725	3,509	4,286	33,104
10 Salem	(11)	2,795	2,365	2,630	2,633	3,091	3,086	3,611	3,384	2,870	2,668	2,964	3,047	35,144
11 Coimbatore	(12)	3,151	2,630	2,956	3,055	3,223	3,007	3,685	3,467	3,081	3,953	3,163	3,277	37,713
12 Nilgiris, The	(13)	239	230	311	291	412	335	418	316	275	263	314	232	3,636
13 Kanyakumari	(14)	730	645	692	683	779	946	1,029	932	804	717	721	764	9,442
Total for the State		35,207	30,033	31,441	29,153	31,251	31,539	35,850	34,440	30,348	28,956	35,297	41,739	395,749
Rate per 1,000 of estimated population for the State.		12.49	11.80	11.16	10.69	11.09	11.56	12.72	12.22	11.31	10.27	12.94	14.81	11.93
Total for Urban areas		10,231	9,296	9,399	8,965	9,611	9,169	10,409	10,122	9,093	8,135	10,440	13,052	117,922
Rate per 1,000 of estimated population.		13.70	13.78	12.38	12.40	12.87	12.68	13.93	13.56	12.58	10.89	14.44	17.47	13.41
Total for Rural areas		24,976	20,742	22,042	20,188	21,640	22,370	25,441	24,318	21,755	20,821	24,857	28,677	277,827
Rate per 1,000 of estimated population.		12.06	11.09	10.64	10.07	10.45	11.16	12.28	11.74	10.85	10.05	12.40	13.85	11.89

STATEMENT No. IV.—Deaths registered according to ages in the State of Madras during the year 1959.

Serial number.	Districts exclusive of municipal towns and census towns.	Not exceeding one month.						Over one month and not exceeding six months.						Over six months and not exceeding twelve months.					
		Males.			Females.			Total.			Males.			Females.			Total.		
		Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.	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)	(18)	(19)	
1	Chingleput	..	..	361	955	1,316	325	758	1,083	2,399	693	564	1,257	899	883	1,782	1	1	
2	North Arcot	..	..	436	1,402	1,838	315	1,039	1,354	3,192	963	898	1,861	1,278	1,321	2,599	2	2	
3	South Arcot	..	..	268	860	1,128	137	641	828	1,956	551	430	1,031	1,145	1,042	2,187	3	3	
4	Thanjavur	..	..	507	939	1,446	433	736	1,169	2,615	580	572	1,152	840	810	1,650	4	4	
5	Tiruchirappalli	..	..	345	1,063	1,408	258	835	1,093	2,501	571	506	1,077	941	896	1,827	5	5	
6	Madurai	..	..	492	932	1,424	412	733	1,145	2,619	539	463	1,002	748	759	1,507	6	6	
7	Ramanathapuram	..	..	162	795	957	119	564	683	1,640	316	257	573	488	518	1,006	7	7	
8	Tirunelveli	..	..	374	1,447	1,821	259	1,088	1,347	3,168	677	560	1,237	792	879	1,671	8	8	
9	Salem	..	..	456	1,244	1,700	406	1,052	1,458	3,158	650	528	1,178	931	840	1,771	9	9	
10	Coimbatore	..	..	559	1,373	1,932	463	1,180	1,648	3,580	639	549	1,188	754	743	1,497	10	10	
11	Nilgiris, The	..	..	59	174	233	37	163	205	438	67	52	119	63	63	126	11	11	
12	Kanyakumari	..	..	136	149	335	122	109	231	566	137	131	368	154	174	328	12	12	
Total of districts exclusive of Municipal towns and census towns.				4,205	11,358	15,588	3,341	8,903	12,244	27,832	6,433	5,610	12,043	9,033	8,387	17,920			
				12.88	34.86	47.74	10.96	29.29	40.28	44.14	19.70	18.46	19.10	27.66	29.24	28.42			

Serial number.	Districts exclusive of municipal towns and census towns.	Under one year.		One and under five years.		Five and under ten years.		Ten and under fifteen years.		Fifteen and under twenty years.		Twenty years and over.	
		Males.		Males.		Males.		Males.		Males.		Males.	
		(10) and (13).	(11) and (14).	(10) and (13).	(11) and (14).	(10) and (13).	(11) and (14).	(10) and (13).	(11) and (14).	(10) and (13).	(11) and (14).	(10) and (13).	(11) and (14).
1	Chingleput	2,903	2,530	2,126	2,208	401	402	189	214	255	284	321	321
2	North Arcot	4,079	3,573	4,402	4,714	637	729	287	351	340	437	472	472
3	South Arcot	2,824	2,350	3,375	3,314	516	501	284	296	437	437	510	510
4	Thanjavur	2,866	2,551	1,723	1,717	442	464	206	221	292	292	410	410
5	Tiruchirappalli	2,920	2,435	2,326	2,300	446	471	248	316	347	347	542	542
6	Madurai	2,761	2,336	2,271	2,334	417	418	238	240	265	265	344	344
7	Ramanathapuram	1,761	1,453	2,093	2,158	314	299	165	195	217	217	239	239
8	Tirunelveli	3,290	2,786	2,359	3,062	522	489	254	260	391	391	472	472
9	Salem	3,251	2,826	2,348	2,315	460	427	278	359	394	394	497	497
10	Coimbatore	3,325	2,940	1,918	2,001	410	429	268	316	256	256	391	391
11	Nilgiris, The	383	320	234	231	43	37	13	10	13	13	30	30
12	Kanyakumari	676	536	465	564	123	142	72	76	62	62	79	79
Total of districts exclusive of Municipal towns and census towns.		31,054	26,741	26,121	26,918	4,781	4,808	2,502	2,854	3,328	3,328	4,307	4,307
		95.16	87.98	91.67	91.67								

STATEMENT No. IV.—Deaths registered according to ages in the State of Madras during the year 1959—cont.

Serial number.	Districts exclusive of municipal towns and census towns (Rural).	Twenty and under thirty years.		Thirty and under forty years.		Forty and under fifty years.		Fifty and under sixty years.		Sixty years and upwards.		Total of all ages.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Chingleput ..	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
2	North Arcot ..	554	636	573	596	796	603	837	637	3,290	3,931	11,958	11,078
3	South Arcot ..	601	973	819	1,037	1,090	883	975	719	4,266	3,791	17,546	17,242
4	Thanjavur ..	464	705	675	853	984	911	955	850	3,600	3,283	14,114	13,578
5	Tiruchirappalli ..	552	931	678	939	950	979	1,203	1,134	3,984	4,327	12,896	13,723
6	Madurai ..	637	1,039	812	1,040	1,103	1,011	1,116	1,038	4,616	4,699	14,576	14,941
7	Ramanathapuram ..	536	771	590	724	902	737	965	843	2,960	3,072	11,925	11,869
8	Tirunelveli ..	399	613	534	604	799	705	772	754	2,517	2,680	9,571	9,705
9	Salem ..	422	730	572	832	847	751	914	794	3,707	3,758	13,769	13,934
10	Coimbatore ..	625	1,061	832	1,092	1,019	896	997	853	4,444	4,154	14,678	14,480
11	Nagiris, The ..	542	899	539	839	732	814	896	738	4,577	4,276	13,583	13,643
12	Kanyakumari ..	56	76	45	63	77	53	66	52	240	208	1,150	1,080
	Total of districts exclusive of Municipal towns and census towns.	169	197	164	241	258	101	341	236	1,085	1,051	3,415	3,373
		5,577	8,631	6,859	8,915	9,612	8,594	10,037	8,648	30,286	28,230	139,131	138,046

Municipal towns and census towns in the districts of.	(2)	Not exceeding one month.				Over one month and not exceeding six months.				Over six months and not exceeding twelve months.				
		Males.		Females.		Males.		Females.		Males.		Females.		
		Under one week. (3)	Over one week. (4)	Total. (5)	Under one week. (6)	Over one week. (7)	Total. (8)	Total of columns (5) and (8). (9)	Males. (10)	Females. (11)	Total. (12)	Males. (13)	Females. (14)	Total. (15)
1 Madras ..	..	1,239	564	1,803	899	466	1,365	3,168	1,437	1,374	2,811	1,541	1,542	3,083
2 Chingleput ..	..	143	80	223	122	79	201	424	151	133	284	142	156	298
3 North Arcot ..	..	367	224	591	273	162	435	1,026	397	341	738	321	369	690
4 South Arcot ..	..	98	86	184	78	67	145	329	116	85	201	128	84	212
5 Thanjavur ..	..	318	149	467	273	119	392	859	209	188	397	197	214	411
6 Tiruchirappalli ..	..	337	101	438	284	97	381	819	162	132	294	171	166	337
7 Madurai ..	..	567	359	926	458	266	724	1,650	397	352	749	402	319	721
8 Ramanathapuram ..	..	250	198	448	193	137	330	778	187	159	346	167	172	339
9 Tirunelveli ..	..	342	374	716	296	287	583	1,299	318	261	579	314	330	644
10 Salem ..	..	98	118	216	113	109	222	438	229	206	435	189	222	411
11 Coimbatore ..	..	513	235	748	400	210	610	1,358	363	344	707	329	289	618
12 The Nilgiris ..	..	99	27	126	89	18	107	233	49	27	76	43	36	79
13 Kanyakumari ..	..	82	65	147	77	47	124	271	67	61	128	57	53	116
Total for Municipal towns and Rural towns.	..	4,413	2,530	7,033	3,555	2,064	5,619	12,652	4,032	3,663	7,745	4,001	3,958	7,969
Total for the State ..	..	2746	1591	4337	2321	1348	3669	4013	2317	2392	2456	2463	2584	2524
		8,658	13,963	22,621	6,896	10,967	17,863	40,484	10,515	9,273	19,788	13,034	12,846	25,879
		1772	2837	4629	1508	2399	3908	4280	2152	2029	2092	2667	2810	2736

STATEMENT No. IV-A.—*Infant deaths according to communities in the municipal towns in the State of Madras during the year 1959.*

Municipal towns.	Hindus.		Muslims.		Christians.		Others.		Total.	
	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
MADRAS DISTRICT.										
Madras	7,747	126.8	981	178.3	331	94.1	3	68.2	9,062	129.17
CHINGLEPUT DISTRICT.										
Kancheepuram ..	353	94.0	13	115.0	1	38.5	..	..	367	94.2
Tiruvellore ..	54	65.8	1	17.9	..	..	..	..	55	61.9
Chingleput ..	93	59.3	5	82.0	4	100.0	..	..	102	61.2
Tiruvottiyur ..	76	252.5	4	285.7	..	..	..	..	80	246.2
NORTH ARCOT DISTRICT.										
Vellore	577	107.9	117	135.1	25	81.7	..	..	719	111.1
Tiruvannamalai ..	158	90.3	21	103.4	3	81.1	..	..	182	91.5
Gudiyatham ..	221	116.4	66	196.1	..	..	..	..	287	127.1
Vaniyambadi ..	77	99.9	94	111.2	4	97.6	..	..	175	105.6
Tirupattur ..	80	58.0	43	104.9	..	..	..	..	123	67.8
Walajapet ..	37	61.5	11	171.9	1	100.0	..	..	49	73.5
Ambur	75	88.3	85	133.4	9	132.4	..	..	169	107.2
Arni	169	111.3	16	149.5	2	142.9	..	..	187	114.1
Arkonam	34	70.4	4	48.8	1	29.1	..	..	39	65.1
SOUTH ARCOT DISTRICT.										
Cuddalore ..	203	60.1	14	81.4	17	236.1	3	14.2	242	61.8
Chidambaram ..	90	46.1	11	162.8	3	214.3	..	..	104	50.2
Villupuram ..	76	45.9	12	75.9	2	18.5	..	..	90	46.9
Tindivanam ..	74	59.0	6	52.6	..	..	..	..	80	57.1
THANJAVUR DISTRICT.										
Thanjavur ..	317	60.8	23	67.3	29	68.2	..	..	369	61.7
Kumbakonam ..	279	62.0	13	43.2	13	53.9	1	142.9	306	60.6
Nagapattinam ..	124	49.7	83	103.8	13	78.5	..	..	225	72.1
Mayuram ..	117	46.2	1	7.6	1	18.5	..	..	119	48.5
Mannargudi ..	142	71.4	9	58.4	2	52.6	3	300.0	156	71.2
Tiruvavur ..	39	31.5	15	140.2	..	..	..	..	54	39.8
TIRUCHIRAPPALLI DISTRICT.										
Tiruchirappalli ..	515	69.4	67	57.5	51	41.3	..	..	633	64.5
Karur	106	61.9	11	94.0	2	40.8	..	..	119	63.3
Srirangam ..	70	39.2	..	..	..	..	..	..	70	38.6
Pudukkottai ..	146	64.1	15	73.9	8	70.2	..	..	169	65.4
MADURAI DISTRICT.										
Madurai	1,806	105.6	83	76.8	63	61.5	..	..	1,952	101.6
Dindigul ..	194	77.1	8	18.8	22	47.8	..	..	224	65.9
Bodinayakanur ..	69	72.4	9	150.0	8	222.2	..	..	86	81.98
Periyakulam ..	149	110.2	19	86.0	11	100.9	..	..	179	106.4
Palani	126	87.8	12	78.9	2	52.6	..	..	140	86.2
Kodalkanal ..	30	150.6	8	150.9	24	100.0	..	..	68	124.3
Cumbum	62	109.5	1	14.1	2	66.7	..	..	65	97.5
RAMANATHAPURAM DISTRICT.										
Rajapalayam ..	127	58.7	7	102.9	6	115.4	..	..	140	61.2
Srivilliputhur ..	181	111.4	3	78.9	3	34.9	..	..	187	106.9
Virudhunagar ..	99	40.9	5	42.0	6	82.2	..	..	110	42.1
Karalkudi ..	83	52.0	3	21.1	4	121.2	..	..	90	50.8
Devakottai ..	66	72.1	8	117.6	3	83.3	..	..	77	75.5
Sivakasi ..	59	64.5	4	71.4	1	41.7	..	..	61	60.6
Aruppukottai ..	193	98.7	9	126.8	..	..	..	..	202	98.7
TIRUNELVELI DISTRICT.										
Tuticorin ..	416	125.8	28	140.0	92	75.0	..	..	536	113.2
Tirunelveli ..	306	112.9	38	90.7	4	45.5	..	..	348	108.1
Palayamkottai ..	201	77.0	16	56.9	24	64.9	..	..	241	73.9
Melapalayam ..	26	116.6	51	95.7	..	..	..	..	77	100.7
Shencottah ..	70	98.4	7	65.4	2	125.0	..	..	79	98.1

STATEMENT No. IV-A.—*Infant deaths according to communities in the municipal towns in the State of Madras during the year 1959—cont.*

Municipal towns.	Hindus.		Muslims.		Christians.		Others.		Total.	
	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.	Number.	Rate per 1,000 live-births.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
SALEM DISTRICT.										
Salem	801	98.6	69	108.5	25	140.5	..	..	895	98.3
Raipuram ..	52	67.3	3	53.8	1	250.0	4	266.7	60	71.2
COIMBATORE DISTRICT.										
Coimbatore ..	1,223	96.8	128	124.0	83	103.0	1	500.0	1,440	99.1
Erode	162	50.1	11	35.0	6	39.7	..	..	169	48.3
Tiruppur ..	183	64.6	27	98.9	4	39.6	..	..	214	66.7
Pollachi ..	204	89.6	16	105.3	5	58.8	..	..	225	89.5
Dharmapuri ..	69	61.4	6	44.8	7	64.8	..	..	82	60.1
Udumalpet ..	100	79.6	5	37.0	..	..	..	..	105	74.5
Mettupalayam ..	78	54.1	7	31.8	1	19.2	..	..	84	50.1
Gobichettipalayam.	39	49.2	3	50.8	1	71.4	..	..	43	49.7
Kurchi	38	99.0	1	32.3	3	214.3	..	..	42	87.9
NILGIRIS, THE.										
Ootacamund ..	135	88.6	28	97.6	33	81.9	..	..	196	88.5
Coonoor	85	100.4	23	132.0	27	80.1	..	..	135	99.0
KANYAKUMARI DISTRICT.										
Nagercoil ..	100	43.2	10	43.5	20	20.2	..	..	130	36.8
Colachel ..	8	71.4	7	69.3	21	83.7	..	..	36	77.6
Kuzhithurai ..	9	32.1	1	250.0	6	25.5	..	..	16	30.8
Padmanabhapuram.	22	0.6	6	103.4	2	23.8	..	..	30	72.3
Total	19,621	94.7	2,446	115.8	1,044	71.78	15	45.3	23,126	95.1

STATEMENT No. V.—Deaths registered according to classes in the State of Madras during the year 1959.

Serial number	Districts.	Number of deaths registered.								Ratio of deaths per 1,000 of estimated population.																							
		Christians.				Muslims.				Hindus.				Other Classes.				Christians.				Muslims.				Hindus.				Other Classes.			
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)				
1	Madras ..	..	..	352	754	1,709	1,604	14,503	14,070	16	7	10-20	11-12	17-73	20-27	18-61	18-94	..	..	..	..	..	..	..	..	..	..	..	..	..			
2	Chingleput ..	..	..	234	220	241	215	13,645	12,886	67	56	11-85	11-10	11-41	9-50	14-28	13-93	..	..	..	..	..	..	..	..	..	..	..	..	..			
3	North Arcot ..	..	..	293	277	1,307	1,180	20,620	20,179	59	73	12-33	10-00	13-05	10-53	14-62	14-31	..	..	..	..	..	..	..	..	..	..	..	..	..			
4	South Arcot ..	..	..	351	325	383	384	15,268	14,516	108	126	11-60	9-56	8-99	8-13	11-02	10-55	..	..	..	..	..	..	..	..	..	..	..	..	..			
5	Thanjavur ..	..	..	623	642	1,033	1,001	15,355	16,150	88	72	12-02	12-47	11-76	8-55	10-17	10-69	..	..	..	..	..	..	..	..	..	..	..	..	..			
6	Tiruchirappalli ..	..	..	803	786	603	580	16,932	17,160	51	49	10-09	9-32	8-63	8-16	10-44	10-46	..	..	..	..	..	..	..	..	..	..	..	..	..			
7	Madurai ..	..	..	637	610	678	629	17,320	17,049	86	61	12-33	11-46	10-62	9-49	11-46	11-26	..	..	..	..	..	..	..	..	..	..	..	..	..			
8	Ramanathapuram ..	..	..	421	459	595	646	11,896	12,016	57	69	7-97	8-26	9-08	6-68	12-09	12-30	..	..	..	..	..	..	..	..	..	..	..	..	..			
9	Tirunelveli ..	..	..	1,648	1,565	935	836	16,362	16,691	41	26	*	*	*	*	*	*	..	..	..	..	..	..	..	..	..	..	..	..	..			
10	Salem ..	..	..	155	161	369	371	17,046	16,953	42	47	13-16	12-67	7-24	7-36	9-54	9-56	..	..	..	..	..	..	..	..	..	..	..	..	..			
11	Coimbatore ..	..	..	328	326	518	438	17,940	17,914	114	135	8-72	8-43	10-28	10-55	10-56	10-61	..	..	..	..	..	..	..	..	..	..	..	..	..			
12	The Nilgiris ..	..	..	238	262	193	191	1,440	1,276	15	21	8-29	9-20	12-17	13-64	7-65	7-86	..	..	..	..	..	..	..	..	..	..	..	..	..			
13	Kanyakumari ..	..	..	1,578	1,506	166	178	3,018	2,964	1	1	*	*	*	*	*	*	..	..	..	..	..	..	..	..	..	..	..	..	..			
Total for the State ..		..	..	8,181	7,893	8,735	8,253	181,375	179,824	745	743	*	*	*	*	*	*	..	..	..	..	..	..	..	..	..	..	..	..	..			

* As populations by communities in respect of Shencottah taluk in Tirunelveli district and Kanyakumari district are not available in the Census Reports 1941-51, the populations by communities for 1959 could not be estimated and hence the death rates could not be computed.

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959.

Serial number	Districts and towns.	(1)	Births.			Deaths.			Deaths.		
			Males.		Birth-rate per thousand estimated mid-year population.	Females.		Total.	Males.		Total.
			(4)	(5)		(6)	(7)	(8)	(9)	(10)	(11)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1	Chingleput ..	1,589,000	23,998	22,731	46,729	29-41	58	210	..	77	2,948
2	North Arcot ..	2,470,000	42,514	39,569	82,083	33-23	8	120	..	32	8,872
3	South Arcot ..	2,542,000	33,659	30,914	64,573	25-40	14	147	..	29	4,399
4	Thanjavur ..	2,655,000	28,419	26,501	54,923	20-69	17	170	..	9	1,868
5	Tiruchirappalli ..	2,575,000	32,891	30,488	63,379	24-61	5	103	..	103	4,783
6	Madurai ..	2,270,000	28,596	26,593	55,194	24-31	..	71	..	23	3,661
7	Ramanathapuram ..	1,553,000	21,519	19,971	41,490	26-72	..	53	..	75	4,615
8	Tirunelveli ..	1,787,000	29,998	28,364	58,362	32-66	4	41	..	53	3,405
9	Salem ..	3,202,000	37,815	34,842	72,657	22-69	..	185	7	116	7,083
10	Coimbatore ..	2,734,000	33,384	30,942	64,326	23-53	1	194	..	36	3,836
11	The Nilgiris, The ..	290,000	3,788	3,562	7,350	25-34	..	34	..	21	616
12	Kanyakumari ..	721,000	9,945	9,467	19,412	26-92	1	9	..	..	1,348
Total for Rural areas ..		24,387,000	326,526	303,952	630,478	25-85	108	1,337	7	574	47,487
Total for Madras ..		..	..	..	..	..	..	..	..	..	..

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Deaths—cont.										Total deaths from all causes.			Death rate per 1,009 of estimated mid-year population.		
		Injuries.					All other causes.										
		Suicides.		Wounds and accidents.		Snake bite and killed by wild beasts.		Rattles.		Total.								Males.	Females.	Total.
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)			
		Respiratory diseases.	Males.	Females.													
1	Chingleput	..	..	..	133	51	5	256	15,867	11,955	11,078	23,086	0.04	0.18			
2	North Arcot	..	..	..	209	52	13	537	19,274	17,546	17,242	34,788	*	0.05			
3	South Arcot	..	..	..	96	48	11	304	13,362	14,114	13,578	27,692	0.01	0.06			
4	Thanjavur	..	..	..	158	67	40	495	22,003	12,396	13,723	26,619	0.01	0.03			
5	Tiruchirappalli	..	..	..	164	112	26	578	21,004	14,576	14,941	29,517	*	0.04			
6	Madurai	..	..	..	139	80	14	334	16,016	11,925	11,839	23,794	..	0.03			
7	Ramanathapuram	..	..	..	76	48	14	232	11,890	9,371	9,703	19,276	..	0.03			
8	Tirunelveli	..	..	..	103	27	22	244	20,659	13,769	13,934	27,703	*	0.02			
9	Salem	..	..	..	245	103	27	638	17,782	14,978	14,489	29,158	..	0.06			
10	Coimbatore	..	..	..	290	100	15	514	18,424	13,583	13,643	27,226	*	0.07			
11	Nilgiris, The	..	..	..	6	2	4	38	1,090	1,150	1,040	2,230	..	0.12			
12	Kanyakumari	..	..	..	88	22	4	157	3,638	3,415	3,373	6,788	*	0.01			
	Total for Rural areas	..	822	996	1,707	712	195	4,432	186,029	130,181	138,646	277,827	*	0.05			

A. RURAL DISTRICTS—cont.
(DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS AND CENSUS TOWNS)—cont.

REPORT ON HEALTH CONDITIONS IN MADRAS 57													
Serial number.	Districts and towns.	Death rate per 1,000 of estimated mid-year population—cont.										Number of maternal deaths.	Rate per 1,000 births (live and still).
		Plague.	Malaria.	Typhoid.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average published ratio for the previous five years.			
											(27)			(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
												(36)	(37)
A. RURAL DISTRICTS—cont.													
(DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS AND CENSUS TOWNS)—cont.													
1	Chingleput	..	..	..	..	..	1.12	1.15	0.16	9.99	14.50	16.29	2.28
2	North Arcot	..	0.05	1.86	1.43	0.98	0.22	7.80	0.22	7.80	14.03	15.71	2.56
3	South Arcot	..	0.01	3.59	0.88	0.92	0.12	7.22	0.12	7.22	10.89	13.19	3.76
4	Thanjavur	..	*	0.70	0.30	0.47	0.19	8.29	0.19	8.29	10.03	13.94	5.31
5	Tiruchirappalli	..	0.04	1.86	0.45	0.69	0.22	8.16	0.22	8.16	11.46	15.93	5.52
6	Madurai	..	0.01	1.61	0.58	1.00	0.17	7.80	0.17	7.80	10.48	12.22	2.40
7	Ramanathapuram	..	0.05	2.97	0.82	1.05	0.15	7.64	0.15	7.64	12.41	13.55	2.74
8	Tirunelveli	..	0.02	1.91	0.72	1.12	0.14	11.56	0.14	11.56	15.50	17.14	4.90
9	Salem	*	0.04	2.21	0.46	0.58	0.21	5.55	0.21	5.55	9.11	10.48	3.01
10	Coimbatore	..	0.01	1.42	0.59	0.93	0.20	6.74	0.20	6.74	9.96	10.46	2.83
11	Nilgiris, The	..	0.07	2.12	0.52	0.96	0.13	3.76	0.13	3.76	7.69	8.89	2.65
12	Kanyakumari	..	..	1.87	1.26	1.01	0.22	5.05	0.22	5.05	9.41	..	6.15
	Total for Rural areas	*	0.02	1.96	0.69	0.86	0.18	7.63	0.18	7.63	11.39	..	3.58
* Less than 0.01.													

* Less than 0.01.

A. RURAL DISTRICTS—cont.

(DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS AND CENSUS TOWNS)—cont.

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Births.			Deaths.							
		(4) Males.	(5) Females.	(6) Total.	(7) Birth-rate per thousand of estimated mid-year population.	(8) Cholera.	(9) Smallpox.	(10) Plague.	(11) Malaria.	(12) Fever.	(13) Dysentery and Rheum.	
1	M.T.C. Madras.	35,754	34,401	70,155	37.65	64	517	..	8	1,125	4,855	
Chingleput district.												
2	M.T.C. Kanchipuram.	1,951	1,935	3,886	11.76	..	..	..	..	47	121	
3	" Tiruvallur.	464	425	889	37.04	..	..	..	..	25	49	
4	" Chingleput.	553	515	1,068	62.47	..	11	..	..	139	81	
5	" Tiruvotiyur.	167	158	325	11.02	..	..	..	..	245	275	
	M.T.C. total	3,445	3,333	6,778	39.00	..	11	..	..	..	..	
T.C. Poonamallee												
6	"	320	261	581	26.05	4	..	..	3	65	32	
7	"	277	273	550	45.45	..	1	..	..	34	31	
8	"	184	174	358	20.34	..	..	..	..	9	50	
9	"	101	73	174	12.70	5	1	..	7	15	16	
10	"	134	140	274	20.77	13	..	..	..	1	27	
11	"	183	170	353	38.48	6	..	..	1	26	7	
12	"	93	105	198	32.22	..	1	..	..	10	8	
13	"	273	205	478	23.30	..	..	..	..	15	6	
14	"	70	75	145	10.32	..	..	..	..	21	13	
15	"	135	136	271	16.07	..	..	..	1	30	18	
16	"	107	127	234	14.10	..	..	..	..	9	4	
17	"	20	23	43	3.71	..	..	..	..	25	2	
18	"	2,232	2,106	4,338	20.75	25	3	..	12	320	259	
19	"	5,897	5,439	11,336	29.05	25	14	..	12	565	614	
20	"											
	T.C. total											
	Total—Urban areas											

North Arcot district.

21	M.T.C. Vellore	3,459	3,235	6,694	50.03	.	1	.	.	81	237
22	" Tiruvannamalai.	1,018	971	1,989	42.53	.	1	.	.	81	87
23	" Gudiyatham.	124	1,024	2,253	36.96	3	1	.	2	15	135
24	" Vaniyambadi.	863	735	1,598	26.40	.	.	.	.	35	90
25	" Tirupattur.	30,300	28,517	58,817	27.87	.	.	.	.	21	27
26	" Walispet.	350	317	667	17.39	.	.	.	.	46	33
27	" Ambur.	804	772	1,576	25.60	.	.	.	1	43	105
28	" Arni.	832	807	1,639	37.11	.	13	.	1	79	114
29	" Arkonam.	29,300	277	29,577	20.34	.	.	.	.	55	26
	M.T.C. total	9,844	9,099	18,943	43.85	3	20	.	4	456	854
30	T.C. Arcot.										
31	" Ranpet.	313	315	628	25.92	.	.	.	1	51	19
32	" Tiruvotiyur.	553	503	1,056	46.54	.	7	.	1	30	56
33	" Polur.	282	236	518	32.38	.	4	.	.	34	23
34	" Veikaram.	190	174	364	19.84	.	.	.	.	43	35
35	" Perampet.	143	134	277	13.53	.	.	.	1	48	12
36	" Sholingur.	157	153	310	23.41	.	1	.	.	45	2
37	" Palikondal.	150	162	312	25.41	.	.	.	.	41	13
38	" Wandhiwash.	168	135	303	23.46	.	.	.	.	40	5
39	" Kalambur.	253	264	517	36.41	.	.	.	.	19	9
40	" Chelpet.	198	186	384	32.16	.	.	.	.	139	26
41	" Kaveripakkam.	157	183	340	23.19	.	.	.	.	44	7
42	" Panappakkam.	84	117	201	27.82	.	.	.	.	20	10
	T.C. total	2,795	2,693	5,488	25.22	.	12	.	3	622	255
	Urban areas total	12,640	11,727	24,367	39.04	3	32	.	7	1,078	1,109

South Arcot district.

43	M.T.C. Cuddalore.	76,100	1,913	78,013	51.45	.	1	.	.	76	62
44	" Chidambaram.	41,800	1,032	42,832	48.57	.	2	.	.	5	30
45	" Villupuram.	45,600	911	46,511	42.33	.	4	.	1	65	59
46	" Tiruvannam.	39,200	683	40,883	35.74	.	.	.	1	54	48
	M.T.C. total	202,700	4,528	207,228	45.93	.	19	.	2	200	199
47	T.C. Panruti.					.	.	.	.	.	.
48	" Porto Novo.	14,600	203	14,803	26.58	.	.	.	.	15	10
49	" Nellore.	28,900	243	29,143	23.92	1	.	.	.	21	9
50	" Tiruchelur.	18,300	440	18,740	23.42	.	.	.	.	21	12
51	" P. P. P. P.	7,500	117	7,617	13.85	.	.	.	.	35	9
52	" Karaikal.	11,100	62	11,162	16.10	.	.	.	.	4	4
53	" Karaikal.	11,700	88	11,788	16.41	.	.	.	.	6	4
54	" Karaikal.	13,400	104	13,504	17.39	.	.	.	.	8	.
55	" Karaikal.	11,500	107	11,607	15.30	.	.	.	.	56	13
56	" Karaikal.	12,700	75	12,775	12.99	.	.	.	.	10	4
57	" Karaikal.	10,900	90	11,000	16.51	.	3	.	.	15	1

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

STATEMENT No. VI.—Births and deaths from different causes registered in the districts and towns.															
Serial number.	Districts and towns.	Deaths—cont.										Total deaths from all causes.	Death rate per 1,000 of estimated mid-year population.		
		Injuries.					All other causes.								
		Suicides.		Wounds and accidents.	Snake bite and deaths killed by wild beasts.	Rabies.	Total.	Males.	Females.	Total.					
Males (14)	Females (15)	Females (16)	(17)								(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	M.T.C., Madras	9,087	81	58	292	22	503	17,326	17,080	16,485	33,515	0.28	0.08	0.28	0.08
	Chingleput district.														
2	M.T.C., Kancheepuram	522	1	2	20	..	23	932	793	852	1,645	..	..	..	..
3	" Tiruvallur	19	..	..	..	..	1	163	131	136	267	..	..	..	0.41
4	" Chingleput	96	2	1	16	1	22	323	256	244	500	..	..	..	..
5	" Tiruvotiyur	26	1	1	3	..	5	133	191	193	384	..	..	..	0.6
	M.T.C. total	663	4	4	39	1	51	1,551	1,371	1,425	2,796	..	..	..	..
6	T.C., Poonamallee	31	..	..	1	1	2	63	95	98	193	..	..	..	..
7	" Uthiramerur	8	1	..	..	2	3	142	98	127	225	..	..	..	0.06
8	" Alandur	22	..	..	1	..	1	101	53	91	184	..	..	..	..
9	" Pallavaram	5	..	..	..	..	..	49	31	32	63	..	..	..	0.08
10	" Tirukkalkundram	16	..	..	1	..	1	47	58	50	108	..	..	..	..
11	" Madurantakam	..	..	..	5	..	5	129	73	75	148	..	..	..	1.41
12	" Walajabad	12	1	..	..	..	2	56	62	67	129	..	..	..	0.72
13	" Cheyyur	2	..	..	..	1	1	47	40	28	68	..	..	..	0.15
14	" Arani	11	..	..	..	..	..	27	47	42	89	..	..	..	..
15	" St. Thomas Mount	5	..	1	2	..	3	50	35	44	79	..	..	..	..
16	" Villivakkam	2	..	..	1	..	1	101	71	66	137	..	..	..	..
17	" Sriperumandur	10	2	..	4	..	6	32	53	44	97	..	..	..	..
18	" Tambaram	4	..	1	..	..	1	43	29	32	61	..	..	..	..
19	" Kunrathur	9	..	..	..	..	..	56	58	56	114	..	..	..	..
20	" Ponneri	5	1	..	1	..	2	20	15	22	37	..	..	..	..
	T.C. total	142	5	6	16	4	28	963	874	874	1,748	..	..	..	0.01
	Urban areas total	805	9	10	55	5	79	2,614	2,229	2,299	4,528	..	..	..	0.04

North Arcot district.

21	M.T.C., Vellore	505	5	3	76	1	84	1,880	1,512	1,279	2,791	..	..	..	..	..
22	" Tiruvannamalai	154	..	..	21	2	23	421	376	379	755	..	..	..	..	..
23	" Gudiyatham	134	..	..	1	..	6	610	447	453	900	..	..	..	..	..
24	" Vanivambadi	129	1	..	4	..	7	299	294	271	565	..	..	..	..	..
25	" Tirupathur	35	..	..	..	..	..	405	249	240	489	..	..	..	..	..
26	" Walajapet	7	..	..	..	..	..	152	124	114	238	..	..	..	..	..
27	" Ambur	88	1	..	4	..	10	274	248	273	521	..	..	..	..	..
28	" Arni	118	1	2	8	..	11	308	301	325	626	..	..	..	..	..
29	" Arakonam	19	..	..	6	1	7	79	104	96	200	..	..	..	..	..
	M.T.C. total	1,164	9	18	120	5	162	4,428	3,655	3,436	7,091	..	..	..	..	..

South Arcot district.

30	T.C., Arcot	25	..	..	5	..	5	68	79	80	169	..	..	..	..	..
31	" Ranipet	59	1	2	1	..	2	237	204	201	406	..	..	..	..	..
32	" Tiruvotiyur	19	..	..	3	..	3	129	129	128	257	..	..	..	..	..
33	" Polur	9	..	..	1	..	1	109	104	99	203	..	..	..	..	..
34	" Vishram	18	..	..	..	..	..	83	89	74	163	..	..	..	..	..
35	" Pernampet	..	..	..	..	..	..	10	31	28	59	..	..	..	..	..
36	" Sholinghur	..	..	..	..	..	..	64	59	61	120	..	..	..	..	..
37	" Pallikonda	12	..	..	1	..	3	66	53	54	107	..	..	..	..	..
38	" Wandhiwash	11	..	..	2	..	6	14	112	82	194	..	..	..	..	..
39	" Kalamur	17	1	..	1	..	2	89	80	79	159	..	..	..	..	..
40	" Chettiet	9	..	..	..	..	..	41	49	57	106	..	..	..	..	..
41	" Kaveripakkam	9	..	..	..	..	2	10	25	26	51	..	..	..	..	..
42	" Panappakkam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	T.C. total	199	2	7	19	3	31	987	1,078	1,031	2,109	..	..	..	..	..
	Urban areas total	1,363	11	25	139	8	133	5,415	4,733	4,467	9,200	..	..	..	..	..

South Arcot district.

43	M.T.C., Cuddalore	113	11	1	43	4	64	784	617	433	1,050	..	..	..	..	..
44	" Chidambaram	59	..	..	9	..	10	431	273	264	537	..	..	..	..	..
45	" Villupuram	64	..	..	18	..	21	280	268	234	502	..	..	..	..	..
46	" Tindivanam	44	..	..	16	..	18	204	190	183	373	..	..	..	..	..
	M.T.C. total	280	13	1	86	5	113	1,699	1,343	1,164	2,512	..	..	..	..	..
47	T.C., Panruti	4	1	..	..	..	1	90	54	70	124	..	..	..	..	..
48	" Porto Novo	21	1	..	1	..	2	63	57	58	115	..	..	..	..	..
49	" Nellikuppam	15	..	..	3	..	4	124	100	97	195	..	..	..	..	..
50	" Tirukolam	13	..	..	..	..	..	57	28	39	67	..	..	..	..	..
51	" Tundadai	2	..	..	..	..	..	16	16	15	31	..	..	..	..	..
52	" Mannarpet	4	..	..	..	..	..	53	35	27	62	..	..	..	..	..
53	" Prudhachalam	..	..	..	..	..	..	61	39	31	70	..	..	..	..	..
54	" Thuvanpet	3	..	..	..	..	..	77	45	35	80	..	..	..	..	..
55	" Kakkurudi	..	..	..	..	..	..	47	34	36	70	..	..	..	..	..
56	" Chinnasalem	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
57	" ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

STATEMENT No. VI.—*Births and deaths from different causes registered in the State of Madras during the year 1959*—cont.

Death rate per 1,000 of estimated mid-year population—cont.														
Serial number.	Districts and towns.	From all causes.												
		(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	
		Plague.	Malaria.		Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average of the previous five years.	Number of maternal deaths.	Rate per 1,000 births (live and still).	Number of months for which complete returns have been received.
B. TOWNS—cont.														
MUNICIPALITIES AND CENSUS TOWNS—co t.														
Madras—cont.														
1	M.T.C. Madras	..	..	0.60	2.62	4.88	0.27	9.31	18.00	20.57	140	1.93	..	..
Chingleput district.														
2	M.T.C. Kancheepuram ..	..	..	0.50	1.30	5.59	0.25	0.99	17.83	20.72	47	11.48	..	..
3	" Tiruvallur	..	..	1.46	2.04	0.79	0.34	6.79	11.13	14.73	5	3.23	..	..
4	" Chingleput	..	..	0.30	0.90	3.60	0.82	12.10	8.73	22.03	27	15.39	..	..
5	" Tiruvottiyur	..	..	4.71	2.75	0.88	0.17	0.51	13.03	11.70	2	6.02	..	..
	M.T.C. total	..	..	1.41	1.51	3.82	0.29	8.94	16.12	..	79	11.12	..	..
6	T.C. Poonamallee	..	..	2.01	1.43	1.39	0.09	2.83	8.45	9.64	..	7.25	..	..
7	" Uthiramerur	..	..	2.81	2.36	0.69	0.25	11.74	18.60	19.81	..	..	..	..
8	" Alandur	..	..	0.51	1.25	0.25	0.06	3.88	10.45	10.47	..	..	..	..
9	" Pallavaram	..	..	0.31	0.15	1.36	0.03	3.02	4.00	6.47	..	..	..	..
10	" Tirukolkundram	..	..	1.38	1.23	1.23	0.34	14.02	17.09	16.24	..	3.70	..	..
11	" Madurantakam	..	..	0.11	3.35	1.45	0.24	8.70	12.39	13.59	..	..	..	..
12	" Walajahad	..	..	3.13	3.35	1.45	0.19	8.70	12.39	13.59	..	..	..	..
13	" Cheyyur	..	..	0.11	1.30	0.87	0.15	2.80	10.22	8.54	..	..	..	..
14	" Arani	..	..	1.85	1.15	1.02	0.07	1.54	10.78	14.58	..	..	..	..
15	" St. Thomas Mount ..	..	..	0.75	0.80	0.25	0.15	3.56	1.31	2.22	..	..	..	..
16	" Villivakkam	..	..	1.87	2.00	1.11	0.07	3.37	6.87	6.07	..	..	..	..
17	" Sriperumbudur	..	..	3.33	0.13	0.13	0.03	1.31	1.91	2.22	..	..	..	..
18	" Tambaram	..	..	0.28	1.45	0.34	0.17	1.72	3.20	2.92	..	..	..	..
19	" Kumbharur	..	..	1.51	0.17	0.43	0.13	4.59	8.25	..	6	1.36	..	..
20	" Ponneri	..	..	0.69	1.14	0.68	0.21	6.56	11.81	..	85	7.38	..	..
	T.C. total	..	..	1.82	1.34	2.10	0.21	..	..	..	..	..	..	..
	Urban areas total	..	..	1.47	..	..	..	..	..	..	..	..	..	..
North Arcot district.														
21	M.T.C. Vellore	..	..	0.60	1.76	3.75	0.62	13.95	20.70	21.75	..	..	..	..
22	" Tiruvannamalai	..	..	1.73	1.98	2.87	0.09	9.01	16.17	15.55	..	48	6.77	..
23	" Guduvatham	..	..	0.27	2.39	2.87	0.09	10.80	15.93	12.91	..	21	9.47	..
24	" Vaniyamsudi	..	..	0.78	0.20	2.87	0.13	6.66	12.58	12.91	..	8	3.38	..
25	" Tirupathur	..	..	0.69	0.80	1.16	0.23	13.37	16.34	16.87	..	11	1.43	..
26	" Walajapet	..	..	3.31	2.81	1.88	0.21	10.94	17.12	17.03	..	2	1.46	..
27	" Ambur	..	..	0.92	2.81	3.94	0.38	10.73	21.81	20.96	..	8	1.22	..
28	" Arani	..	..	1.75	3.07	0.65	0.24	2.70	6.83	7.45	..	..	..	..
29	" Arkonam	..	..	1.88	0.50	..	..	..	..	..	..	..	..	..
	M.T.C. total	..	..	1.06	1.98	2.69	0.38	10.25	16.41	..	100	5.70	..	..
T.C. Arcot														
30	" Ranipet	..	..	2.05	0.76	1.00	0.20	2.72	6.79	7.94	..	..	..	..
31	" Tiruvottiyur	..	..	1.32	2.46	2.53	0.09	11.27	17.76	18.59	..	..	..	..
32	" Volar	..	..	5.25	1.44	1.39	0.25	7.50	16.06	18.87	..	6	5.18	..
33	" Vithur	..	..	2.32	0.88	1.32	0.16	5.89	10.97	10.73	..	2	3.81	..
34	" Pennampit	..	..	3.53	0.09	1.32	0.07	6.10	11.99	11.31	..	4	14.18	..
35	" Sillanur	..	..	1.94	1.10	0.17	0.04	0.43	2.54	4.72	..	..	..	..
36	" Pallikonda	..	..	3.47	0.42	1.01	0.25	5.42	10.17	12.99	..	..	..	..
37	" Panbavash	..	..	3.36	0.63	0.77	0.14	4.71	9.75	11.77	..	..	..	..
38	" Kambur	..	..	1.34	2.65	0.12	0.61	4.65	7.54	8.47	..	3	5.46	..
39	" Cherpet	..	..	14.18	0.58	1.40	0.17	1.43	19.80	20.03	..	1	2.59	..
40	" Kaveripakkam	..	..	3.64	4.09	0.97	0.39	7.86	13.14	15.50	..	..	..	..
41	" Panappakkam	..	..	1.94	1.96	0.18	0.39	4.41	11.40	13.36	..	..	..	..
42	"	..	..	3.92	..	..	..	1.96	10.00	13.16	..	..	..	..
	T.C. total	..	..	3.24	1.33	1.04	0.16	5.14	10.37	..	17	3.11	..	..
	Urban areas total	..	..	1.73	1.78	2.18	0.31	8.68	14.74	..	117	4.59	..	..
South Arcot district.														
43	M.T.C. Cuddalore	..	..	1.00	0.81	1.48	0.34	10.30	14.45	17.29	..	34	8.20	..
44	" Chidambaram	..	..	0.12	0.72	1.41	0.24	10.31	12.85	16.71	..	16	6.85	..
45	" Villupuram	..	..	1.43	1.29	1.40	0.46	6.14	11.01	15.83	..	12	0.97	..
46	" Thudivanam	..	..	1.33	1.22	1.12	0.46	5.20	9.52	14.65	..	..	..	..
	M.T.C. total	..	..	0.99	0.98	1.38	0.56	8.38	12.39	..	63	6.39	..	..
47	T.C. Panruti	..	..	1.03	0.68	0.27	0.07	6.16	8.49	12.65	..	4	10.28	..
48	" Porto Novo	..	..	1.33	0.57	1.33	0.06	3.99	7.28	9.7	..	2	5.29	..
49	" Nellikuppam	..	..	0.78	0.45	0.56	0.07	4.50	6.39	6.93	..	1	1.57	..
50	" Tirukollur	..	..	1.11	0.49	0.71	0.22	6.78	10.11	12.53	..	2	2.27	..
51	" Penadam	..	..	0.53	0.53	0.27	..	7.60	8.93	14.21	..	1	4.33	..
52	" Kurinjipadi	..	..	0.34	0.36	0.36	..	1.35	2.61	5.88	..	..	..	..
53	" Mannargudi	..	..	0.26	0.47	0.34	..	4.53	5.30	8.77	..	..	..	..
54	" Vinudachalam	..	..	4.18	0.47	0.26	..	0.07	5.22	10.55	..	..	..	..
55	" Bhuvanagiri	..	..	0.87	0.35	0.26	0.17	5.30	6.96	11.70	..	1	5.08	..
56	" Kalakurichi	..	..	1.38	0.08	0.18	0.16	6.06	6.30	8.22	..	..	..	..
57	" Chinnasalem	..	..	1.38	0.18	0.18	0.09	4.31	6.42	6.95	..	..	..	..

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Births.		Birth-rate per thousand of estimated mid-year population.	Deaths.				
		Males.	Females.		Cholera.	Smallpox.	Plague.	Malaria.	Fever.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
B. TOWNS—cont.									
Municipalities and Census Towns—cont.									
South Arcot district—cont.									
58	T.C., Valangudi	9,800	116	94	210	22.58	..	..	13
59	" " " "	7,509	100	83	183	24.09	..	..	17
60	" " " "	6,900	89	85	174	25.22	..	..	3
	T. C. total	172,403	2,30	1,894	4,124	23.92	..	2	216
	Total for Urban areas	375,200	7,056	6,377	13,433	85.80	..	..	416
							..	..	277
Thanjavur district.									
61	M.T.C., The Javur	127,800	3,181	2,850	5,981	46.88	..	1	61
62	" " " "	112,200	2,753	2,409	5,048	44.99	..	1	114
63	" " " "	62,000	1,638	1,517	3,107	50.82	..	..	126
64	" " " "	32,400	1,382	1,345	2,787	52.28	..	..	36
65	" " " "	35,300	1,133	1,039	2,192	62.10	..	..	38
66	" " " "	31,400	650	678	1,358	49.25	..	..	27
	M. T. C. Total	429,600	10,535	9,901	29,436	48.57	..	2	384
							..	..	309
Tiruchirappalli district.									
67	T.C., Vedaranyam	19,000	242	215	457	24.05	..	..	1
68	" " " "	17,300	526	536	1,062	60.54	..	..	25
69	" " " "	9,700	108	134	201	20.81	..	..	4
70	" " " "	18,300	159	133	291	15.90	..	..	17
71	" " " "	8,400	241	277	491	59.29	..	..	9
72	" " " "	15,400	190	174	371	24.30	..	..	19
73	" " " "	25,900	333	315	648	25.43	..	..	13
74	" " " "	15,600	223	251	474	30.79	..	..	9
75	" " " "	10,400	147	126	273	25.05	..	..	5
76	" " " "	13,000	111	87	203	18.00	..	..	11
	M. T. C. Total	127,800	2,42	2,15	4,57	24.05	..	..	1
							..	..	25
Tiruchirappalli district.									
77	T.C., Vallam	9,200	94	81	175	18.82	..	..	2
78	" " " "	13,800	292	254	546	42.35	..	..	9
79	" " " "	11,400	91	82	176	15.14	..	..	10
80	" " " "	8,000	231	232	475	59.38	..	..	2
81	" " " "	18,700	117	87	219	15.99	..	..	1
82	" " " "	15,000	156	126	282	47.80	..	..	6
83	" " " "	6,300	177	159	331	53.52	..	..	4
84	" " " "	12,300	65	56	121	9.74	..	..	2
85	" " " "	11,000	286	266	552	50.18	..	..	8
86	" " " "	9,000	192	150	342	38.00	..	..	10
87	" " " "	5,100	89	78	165	31.11	..	..	2
	T.C. total	256,900	4,170	3,840	8,019	31.21	..	11	170
	Total for Urban areas	677,700	14,714	13,741	28,455	42.00	..	13	554
							..	..	420
Tiruchirappalli district.									
88	M.T.C., Tiruchirappalli	288,400	4,937	4,881	9,818	36.58	..	..	176
89	" " " "	53,300	918	911	1,829	34.60	..	..	72
90	" " " "	45,100	998	846	1,844	41.22	..	..	27
91	" " " "	53,100	1,311	1,212	2,523	48.04	..	..	64
	T.C. total	420,900	8,214	7,880	16,094	38.24	..	..	339
							..	..	288
Tiruchirappalli district.									
92	T.C., Golden Rock (R.O.)	22,600	342	338	680	30.09	..	..	27
93	" " " "	15,400	46	41	96	4.57	..	..	1
94	" " " "	10,700	128	146	274	26.10	..	..	21
95	" " " "	34,500	602	596	1,198	34.81	..	..	4
96	" " " "	17,300	514	507	1,021	59.05	..	..	10
97	" " " "	11,800	153	139	292	24.72	..	..	4
98	" " " "	11,400	221	199	425	36.12	..	..	4
99	" " " "	11,400	206	183	389	33.72	..	..	26
100	" " " "	13,900	106	112	218	15.28	..	..	18
101	" " " "	7,300	119	139	258	35.33	..	..	13
102	" " " "	8,200	106	118	224	27.50	..	..	13
103	" " " "	11,400	134	117	251	21.99	..	..	13
104	" " " "	12,400	138	121	259	20.89	..	..	13
105	" " " "	8,200	82	73	155	18.60	..	..	10
106	" " " "	11,600	141	133	274	23.63	..	..	13
107	" " " "	5,000	35	31	61	12.20	..	..	1
108	" " " "	7,800	176	169	345	44.32	..	..	1
109	" " " "	6,000	66	53	121	20.00	..	..	1
110	" " " "	10,000	85	74	159	15.90	..	..	1
111	" " " "	6,000	42	30	72	12.00	..	..	1
112	" " " "	6,000	138	120	258	43.00	..	..	38
113	" " " "	6,000	138	120	258	43.00	..	..	38
114	" " " "	6,000	138	120	258	43.00	..	..	38
	T.C. total	239,400	3,19	3,326	6,844	28.59	..	3	350
	Total for Urban areas	660,800	11,738	11,205	22,938	34.74	..	3	689
							..	..	408

STATISTICAL No. VI.—Births and deaths registered in the State of Madras during the year 1959—cont.

STATISTICAL NO. VI.—Deaths and deaths from different causes, continued.																
Serial number.	Districts and towns.	Deaths—cont.										Total deaths from all causes.		Death rate per 1,000 of estimated mid-year population.		
		Injuries.					All other causes.					Males.	Females.			
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)					
B. TOWNS—cont.																
MUNICIPALITIES AND CENSUS TOWNS—cont.																
South Arcot district.																
58	T.C., Valavancor	8	1	..	1	1	..	3	69	41	28	69	..	..	..	..
59	" Srimushnam	7	..	..	..	..	..	..	50	43	38	81	..	..	..	..
60	" Ulundurpet	..	..	..	..	..	..	..	31	38	20	58	0.03	0.03	0.01	0.06
	T.C. total	83	4	5	5	1	1	16	859	653	609	1,262	..	..	..	..
	Total for Urban areas	363	17	6	91	6	9	129	2,558	2,001	1,773	3,774	..	..	..	..
Thanjavur district.																
61	M.T.C., Thanjavur	203	3	1	49	2	12	67	1,455	1,038	853	1,891	..	..	..	0.08
62	" Kumbakonam	132	3	..	20	3	3	29	1,282	759	482	1,241	..	..	..	0.29
63	" Karaikal	101	..	..	7	..	2	11	61	44	35	96	..	..	..	0.04
64	" Rayam	39	..	..	13	..	4	19	537	297	235	532	..	..	..	0.08
65	" Mandaradi	34	..	..	11	1	2	22	479	204	8	292	..	..	..	0.29
66	" Tiruvarur	27	..	1	5	1	1	8	212	158	134	292	..	..	..	0.13
	M.T.C. total	541	12	8	105	7	24	156	4,576	3,070	3,014	6,084	..	..	..	..
Veeraranyam																
67	T.C., Veeraranyam	5	1	..	4	2	..	5	151	84	78	162	..	..	..	..
68	" Shiyali	25	1	..	3	..	..	6	183	111	139	250	..	..	..	..
69	" Papanasam	1	..	..	1	..	..	2	86	48	47	95	..	..	..	..
70	" Tranquebar	1	..	..	1	..	..	1	106	58	74	137	..	..	..	..
71	" Kuttalam	6	1	..	..	..	..	2	89	43	64	107	..	..	..	0.24
72	" Tiruvadamardhur	2	..	..	1	..	..	1	104	65	71	139	..	..	..	0.04
73	" Pattinikottai	3	1	..	2	1	..	4	96	82	44	106	..	..	..	0.09
74	" Adirampattam	4	1	..	2	..	..	3	125	79	70	149	..	..	..	..
75	" Arampattam	3	1	..	2	..	..	3	86	60	40	100	..	..	..	..
76	" Tiruvaiyaru	1	1	..	2	..	..	3	125	64	71	135	..	..	..	..
	T.C. Total	95	8	6	22	7	1	44	1,879	1,133	1,123	2,256	..	..	..	0.04
	Total for Urban Areas	636	20	14	127	14	25	200	6,455	4,203	4,142	8,345	..	..	..	0.10
Tiruchirappalli district.																
88	M.T.C., Tiruchirappalli	284	5	1	12	5	9	32	2,608	1,608	1,605	3,213	..	..	..	0.02
89	" Karur	54	1	1	12	3	..	16	440	279	324	603	..	..	..	..
90	" Srirangam	59	1	..	8	1	1	16	332	221	219	440	..	..	..	..
91	" Pudukottai	..	1	..	18	..	..	..	656	463	373	836	..	..	..	..
	M.T.C. Total	414	7	2	45	9	10	73	4,036	2,661	2,521	5,182	..	..	..	..
T.C. Golden Rock (R.C.).																
92	" Golden Rock (P.B.).	17	..	3	2	..	..	5	146	99	107	206	..	..	..	..
93	" Tharayangarpettai	11	1	1	..	..	..	1	48	29	21	50	..	..	..	..
94	" Turaiyur	15	..	..	8	..	..	1	64	47	56	103	..	..	..	..
95	" Lakshmi	14	..	..	..	..	..	1	136	100	98	198	..	..	..	..
96	" Thekkiam	15	..	..	..	..	..	1	113	74	69	143	..	..	..	..
97	" Arivalur	10	..	..	4	..	..	..	65	45	49	94	..	..	..	..
98	" Perambalur	23	1	..	1	..	..	2	81	63	55	118	..	..	..	..
99	" Palattu	17	1	..	1	..	..	1	125	65	76	141	..	..	..	..
100	" Kullalai	23	1	..	1	..	..	1	73	58	34	64	..	..	..	..
101	" Udayaravayam	17	1	..	1	..	..	2	61	61	64	125	..	..	..	..
102	" Marupatti	6	1	..	1	..	..	4	91	50	51	102	..	..	..	0.08
103	" Jayakondacholapuram	9	1	..	1	..	..	2	79	59	44	105	..	..	..	..
104	" Manacavanur	2	1	..	1	..	..	9	66	37	44	81	..	..	..	..
105	" Manapparai	3	1	..	1	..	..	2	29	22	21	43	..	..	..	..
106	" Ponnambur	..	..	..	1	..	..	1	38	24	17	41	..	..	..	..
107	" Aravankurichi	9	..	..	1	..	..	1	18	14	20	34	..	..	..	..
108	" Panchalupur	7	..	..	1	..	..	1	46	43	35	78	..	..	..	..
109	" Kattupur	24	..	..	..	..	..	..	38	39	41	80	..	..	..	..
110	" Pochavur	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
111	" Labbaikudikadu	181	7	11	30	7	..	55	1,555	1,152	1,113	2,265	..	..	..	..
112	" ..	625	14	13	75	16	10	128	5,591	3,813	3,634	7,447	..	..	..	..
113	" ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
114	" ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	T.C. Total	181	7	11	30	7	10	128	5,591	3,813	3,634	7,447	..	..	..	..
	Total for Urban areas	625	14	13	75	16	10	128	5,591	3,813	3,634	7,447	..	..	..	..

* Less than 0.01.

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Death rate (per 1,000) of estimated mid-year population—cont.																	
Serial number.	Districts and towns.	(27)	Plague.	(28)	Malaria.	Typhoid.	(29)	Dysentery and diarrhoea.	(30)	Respiratory diseases.	(32)	(33)	From all causes.		(36)	(37)	(38)
													Total deaths.	Average of the previous five years.			
B. TOWNS—cont.																	
MUNICIPALITIES AND CENSUS TOWNS—cont.																	
<i>South Arcot district.</i>																	
58	T.C. Valanor	..	..	..	..	..	1.73	0.33	1.07	0.40	7.42	7.42	9.49	..	..	10.93	..
59	" Srimushnam	..	..	..	..	..	2.46	0.43	1.01	..	6.07	10.50	16.55	..	..	..	..
60	" Ulundurpet	..	..	..	..	..	1.25	0.45	0.48	0.09	4.93	8.41	16.04	..	..	3.32	..
T.C. Total																	
Total for Urban areas																	
61	M.T.C. Thanjavur	..	..	..	..	..	0.91	0.38	0.97	0.34	6.82	10.01	..	..	..	5.47	..
62	" Kumbakonam	..	..	..	..	..	0.48	0.70	1.63	0.53	11.43	14.85	17.76	..	..	4.93	..
63	" Nanguneri	..	..	..	..	..	1.02	0.91	1.18	0.26	11.43	15.07	17.76	..	..	8.60	..
64	" Nanguneri	..	..	..	..	..	2.03	0.71	1.18	0.18	10.02	15.58	18.08	..	..	5.25	..
65	" Mannarkudi	..	..	..	..	..	0.69	0.17	0.74	0.36	10.06	12.06	15.06	..	..	8.61	..
66	" Tiruvarur	..	..	..	..	..	1.8	1.02	0.6	0.62	13.57	17.34	23.89	..	..	7.18	..
M.T.C. total																	
Total for Urban areas																	
<i>Thanjavur district.</i>																	
67	T.C. Vedaranyam	..	..	..	..	..	0.05	0.52	0.56	0.26	7.95	8.53	15.26	..	..	2.19	..
68	" Shivali	..	..	..	..	..	1.45	0.52	1.45	0.33	10.8	14.45	17.20	..	..	1.79	..
69	" Pannasam	..	..	..	..	..	0.93	0.6	0.91	0.05	8.87	9.9	13.83	..	..	5.63	..
70	" Tranquebar	..	..	..	..	..	1.17	0.60	0.65	0.14	10.60	12.74	19.37	..	..	3.42	..
71	" Kuttalam	..	..	..	..	..	1.16	0.24	0.37	0.12	6.34	8.48	5.86	..	..	5.94	..
72	" Tiruvannamalai	..	..	..	..	..	0.13	0.69	0.13	0.04	4.19	8.48	7.03	..	..	4.51	..
73	" Parukottai	..	..	..	..	..	0.83	0.19	0.26	0.6	8.01	9.55	12.96	..	..	10.03	..
74	" Adirampattinam	..	..	..	..	..	0.83	0.09	0.23	0.23	7.89	9.17	13.59	..	..	3.65	..
75	" Ayampettai	..	..	..	..	..	0.35	0.08	0.03	0.23	9.62	10.38	11.29	..	..	..	..
76	" Tiruvallur	..	..	..	..	..	0.04	0.20	0.37	0.17	7.31	8.80	8.28	..	..	4.86	..
T.C. total																	
Total for Urban Areas																	
77	Vallam	..	..	..	..	..	0.22	0.44	0.3	0.22	12.15	13.01	13.61	..	..	11.43	..
78	" Tiruchirappalli	..	..	..	..	..	0.07	0.18	0.51	0.18	6.10	7.79	11.25	..	..	8.39	..
79	" Tiruchirappalli	..	..	..	..	..	0.88	0.18	0.51	0.18	4.83	4.65	12.23	..	..	5.63	..
80	" Tiruchirappalli	..	..	..	..	..	0.16	0.07	0.53	0.04	5.96	6.28	11.51	..	..	3.79	..
81	" Tirumalaivasal	..	..	..	..	..	1.33	1.02	0.68	0.93	16.61	20.35	18.93	..	..	10.64	..
82	" Valanginam	..	..	..	..	..	2.6	0.63	0.79	0.08	3.25	11.27	16.53	..	..	8.72	..
83	" Aranthangi	..	..	..	..	..	0.16	0.36	0.3	0.36	10.44	13.27	16.99	..	..	8.26	..
84	" Nannilam	..	..	..	..	..	0.91	0.36	0.91	0.36	10.44	13.27	16.99	..	..	10.20	..
85	" Kodavasal	..	..	..	..	..	0.89	..	0.11	0.19	4.91	5.09	8.28	..	..	..	..
86	" Orathanad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
87	" Orathanad	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
T.C. total																	
Total for Urban Areas																	
<i>Tiruchirappalli district.</i>																	
88	M.T.C. Tiruchirappalli	..	..	..	..	..	0.66	0.75	1.06	0.12	9.72	12.31	15.40	..	..	4.80	..
89	" Narur	..	..	..	..	..	1.33	0.50	0.87	0.29	8.10	11.10	13.06	..	..	5.50	..
90	" Siraanam	..	..	..	..	..	0.60	0.40	1.20	0.20	7.36	9.76	13.46	..	..	8.23	..
91	" Pudukottai	..	..	..	..	..	1.21	0.77	1.11	0.23	12.37	15.74	16.05	..	..	..	..
M.T.C. Total																	
92	T.C. Golden Rock (R.C.)	..	..	..	..	..	0.81	0.68	1.05	0.17	9.59	12.31	..	..	..	4.91	..
93	" Golden Rock (P.B.)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
94	" Tiruvannamalai	..	..	..	..	..	1.19	0.49	0.75	0.02	6.46	9.12	12.00	..	..	1.45	..
95	" Tiruvannamalai	..	..	..	..	..	0.05	0.38	1.05	0.10	2.55	2.76	2.56	..	..	..	..
96	" Tiruvannamalai	..	..	..	..	..	2.00	0.82	0.81	0.5	6.10	9.81	13.12	..	..	6.01	..
97	" Thiruvannamalai	..	..	..	..	..	0.29	0.53	0.41	0.06	9.38	8.27	12.99	..	..	..	..
98	" Aranthangi	..	..	..	..	..	1.04	0.42	1.53	0.68	6.77	9.79	10.01	..	..	3.42	..
99	" Perambalur	..	..	..	..	..	1.27	0.34	0.83	0.18	6.86	10.09	14.9	..	..	2.35	..
100	" Karaikal	..	..	..	..	..	1.05	0.35	0.13	0.11	10.96	12.72	17.93	..	..	2.92	..
101	" Karaikal	..	..	..	..	..	1.83	2.74	2.42	0.26	5.27	10.52	11.56	..	..	7.58	..
102	" Karaikal	..	..	..	..	..	0.43	1.92	2.33	0.68	4.17	4.60	7.57	..	..	13.39	..
103	" Karaikal	..	..	..	..	..	2.47	0.37	0.37	0.37	9.73	12.12	23.47	..	..	7.60	..
104	" Karaikal	..	..	..	..	..	3.41	0.37	0.37	0.37	8.29	12.14	16.14	..	..	15.69	..
105	" Karaikal	..	..	..	..	..	1.01	0.34	0.50	0.17	7.65	9.65	11.03	..	..	7.61	..
106	" Karaikal	..	..	..	..	..	0.73	0.16	0.71	0.11	6.22	8.27	11.44	..	..	6.37	..
107	" Karaikal	..	..	..	..	..	0.93	0.4	0.24	0.24	8.05	9.68	15.51	..	..	7.09	..
108	" Karaikal	..	..	..	..	..	1.81	0.52	0.25	0.73	5.27	10.52	11.56	..	..	..	..
109	" Karaikal	..	..	..	..	..	2.36	0.18	..	0.26	5.27	5.26	6.95	..	..	..	..
110	" Karaikal	..	..	..	..	..	0.13	0.38	1.70	0.10	4.47	8.87	15.34	..	..	..	..
111	" Karaikal	..	..	..	..	..	1.32	0.20	0.70	0.10	5.47	3.41	5.10	..	..	..	..
112	" Karaikal	..	..	..	..	..	2.61	1.16	0.2	0.14	6.67	11.30	13.73	..	..	..	..
113	" Karaikal	..	..	..	..	..	1.64	0.16	1.03	..	2.13	7.87	11.51	..	..	7.75	..
114	" Karaikal	..	..	..	..	..	6.33	0.0	0.17	..	6.33	13.33	12.44	..	..	..	..
T.C. Total																	
Total for Urban Areas																	
92	T.C. Golden Rock (R.C.)	..	..	..	..	..	1.46	0.50	0.76	0.23	6.50	9.46	..	..	..	3.56	..
93	" Golden Rock (P.B.)	..	..	..	..	..	1.04	0.62	0.95	0.19	8.47	11.28	..	..	..	7.70	..

Less than 0.01.

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Births.			Deaths.							
		Males.	Females.	Total.	Birth-rate per 1,000 of estimated mid-year population.	Cholera.	Smallpox.	Plague.	Malaria.	Fever.	Dysentery and diarrhoea.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
B. TOWNS—cont.												
MUNICIPALITIES AND CENSUS TOWNS—cont.												
Madurai (6 tried).												
115	M. T. C. Madurai ..	464,000	9,761	9,453	19,214	41.41	..	32	..	4	685	505
116	" " Dindigul ..	96,800	1,764	1,637	3,401	35.13	..	5	..	1	248	116
117	" " Boduayakanur ..	42,100	641	569	1,049	24.92	..	..	..	..	25	73
118	" " Periyakulam ..	35,300	847	835	1,682	47.65	..	..	..	1	29	71
119	" " Palani ..	42,600	804	821	1,625	38.15	..	..	..	1	23	65
120	" " Kodaikanal ..	12,000	247	247	494	41.53	..	..	..	..	50	16
121	" " Cumbum ..	30,500	849	298	667	21.66	..	..	..	..	45	41
	M.T.C. Total ..	723,600	14,386	13,799	28,185	38.95	..	37	..	7	1,105	887
122	T. C. Gudalur ..	22,000	229	224	453	20.59	..	..	..	1	8	30
123	" " Thevaram ..	11,000	202	163	365	30.93	..	..	..	..	46	33
124	" " Chinnamanur ..	22,400	178	178	356	15.75	..	..	..	..	18	38
125	" " Thiruvangulam ..	20,300	307	322	629	30.99	..	..	..	..	12	16
126	" " Ethamangalam ..	13,400	265	326	591	44.12	..	..	..	..	32	14
127	" " Althar ..	23,300	362	362	724	31.07	..	..	..	..	38	1
128	" " Sholavandan ..	15,100	213	167	380	25.17	..	..	..	..	16	4
129	" " Usilampatti ..	16,000	178	152	330	20.63	..	..	..	..	7	..
130	" " Andipatti ..	9,700	206	153	359	35.97	..	..	..	..	31	11
131	" " Kottai ..	11,000	232	186	417	35.64	..	..	..	..	11	7
132	" " Balakundu ..	12,200	302	280	582	47.66	..	..	..	1	11	..
133	" " Melur ..	17,800	291	174	465	26.11	..	1	..	..	17	..
134	" " Natham ..	11,800	221	183	404	33.81	..	..	..	..	23	10
135	" " Thiruvankundram ..	14,700	105	88	193	15.51	..	..	..	..	8	..
136	" " Ayakudi ..	14,700	122	137	259	17.62	..	..	..	..	21	..
137	" " Elumalai ..	8,300	125	125	250	30.33	..	..	..	..	..	..
138	" " Nilakottai ..	6,100	78	67	145	23.75	..	..	..	..	..	..
	T.C. total ..	246,100	3,325	3,047	6,372	25.89	..	1	..	2	296	144
	Total for Urban areas ..	999,700	17,711	16,846	34,557	35.64	..	38	..	9	1,401	1,311

139	M.T.C. Ramanaidapuram district.	73,000	1,300	1,088	2,388	31.34	..	..	..	199	108	..
140	" " Rajapalayam ..	45,300	920	829	1,749	38.61	..	..	..	82	42	..
141	" " Srivilliputhur ..	56,100	1,414	1,119	2,533	46.38	..	..	..	82	71	..
142	" " Virudhunagar ..	46,400	1,869	1,772	3,641	39.19	..	..	..	122	28	..
143	" " Karaikal ..	27,400	51	49	1,020	3.23	..	..	..	6	52	..
144	" " Srivakasi ..	27,000	547	459	1,006	36.45	..	..	..	61	26	..
145	" " Aruppukkottai ..	59,500	1,090	956	2,046	34.21	..	..	..	107	167	..
	M.T.C. total ..	335,700	6,501	5,903	12,404	37.22	..	1	..	659	495	..

146	T. C. Ramanaidapuram	20,000	1,065	858	1,923	66.31	..	..	..	38	9	..
147	" " Paravankudi ..	26,000	517	461	978	37.3	..	..	..	36	24	..
148	" " Ilavangudi ..	16,800	215	230	445	26.45	..	..	..	20	4	..
149	" " Sivaganga ..	16,100	406	380	786	48.82	..	..	6	67	12	..
150	" " Tirupattur ..	17,700	307	260	567	32.03	..	..	..	3	1	..
151	" " Abiram ..	10,700	73	62	135	12.62	..	..	1	10	6	..
152	" " Kamudi ..	9,500	113	94	211	22.31	..	..	..	36	9	..
153	" " Seithur ..	10,500	128	103	231	22.8	..	..	..	36	8	..
154	" " Ram-swaram ..	16,700	252	181	433	26.43	..	..	..	13	..	..
155	" " Sattur ..	10,700	131	107	238	21.25	..	..	..	11	..	..
156	" " Manamadurai ..	11,000	104	103	207	18.73	..	..	..	23	3	..
157	" " Tirupavanam ..	15,200	143	111	254	17.50	..	..	2	10	3	..
158	" " Tondi ..	6,000	107	100	207	34.83	..	..	..	15	16	..
159	" " Kodaikallur ..	5,800	100	102	202	34.83	..	..	..	15	17	..
160	" " Palakkal ..	17,800	184	132	316	18.16	..	..	1	11	42	..
161	" " Erumangudi ..	8,700	83	81	164	18.7	..	..	..	48	1	..
162	" " Palayamkottai ..	6,000	103	129	232	38.67	..	..	..	5	1	..
163	" " Nattaram ..	6,000	103	90	193	32.5	..	..	..	9	..	..
164	" " Kottar ..	5,800	61	45	106	18.23	..	..	..	14	..	..
165	" " Kottar ..	6,200	110	70	180	28.71	..	..	..	14	..	..
166	" " Mallikinar ..	6,200	71	70	141	22.74	..	..	..	..	..	..
167	" " Singampuneri ..	266,900	4,707	4,072	8,779	32.89	1	..	10	474	171	..
168	" " ..	602,700	11,298	9,975	21,273	35.30	1	1	10	1,133	666	..
	T.C. total ..	1,129,000	20,403	18,333	38,736	34.33	2	1	20	1,604	1,133	..
	Total for Urban Areas ..	1,129,000	20,403	18,333	38,736	34.33	2	1	20	1,604	1,133	..

Tirunelveli district.

169	M.T.C. Tirunelveli	118,200	2,403	2,331	4,734	40.05	..	..	..	66	193	..
170	" " Palayamkottai ..	84,100	1,604	1,568	3,172	38.26	..	..	..	113	70	..
171	" " Melapalayam ..	42,400	373	302	675	15.87	..	..	..	43	19	..
172	" " Shencottah ..	19,400	419	380	799	36.05	..	..	..	68	20	..
173	" " ..	312,100	6,493	6,333	12,826	41.10	..	..	..	360	435	..
	M.T.C. total ..	1,129,000	20,403	18,333	38,736	34.33	2	1	20	1,604	1,133	..
174	T.C. Tenkasi ..	37,900	673	616	1,289	34.80	..	..	..	94	36	..
175	" " Kodaikanal ..	45,100	436	452	888	19.49	..	..	..	67	24	..
176	" " Puliyangudi ..	30,900	130	105	235	7.61	..	..	..	17	3	..

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number (1)	Districts and towns (2)	Estimated mid-year population for which returns are to be received. (3)	Births.		Total. (6)	Deaths.						
			Males. (4)	Females. (5)		Cholera (8)	Smallpox. (9)	Plague. (10)	Malaria. (11)	Fever. (12)	Dysentery and diarrhoea. (13)	
B. TOWNS—cont.												
MUNICIPALITIES AND CENSUS TOWNS—cont.												
Tiruchirappalli M.C.—cont.												
177	F.C. Kalladikurichi ..	23,300	201	205	410	..	..	..	..	..	5	13
178	" Viravanallur ..	18,800	257	214	471	..	..	..	..	..	68	33
179	" Chennamahalavi ..	11,000	125	111	236	..	..	..	..	..	..	..
180	" Amkasanandram ..	22,700	330	323	653	..	..	..	..	..	..	..
181	" Tiruchendur ..	15,000	391	323	717	..	..	..	..	..	..	..
182	" Sivagiri ..	17,800	187	155	342	..	..	..	..	..	..	..
183	" Udagudi ..	13,700	300	311	611	..	..	..	..	..	..	..
184	" Vasudevanallur ..	13,500	90	83	173	..	..	..	..	..	..	..
185	" Surandai ..	15,700	280	302	582	..	..	..	..	..	100	7
186	" Kulasekarpattanam ..	10,000	96	92	188	..	..	..	..	..	21	3
187	" Kollipatti ..	35,100	496	426	922	..	..	..	..	..	48	36
188	" Sivakuram ..	13,200	92	82	174	..	..	..	..	..	..	..
189	" Nanguneri ..	9,000	142	149	291	..	..	..	..	..	11	9
190	" Sankarankudi ..	24,100	230	192	422	..	..	..	..	..	18	7
191	" Tachanallur ..	10,800	123	113	236	..	..	..	..	..	27	7
192	" Ettavapuram ..	12,400	116	116	232	..	..	..	..	..	..	..
193	" Kavalattam ..	9,500	139	181	320	..	..	..	..	..	..	..
194	" Vikramasingapuram ..	38,100	246	138	384	..	..	..	..	..	26	79
195	" Vadakkuvalliyur ..	9,400	214	170	384	..	..	..	1	..	1	1
196	" Sathakkulam ..	9,800	123	110	233	..	..	..	..	..	..	..
197	" Pattanamalai ..	9,300	75	69	144	..	..	..	..	..	..	..
198	" Alwarthirunagari ..	7,000	75	81	156	..	..	..	..	..	..	..
199	" Isayavallai ..	13,100	362	353	715	..	..	..	..	..	10	1
200	" Kalugumalai ..	6,300	119	118	237	..	..	..	..	..	..	..
201	" Kayathar ..	5,800	101	37	138	..	..	..	..	..	..	..
202	" Enal ..	5,600	92	95	187	..	..	..	..	..	..	..
203	" Kadambur ..	8,000	65	81	146	..	..	..	..	..	..	..
204	" Kalakad ..	25,700	91	109	200	..	..	..	..	..	..	..

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Deaths—8 M.										Death rate per 1,000 of estimated mid-year population.			
		Injuries.					Total deaths from all causes.								
		Suicides.		Wounds and accidents.		Struck by wild beasts.	Males.	Females.	Total.	Males.	Females.	Total.	Cholera.	Smallpox.	
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	
P. TOWNS—cont.															
MUNICIPALITIES AND CENSUS TOWNS—cont.															
Tirunelveli district.															
177	T.C. Kalladaikurichi ..	38	..	..	..	..	..	..	132	134	114	218	..	..	
178	" Viravanallur ..	30	..	2	..	..	..	..	175	161	154	315	..	..	
179	" Cheramalahadevi ..	3	..	..	..	..	..	..	148	66	85	151	..	..	
180	" Ambasamudram ..	25	1	3	..	..	..	..	157	122	133	275	..	..	
181	" Tiruchendur ..	17	3	1	1	..	..	..	220	142	136	278	..	..	
182	" Sivagiri ..	36	1	..	..	..	..	..	57	57	68	120	..	..	
183	" Udumudi ..	20	2	..	..	..	..	..	77	77	63	143	..	..	
184	" Vasudevanallur ..	1	..	..	..	..	..	..	65	36	36	72	..	..	
185	" Surandai ..	7	1	..	3	1	..	..	113	105	126	231	..	..	
186	" Kulasekarapattanam ..	..	..	..	..	..	..	..	92	58	58	116	..	..	
187	" Kolipatti ..	39	..	1	5	2	..	..	174	135	150	305	..	0.2	
188	" Shivaikutam ..	..	..	..	..	..	..	..	75	28	47	75	..	..	
189	" Nanguneri ..	5	1	..	..	..	1	2	113	72	70	142	..	..	
190	" Sankarankoil ..	1	3	1	..	..	..	4	84	61	53	114	..	..	
191	" Tachanallur ..	22	..	..	1	..	..	..	122	97	82	179	..	..	
192	" Ettayapuram ..	3	..	..	1	..	..	..	97	49	52	101	..	..	
193	" Kavayarpattam ..	14	1	..	..	..	..	..	85	79	67	137	..	..	
194	" Vikramasingapuram ..	6	..	1	..	..	..	1	74	91	95	196	..	..	
195	" Vadakkuvalliyur ..	3	1	..	3	..	..	4	86	46	69	115	..	..	
196	" Sathanallam ..	4	..	..	..	..	..	..	80	39	53	92	..	0.22	
197	" Pattamadai ..	4	..	..	..	..	..	..	78	35	49	84	..	..	
198	" Alwardthinnagari ..	7	..	..	..	..	..	..	54	36	39	75	..	..	
199	" Tisayanvilai ..	10	1	..	..	..	2	4	139	102	72	174	..	..	
200	" Kallazumalai ..	..	..	2	..	..	..	..	100	61	45	106	..	..	
201	" Kayathar ..	7	..	..	..	..	..	..	47	39	50	89	..	..	
202	" Eral ..	14	1	..	..	..	..	1	47	43	50	99	..	..	
203	" Kadambur ..	5	..	..	..	..	..	..	27	24	27	61	..	..	
204	" Kalakad ..	13	1	..	..	..	..	1	71	53	62	115	..	..	
T.C. total		506	20	18	37	5	6	86	3,571	2,711	2,785	5,496	..	0.01	
Total for Urban areas		1,377	29	21	99	5	11	165	6,731	5,217	5,184	10,401	..	*	
Salem district.															
210	M.T.C. Salem ..	893	11	6	133	2	2	154	2,100	1,333	2,014	3,947	..	0.02	
211	" Rasipuram ..	20	..	..	3	..	..	3	145	102	99	201	..	..	
M.T.C. total		913	11	6	136	2	2	157	2,245	2,035	2,113	4,148	..	0.01	
212	T.C. Edappadi ..	1	1	..	..	..	..	1	26	18	10	28	..	..	
213	" Dharmapuri ..	11	..	3	..	..	..	8	65	48	54	122	..	..	
214	" Komarpalayam ..	3	..	..	1	..	..	1	74	45	59	107	..	..	
215	" Tiruchengode ..	12	..	..	2	..	..	3	31	33	33	78	..	..	
216	" Mettur Township ..	10	..	..	..	..	..	2	111	79	107	186	..	..	
217	" Taramangalam ..	1	..	..	..	..	..	..	49	35	23	68	..	0.44	
218	" Attur ..	1	..	..	..	..	..	2	85	68	99	107	..	0.11	
219	" Kaveripattinam ..	2	..	..	1	..	..	2	89	48	57	105	..	0.06	
220	" Sendamangalam ..	1	..	..	..	..	..	1	67	59	77	136	..	0.14	
221	" Harur ..	2	..	..	..	..	..	1	50	37	37	74	..	..	
222	" Namakkal ..	1	3	1	3	2	..	9	101	73	68	141	..	..	
223	" Hosur ..	1	..	..	..	..	..	3	111	59	73	132	..	0.20	
224	" Jalakandapuram ..	22	..	..	7	..	..	8	20	22	16	38	..	0.13	
225	" Krishnagiri ..	1	1	..	..	..	..	1	199	154	147	301	..	..	
226	" Onalur ..	3	1	1	..	..	..	2	17	8	13	21	..	..	
227	" Denkanikottai ..	5	1	..	..	..	..	..	65	42	34	76	..	..	
228	" Mallasamudram ..	..	..	..	..	..	..	2	30	36	22	58	..	..	
T.C. total		93	8	7	27	4	..	46	1,160	899	939	1,838	..	0.01	
Total for urban areas		1,006	19	13	163	6	2	205	3,435	2,934	3,052	5,956	..	0.03	
Coimbatore district.															
229	M.T.C. Coimbatore ..	872	4	7	101	3	14	129	3,610	2,572	2,419	4,991	..	0.49	
230	" Erode ..	140	..	4	14	..	..	23	619	419	455	874	..	0.63	
231	" Tiruppur ..	210	..	16	16	3	..	18	509	429	448	877	..	0.02	
232	" Pollachi ..	43	..	5	9	..	1	12	618	429	464	893	..	0.04	
233	" Dharmapuri ..	51	1	1	8	..	..	15	269	184	165	349	..	0.07	
234	" Udumalpet ..	49	4	3	9	..	..	9	296	209	216	425	..	..	
235	" Mettupalayam ..	91	..	..	8	..	..	8	137	182	128	310	..	0.02	
236	" Gobichettipalayam ..	34	..	..	1	..	..	1	107	144	131	275	..	..	
237	" Kurichi ..	..	..	..	..	..	..	..	117	91	93	184	..	..	
M.T.C. Total		1,597	13	20	175	8	18	234	5,852	4,659	4,519	9,178	..	0.22	

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number	Districts and towns.	Death rate per 1,000 of estimated mid-year population—cont.											Number of months for which births and deaths have not been received.
		Plague.	Malaria.	Typhoid.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.		Number of maternal deaths.	Rate per 1,000 birth (live and still).	
									Total deaths.	Average published ratio for live years.			
B. TOWNS—cont.													
MUNICIPALITIES AND CENSUS TOWNS—cont.													
Tinnevely district—cont.													
177	T.C. Kalladaikurichi	..	..	..	0.56	1.63	..	6.95	9.36	14.36	2	4.85	
178	" Viravanallur	..	..	..	2.02	1.80	0.21	9.31	16.76	18.51	7	14.77	
179	" Seranamadevi	..	..	..	..	0.27	..	13.45	13.73	17.36	1	4.22	
180	" Ambasamudram	..	..	..	1.01	1.10	0.31	8.24	12.11	13.77	2	1.78	
181	" Tiruchendur	..	..	..	0.07	1.13	0.33	14.07	18.53	18.95	1	1.37	
182	" Sivagiri	..	..	..	0.17	2.02	0.11	3.20	6.74	9.22	3	8.77	
183	" Udangudi	..	..	..	0.15	1.46	0.29	5.02	10.44	9.15	2	3.22	
184	" Vasudevanallur	..	..	..	..	0.07	0.37	4.81	5.33	7.60	..	..	
185	" Surandai	..	..	..	0.45	0.45	0.25	7.20	14.71	15.82	2	3.44	
186	" Kulasekarapattanam.	..	..	..	0.30	..	..	9.20	11.60	14.12	4	21.05	
187	" Kolparti	..	..	..	1.03	1.11	0.23	4.96	8.69	5.07	8	3.68	
188	" Srivaikuntam	..	..	..	..	..	..	5.68	10.65	..	..	..	
189	" Nanguneri	..	..	..	0.91	0.51	0.20	11.41	11.34	17.90	1	3.45	
190	" Sankarankoil	..	..	..	0.27	0.04	0.15	3.22	4.37	6.30	..	..	
191	" Tachanallur	..	..	..	0.66	2.03	0.09	11.51	16.89	17.28	1	4.22	
192	" Ettayapuram	..	..	..	..	0.31	0.10	9.90	10.31	10.99	..	..	
193	" Kayalpattanam	..	..	..	1.37	1.13	0.08	6.85	11.05	12.40	3	7.89	
194	" Vickramasingapuram	..	..	..	2.07	0.16	0.03	1.94	4.88	8.13	7	16.13	
195	" Vadakuvalliyur	..	0.11	2.13	0.11	0.32	0.43	9.15	12.23	14.74	..	..	
196	" Sathankulam	..	..	..	..	0.41	..	8.16	9.39	11.35	2	8.40	
197	" Pattamadai	..	..	..	..	0.43	..	8.39	9.03	11.94	2	13.79	
198	" Alwarthirunagari	..	..	..	..	1.00	..	7.71	10.71	14.87	..	..	
199	" Tisayanvillai	..	..	..	0.08	0.76	0.31	11.37	13.28	12.53	2	2.75	
200	" Kalugumalai	..	..	..	0.16	..	..	16.13	17.10	22.68	1	4.18	
201	" Kayattar	..	..	..	1.21	1.21	0.34	8.10	15.34	13.62	3	15.96	
202	" Erul	..	..	..	1.25	2.50	0.18	8.39	17.68	20.33	1	5.24	
203	" Kadambur	..	..	..	0.33	0.63	..	3.37	7.63	9.69	..	..	
204	" Kalakad	..	..	..	0.27	0.51	0.04	2.75	4.47	5.29	2	10.00	

205	T.C. Panagudi	..	..	..	0.82	0.70	0.25	9.75	11.65	10.99	2	5.24
206	" Sargerpuram	..	..	..	1.05	2.56	..	3.60	9.19	10.69	1	4.76
207	" Arumanganeri	..	..	..	0.12	0.12	0.04	0.86	1.14	1.81	1	2.28
208	" Achempur	..	..	..	0.87	0.58	0.14	9.86	18.26	..	1	3.33
209	" Samooravadakalai	..	..	..	1.72	1.18	0.54	11.29	21.72	..	3	6.45
T.C. total		..	..	..	0.62	0.85	0.14	6.01	9.25	..	74	5.13
Total for Urban areas		..	..	..	0.89	1.52	0.18	7.43	11.48	..	184	6.60
Salem district.												
210	M.T.C. Salem	..	0.20	1.31	1.52	3.40	0.59	7.99	15.01	13.07	74	7.63
211	" Rasipuram	..	..	1.01	0.18	0.72	0.11	5.25	7.28	9.04	6	6.90
M.T.C. total		..	0.18	1.23	1.39	3.14	0.54	7.73	14.28	..	80	7.57
212	T.C. Edanadi	..	..	..	..	0.04	0.04	0.93	1.00	2.15	..	..
213	" Dharmapuri	..	..	..	0.14	0.39	0.28	2.30	4.31	4.91	1	3.10
214	" Komarpalayam	..	..	..	0.41	0.57	0.08	0.02	8.70	4.91	2	4.31
215	" Tiruchengode	..	..	..	0.09	0.13	0.13	1.39	3.40	0.42	..	..
216	" Mettur Township	..	..	..	0.61	0.23	0.05	2.62	4.40	8.16	..	..
217	" Taramangalam	..	..	..	0.53	0.09	0.07	4.30	5.46	8.32	1	8.15
218	" Attur	..	..	..	0.14	0.35	0.22	2.95	5.90	18.27	3	11.04
219	" Karipattinam	..	..	..	..	1.11	0.06	3.99	18.04	18.04	..	..
220	" Sendamangalam	..	0.36	2.68	0.42	0.54	0.14	6.85	16.11	16.53	4	8.15
221	" Rartur	..	..	1.37	0.27	0.10	0.44	4.95	16.41	16.73	4	19.51
222	" Namakkal	..	..	1.60	0.05	0.09	..	10.47	19.45	14.77	2	7.75
223	" Hosur	..	..	0.80	0.28	0.50	0.30	1.96	13.70	10.40	6	7.50
224	" Palakandapuram	..	0.04	1.28	1.62	0.91	0.31	8.47	12.81	9.45	2	30.30
225	" Krishnagiri	..	..	0.37	0.38	0.09	0.12	2.10	7.17	10.21	..	..
226	" Omalur	..	..	0.38	0.38	0.09	0.19	6.50	4.83	5.88	..	..
227	" Deekankottai	..	0.08	1.25	0.42	0.42	0.17	5.50	4.83	..	..	..
228	" Malai-samudram	..	..	1.24	0.35	0.31	0.15	3.94	6.09	..	42	6.82
T.C. total		..	0.05	1.24	0.35	0.31	0.15	3.94	6.09	..	42	6.82
Total for Urban areas		..	0.11	1.26	0.86	1.70	0.34	5.80	10.10	..	122	7.29
Coimbatore district.												
229	M.T.C. Coimbatore	..	..	..	2.70	3.43	0.51	12.17	19.66	20.24	73	4.79
230	" Erode	..	0.17	0.34	0.69	2.05	0.26	8.51	12.02	14.69	40	10.73
231	" Tiruppur	..	..	0.52	1.41	3.06	0.34	7.42	12.78	13.51	5	1.89
232	" Pollachi	..	0.02	1.06	1.86	1.68	0.32	11.44	16.09	17.51	..	..
233	" Dharmapuri	..	..	0.30	0.30	1.88	0.47	9.93	12.89	12.89	..	..
234	" Udumalpet	..	..	1.35	0.90	1.76	0.54	10.61	15.23	14.03	..	..
235	" Mettupalayam	..	6.11	1.60	0.34	2.56	0.25	3.85	8.71	10.84	10	9.81
236	" Gobichettipalayam	..	..	0.19	0.31	1.14	0.19	4.67	6.52	6.65	8	9.10
237	" T.C. Kurichi	..	..	0.66	0.58	1.31	0.04	4.52	7.10	4.64	2	4.65
M.T.C. total		..	0.03	0.55	1.66	2.62	0.38	9.60	15.06	..	169	5.46

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	District and towns.	Births.			Deaths.						
		Males	Females	Total	Birth rate per thousand population	(8) Cholera.	(9) Typhoid.	(10) Plague.	(11) Malaria.	(12) Fevers.	(13) Dysentery and
(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
B. TOWNS—cont.											
MUNICIPALITIES AND CENSUS TOWNS—cont.											
<i>Cimlabore district—cont.</i>											
233	T.C. Kottur	17,590	150	17,740	329	..	1	..	..	33	9
239	" Padadam	10,600	88	10,688	154	..	..	..	..	13	10
240	" Bhuvani	14,700	220	14,920	227	..	3	..	..	24	9
241	" Evana-chi	9,400	129	9,529	232	..	..	..	..	30	10
242	" Vellalore	13,300	177	13,477	344	..	1	..	..	15	2
243	" Singaullur	25,400	126	25,526	257	..	..	..	3	31	13
244	" Satyannagalam	18,200	219	18,419	413	..	3	..	..	4	2
245	" Sullur	9,800	150	9,950	301	..	..	..	2	8	1
246	" Kuniamurthur	21,900	69	21,969	141	..	..	..	1	10	2
247	" P. elamadu	18,700	54	18,754	113	..	..	..	..	23	..
248	" Annur	9,500	97	9,597	180	..	..	..	..	11	8
249	" Azhavalai	11,800	201	12,001	388	..	..	..	..	2	3
250	" Vettakaranpudur	16,500	73	16,573	139	..	2	..	..	10	6
	T.C. Total	175,800	1,667	177,467	3,420	..	13	..	6	220	77
	Total for Urban areas	169,905	1,603	171,508	3,213	..	145	..	25	355	1,056
251	M.T.C. Ootacamund	51,000	1,153	52,153	2,215	..	14	..	..	9	51
252	" Coonoor	28,200	679	28,879	1,364	..	6	..	1	1	51
	M.T.C. total	79,200	1,832	81,032	3,579	..	20	..	1	10	102
<i>The Nilgiris district</i>											
253	T.C. Kotagiri	14,900	196	15,096	399	..	..	..	..	29	17
254	" Wellington	12,700	177	12,877	348	..	..	..	..	19	5
	T.C. total	27,600	373	27,973	747	..	..	..	..	48	22
	Total for Urban areas	109,700	2,214	111,914	4,326	..	22	..	1	58	124
<i>Kanyakumari district.</i>											
255	M.T.C. Nagercoil	102,800	1,700	104,500	3,532	..	2	..	..	83	68
256	" Colachel	15,500	232	15,732	464	..	..	..	..	41	4
257	" Kuzhithurai	12,500	282	12,782	519	..	..	..	..	24	12
258	" Padmanabapuram	14,000	232	14,232	415	..	..	..	..	53	6
	M.T.C. total	144,800	2,536	147,336	4,930	..	2	..	..	201	99
259	T.C. Arambol	8,000	205	8,205	359	..	..	..	..	23	4
260	" Boothapandi	7,400	141	7,541	270	..	1	..	..	..	2
261	" Kanyakumari	6,000	139	6,139	287	..	..	..	..	..	16
262	" Eraniel	9,400	338	9,738	672	..	..	..	..	55	33
263	" Kadiappattinam	10,500	183	10,683	379	..	..	..	..	30	25
264	" Thiruvithamcode	8,500	158	8,658	285	..	..	..	..	11	16
265	" Thuthoor	8,500	192	8,692	345	..	..	..	..	9	9
266	" Thengapattinam	9,200	198	9,398	381	..	..	..	..	65	4
267	" Arunadu	10,000	212	10,212	428	..	..	..	..	30	25
268	" Kollancode	7,700	129	7,829	277	..	1	..	..	14	29
	T.C. total	85,300	1,895	87,195	3,083	..	2	..	..	246	163
	Total for Urban areas	230,200	4,431	234,631	8,613	..	4	..	..	447	253
	Grand total (Urban areas)	8,796,000	162,148	8,958,148	315,313	98	888	..	158	10,085	12,000
	Grand total for Rural areas	24,387,000	326,526	24,713,526	630,478	105	1,337	7	574	47,487	16,043
	Total for the State	33,183,000	488,674	33,671,674	945,791	206	2,225	7	732	57,572	29,033

STATEMENT No. VI.—Births and deaths from different cases registered in the State of Madras during the year 1959—cont.

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras.														
Serial number.	Districts and towns.	Deaths—cont.										Total deaths from all causes.	Death rate per 1,000 of estimated mid-year population.	
		Injuries.					Suicides.							
		Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake bite and killed by wild beasts.	Rabies.	Total.	All other causes.	Males.	Females.			Total.
		(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
B. TOWNS—cont.														
MUNICIPALITIES AND CENSUS TOWNS—cont.														
Coimbatore district—cont.														
238	T.C. Kottur	18	..	3	12	3	..	18	81	81	79	160	..	0.06
239	" Palladam	18	..	2	1	1	..	4	38	47	42	89	..	0.41
240	" Bhavani	14	..	2	3	1	..	6	112	99	72	171	..	..
241	" Avanashi	13	..	..	2	1	..	3	50	60	48	106	..	0.08
242	" Vellore	6	1	..	1	..	..	2	70	47	49	96	..	..
243	" Singanailur	13	1	..	7	..	..	8	120	86	102	188	..	0.16
244	" Satyanagalam	6	..	..	..	..	..	..	91	51	55	106	..	..
245	" Sulur	4	1	..	..	..	..	1	16	14	18	32	..	..
246	" Kuniyathur	5	1	..	..	..	..	1	27	27	19	46	..	..
247	" Peelamedu	17	..	..	..	1	..	1	52	51	42	93	..	..
248	" Annur	5	1	1	1	..	..	3	48	31	44	75	..	..
249	" Anamalai	6	1	..	..	1	..	1	75	37	52	89	..	0.12
250	" Vetrakkarapudur	16	..	..	2	1	..	3	21	27	31	58	..	0.07
	T.C. total	141	6	8	29	8	..	51	801	658	651	1,309	..	0.18
	Total for urban areas	1,738	19	28	204	16	18	235	6,653	5,317	5,170	10,487	..	..

253	T.C. Kotagiri	43	..	2	..	2	..	2	67	89	69	158	..	0.16
254	" Wellington	5	..	..	..	..	..	..	45	39	37	76	..	0.07
	T.C. total	48	..	2	..	2	..	2	112	128	106	234	..	0.21
	Total for urban areas	403	2	30	3	35	1	35	763	736	670	1,406	..	..
<i>Kanyakumari district.</i>														
255	M.T.C. Nagercoil	101	4	12	1	19	..	19	603	473	403	876	..	0.02
256	" Colachel	1	..	..	..	..	..	..	34	57	74	131	..	..
257	" Kuzhithurai	11	..	3	..	3	..	3	54	52	52	104	..	..
258	" Padmanabhapuram	12	..	..	1	1	..	1	90	76	86	162	..	..
	M.T.C. total	125	4	15	3	24	..	24	831	658	615	1,273	..	0.01
259	T.C. Arambol	..	..	..	..	..	..	..	121	82	66	143	..	0.14
260	" Boothapandi	..	..	..	..	..	..	..	116	43	70	119	..	..
261	" Kanyakumari	2	..	5	..	5	..	5	64	47	49	96	..	..
262	" Eraniel	41	..	4	..	4	..	4	229	216	146	362	..	..
263	" Kadiappattanam	21	..	3	..	3	..	3	37	58	58	116	..	..
264	" Thiruvithamcode	14	..	..	..	1	..	1	61	48	55	103	..	..
265	" Thuthoor	..	..	..	..	..	..	..	85	55	43	103	..	..
266	" Thengapattinam	6	..	..	..	..	..	..	42	69	65	117	..	..
267	" Arumana	7	1	2	..	3	..	3	54	69	50	119	..	0.13
268	" Kollanode	9	..	1	..	1	..	1	44	44	54	98	..	0.02
	T.C. total	100	1	15	3	17	1	17	853	720	661	1,381	..	0.02
	Total for Urban areas	225	5	30	228	41	1	41	1,684	1,378	1,276	2,654	..	0.10
	Grand total (Urban areas)	19,946	275	1,565	1,707	2,344	160	2,344	72,813	59,855	53,067	117,922	0.01	0.05
	Grand Total for Rural areas	20,910	822	1,707	1,707	4,432	195	4,432	186,029	139,181	138,646	277,827	..	0.07
	Total for the State	40,856	1,097	3,272	3,272	6,776	355	6,776	25,342	199,036	196,713	395,749	..	..

STATEMENT No. VI.—Births and deaths from different causes registered in the State of Madras during the year 1959—cont.

Serial number.	Districts and towns.	Death rate per 1,000 of estimated mid-year population—cont.											Number of months for which complete returns have not been received.
		(27)	(28)	(29)	(30)	(31)	(32)	(33)	From all causes.		(36)	(37)	
									Total deaths.	Average of the previous five years.			
		(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
B. TOWNS—cont.													
MUNICIPALITIES AND CENSUS TOWNS—cont.													
Coimbatore district—cont.													
238	T.C. Kottur	..	..	1.91	0.52	1.94	1.04	4.68	9.25	7.41	2	0.04	..
239	" Palladam	..	..	1.79	0.94	1.70	0.38	3.38	8.40	6.74	..	..	..
240	" Bhavani	..	..	1.63	0.61	0.95	0.41	7.02	11.63	12.17	..	..	..
241	" Avanasi	..	..	3.13	1.04	1.32	0.31	5.21	11.04	10.62	1	4.29	..
242	" Vellalore	..	..	1.13	0.15	0.45	0.15	5.56	7.22	9.44	..	..	..
243	" Singanailur	..	0.12	1.22	0.51	0.51	0.31	4.72	7.40	8.07	1	3.89	..
244	" Satyamangalam	..	..	0.22	0.11	0.33	..	5.00	5.32	7.76	..	..	..
245	" Suler	..	0.20	0.82	0.10	0.41	0.10	1.63	3.27	4.30	..	..	..
246	" Kuniamuthur	..	0.15	0.46	0.09	0.23	0.05	1.23	2.10	2.97	..	..	..
247	" Peelamedu	..	..	1.23	..	0.91	0.05	2.78	4.97	8.17	..	..	..
248	" Annur	..	..	1.16	0.84	0.53	0.32	5.05	7.59	8.71	..	..	..
249	" Anamalai	..	..	0.18	0.44	0.53	0.09	6.64	7.88	8.13	1	7.19	..
250	" Vettakarnapudur	..	..	0.61	0.36	0.97	0.18	1.27	3.32	4.15	..	..	..
	T.C. total	..	0.03	1.12	0.39	0.72	0.26	4.07	6.66	..	5	1.45	..
	Total for urban areas	..	0.03	0.69	1.35	2.16	0.35	8.25	13.01	..	174	5.06	..

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254	„ Wellington ..	..	..	1.30	0.31	0.39	..	2.54	5.98	5.26	..	..	..
	T.C. total ..	..	..	1.75	0.80	1.75	0.07	4.07	8.51	..	..	..	..
	Total for Urban areas ..	..	..	0.54	1.16	3.78	0.33	7.15	13.15	..	42	2.70	..
Kanyakumari district.													
255	M.T.C. Nagarkoil ..	..	..	0.81	0.65	0.90	0.19	5.89	8.56	..	10	2.81	..
256	„ Colachel ..	..	..	2.65	0.26	0.06	0.06	5.42	8.45	..	..	..	..
257	„ Kuzhithurai ..	..	..	1.92	0.96	0.88	0.24	4.32	8.32	..	1	1.83	..
258	„ Padmanabapuram ..	..	..	3.63	0.41	0.32	0.07	6.62	11.10	..	1	2.38	..
	M.T.C. total ..	..	..	1.39	0.62	0.86	0.17	5.73	8.79	..	12	2.40	..
Kannur district.													
259	T.C. Aramboli ..	..	..	2.38	0.59	..	..	13.13	18.50	..	3	8.15	..
260	„ Boothachandi ..	..	..	..	0.27	..	..	15.68	16.08	..	1	3.69	..
261	„ Kanyakumari ..	..	..	1.50	2.67	0.33	0.83	10.67	16.01	..	..	..	..
262	„ Eraniel ..	..	..	5.85	3.51	4.36	0.43	24.36	35.51	..	6	7.80	..
263	„ Kadappattanam ..	..	..	2.86	2.38	2.00	0.29	3.52	11.05	..	1	2.63	..
264	„ Thiruvithanore ..	..	..	1.29	1.33	1.35	0.12	7.18	12.12	..	2	6.97	..
265	„ Thuthur ..	..	..	1.03	1.06	..	..	10.00	12.12	..	..	..	..
266	„ Thengapattinam ..	..	..	7.07	0.43	0.05	..	4.57	12.72	..	1	2.62	..
267	„ Arumana ..	..	..	3.09	2.50	0.70	0.30	5.40	11.90	..	1	2.30	..
268	„ Kollanode ..	..	..	1.32	3.77	1.17	0.13	5.71	12.73	..	..	..	..
	T.C. total ..	..	..	2.88	1.91	1.17	0.20	10.00	16.19	..	15	3.95	..
	Total for Urban areas ..	..	..	1.94	1.10	0.98	0.18	7.32	11.53	..	27	3.07	..
	Grand total (Urban areas) ..	..	..	1.15	1.37	2.27	0.27	8.22	13.41	..	1,472	4.9	8
	Grand Total for Rural areas ..	..	*	1.95	0.69	0.86	0.18	7.63	11.39	..	2,270	3.58	..
	Total for the State ..	..	*	1.73	0.87	1.23	0.20	7.79	11.93	..	3,742	3.59	8
* Verified less than 0.01													
* Less than 0.01.													

* Less than 0.01.

* Verified less than 0.01.

STATEMENT No. VI.A.—(Optional) Deaths registered from certain causes in the municipal towns in the State of Madras during the year 1959.

Serial number and Municipal towns.	Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala-Azar.		Influenza.		Dysentery.		Diarrhoea.	
	Deaths.		Rate per mille.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1 Madras	..	8	108	0.06	..	..	..	..	..	..	..	2,983	1.60	1,902	1.02	..
Chingleput district—																
2 Kancheepuram ..	..	..	9	0.10	..	..	..	..	..	..	..	81	0.87	40	0.43	..
3 Tiruvallur	..	..	6	0.04	..	..	..	..	..	..	..	24	1.00	25	1.04	..
4 Chingleput	..	..	6	0.22	..	..	..	..	..	..	..	4	0.15	20	0.75	..
5 Tutuvtiyur	..	..	2	0.07	..	..	..	..	..	..	..	40	1.36	41	1.39	..
North Arcot district—																
6 Vellore	..	..	15	0.11	..	..	..	..	..	..	..	97	0.72	140	1.04	..
7 Tiruvannamalai ..	..	..	7	0.15	..	..	..	..	..	..	..	75	1.61	12	0.26	..
8 Gudiyatham	..	..	3	0.05	..	..	..	..	..	..	..	79	1.40	56	1.00	..
9 Vaniyambadi	..	2	0.04	0.04	..	..	..	..	..	..	..	45	1.00	45	1.00	..
10 Tirupattur	..	..	7	0.23	..	..	..	..	..	..	..	31	0.26	19	0.63	..
11 Walajpet	..	..	1	0.07	..	..	..	..	..	..	..	31	2.23	2	0.14	..
12 Ambur	..	1	0.02	0.21	..	..	..	..	..	..	..	68	1.45	37	0.79	..
13 Arni	..	..	2	0.07	..	..	..	..	..	..	..	58	2.02	56	1.95	..
14 Arkonam	..	1	0.03	0.07	..	..	..	..	..	..	..	7	0.24	19	0.65	..
South Arcot district—																
15 Cuddalore	..	..	11	0.14	..	..	..	..	..	..	..	28	0.37	34	0.45	..
16 Chidambaram ..	..	1	0.02	0.07	..	..	..	..	..	..	..	23	0.55	7	0.17	..
17 Villupuram	..	1	0.03	0.10	..	..	..	..	..	..	..	27	0.59	32	0.70	..
18 Tindivanam	..	..	4	0.10	..	..	..	..	..	..	..	30	0.77	18	0.45	..
Thanjavur district—																
19 Thanjavur	..	1	14	0.11	..	..	..	..	..	..	..	46	0.36	43	0.34	..
20 Kumbakonam ..	..	..	5	0.04	..	..	..	..	..	..	..	54	0.48	48	0.43	..
21 Nagapattinam ..	..	1	11	0.18	..	..	..	..	..	..	..	54	0.87	52	0.84	..
22 Mayuram	..	..	6	0.11	..	..	..	..	..	..	..	3	0.06	6	0.11	..
23 Mannargudi	..	..	2	0.06	..	..	..	..	..	..	..	23	0.65	13	0.37	..
24 Tiruvarur	..	..	2	0.06	..	1	0.03	..	..	..	..	18	0.57	9	0.29	..
Tiruchirappalli district—																
25 Tiruchirappalli ..	..	..	12	0.04	..	..	..	..	..	..	..	123	0.46	79	0.23	..
26 Karur	..	..	6	0.11	..	..	..	..	..	..	..	21	0.39	6	0.11	..
27 Srirangam	..	..	4	0.09	..	..	..	..	..	..	..	7	0.16	11	0.24	..
28 Pudukkottai	..	..	12	0.23	..	..	..	..	..	..	..	16	0.30	25	0.47	..
Madurai district—																
29 Madurai	..	4	0.01	0.06	..	..	..	..	..	..	..	271	0.53	234	0.50	..
30 Dindigul	..	1	0.01	0.10	..	..	..	..	..	..	..	105	1.08	11	0.11	..
31 Bodinayakanur ..	..	..	2	0.05	..	..	..	..	..	..	..	47	1.12	26	1.22	..
32 Perakulam	..	1	0.03	0.06	..	..	..	..	..	..	..	49	1.39	23	0.62	..
33 Palani	..	..	5	0.12	..	..	..	..	..	..	..	48	1.13	17	0.40	..
34 Kodakanal	..	..	..	..	..	..	..	..	..	..	..	16	1.33	..	0.08	..
35 Cumbum	..	..	..	..	..	..	..	..	..	..	..	40	1.30	1	0.03	..
Ramanathapuram district—																
36 Rajapalayam ..	..	..	3	0.04	..	..	..	..	..	..	..	54	0.74	54	0.74	..
37 Srivilliputhur ..	..	..	2	0.04	..	..	..	..	..	..	..	26	0.57	16	0.35	..
38 Virudhunagar ..	..	..	3	0.05	..	..	..	..	..	..	..	34	0.61	37	0.86	..
39 Karaikudi	..	..	2	0.07	..	..	..	..	..	..	..	24	0.52	5	0.11	..
40 Devakottai	..	..	..	..	..	..	..	..	..	..	..	41	1.50	11	0.40	..
41 Sivakasi	..	..	1	0.02	..	..	..	..	..	..	..	22	0.80	4	0.14	..
42 Aruppukottai ..	..	..	..	..	..	..	..	..	..	..	..	126	2.11	41	0.69	..
Tirunelveli district—																
43 Tuticorin	..	..	5	0.04	..	..	..	..	..	..	..	135	1.14	63	0.53	..
44 Tirunelveli	..	..	4	0.05	..	..	..	..	..	..	..	42	0.50	86	1.02	..
45 Palayamkottai ..	..	..	..	..	..	..	..	..	..	..	..	43	0.91	27	0.37	..
46 Melapalayam ..	..	..	1	0.03	..	..	..	..	..	..	..	11	0.02	18	0.42	..
47 Shenkottah	..	..	..	..	..	..	..	..	..	..	..	..	0.57	9	0.16	..
Salem district—																
48 Salem	..	52	0.20	0.07	..	..	..	..	..	..	..	204	0.78	195	0.74	..
49 Rasipuram	..	..	2	0.07	..	..	..	..	..	..	..	3	0.11	2	0.07	..
Coimbatore district—																
50 Coimbatore	..	2	0.01	0.14	..	..	..	..	..	..	..	416	1.64	270	1.06	..
51 Erode	..	12	0.17	0.08	..	..	..	..	..	..	..	35	0.48	15	0.21	..
52 Tiruppur	..	1	0.02	0.15	..	..	..	..	..	..	..	43	0.63	54	0.79	..
53 Pollachi	..	..	6	0.22	..	..	..	..	..	..	..	66	1.19	37	0.67	..
54 Dharmapuri	..	..	3	0.11	..	..	..	..	..	..	..	6	0.22	2	0.07	..
55 Udumalpet	..	..	10	0.28	..	..	..	..	..	..	..	13	0.47	12	0.43	..
56 Mettupalayam ..	..	4	0.11	0.02	..	..	..	..	..	..	..	5	0.22	4	0.11	..
57 Gobichettipalayam	..	..	1	0.02	..	..	..	..	..	..	..	10	0.39	8	0.13	..
58 Kurichi	..	..	..	..	..	..	..	..	..	..	..	..	..	5	0.19	..
The Nilgiris district—																
59 Ootacamund	..	1	0.04	0.16	..	..	..	..	..	..	..	12	0.24	39	0.76	..
60 Coonoor	..	..	1	0.04	..	..	..	..	..	..	..	38	1.35	13	0.46	..
Kanyakumari district—																
61 Nagercoil	..	..	21	0.21	..	..	..	..	..	..	..	34	0.33	34	0.33	..
62 Colachel	..	..	1	0.06	..	..	..	..	..	..	..	9	0.26	..	..	..
63 Kuzhithurai	..	..	8	0.64	..	..	..	..	..	..	..	4	0.27	2	0.11	..
64 Padmanabapuram.	..	..	5	0.34	..	..	..	..	..	..	..	..	..	..	..	..
Total for the State ..	..	96	0.02	0.03	..	..	..	..	..	..	..	6,118	1.02	4,174	0.69	..

* Less than 0.01.

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STATEMENT No. VI-A.—(Optional) Deaths registered from certain causes in the municipal towns in the State of Madras during the year 1959—cont.

Serial number and Towns.	Pneumonia.		Pulmonary tuberculosis.		Diphtheria.		Cerebrospinal fever.		Deaths under one year.		Infant mortality per 1000 live births.	
	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Males.	Females.		
Total.												
1 Madras	4,667	2.51	672	0.33	57	0.03	..	..	4,781	4,281	9,062	129.17
Chingleput district—												
2 Kancheepuram ..	356	3.82	61	0.64	2	0.02	..	..	196	171	367	94.20
3 Tiruvallur	5	0.21	19	0.71	..	..	..	..	30	25	55	61.87
4 Chingleput	49	1.34	..	..	..	..	..	..	47	55	102	61.15
5 Tiruvottiyur .. .	..	0.07	..	..	..	..	..	..	47	33	80	216.15
North Arcot district—												
6 Vellore	176	1.31	115	0.85	11	0.08	..	..	414	335	749	111.06
7 Tiruvannamalai ..	23	0.49	37	0.70	1	0.02	..	..	99	83	182	91.30
8 Gudiyatham	69	1.06	29	0.51	1	0.02	..	..	182	135	317	127.10
9 Villupattur	47	1.05	41	0.91	1	0.02	..	..	89	86	175	105.61
10 Tirupattur	1	0.03	..	..	8	0.16	..	..	61	62	123	67.81
11 Villupattur	3	0.22	..	..	..	..	..	..	21	25	49	73.43
12 Villupattur	52	1.41	24	0.51	..	..	..	..	82	87	169	107.53
13 Arani	1	0.03	17	0.55	..	..	..	..	108	79	187	113.09
14 Arani	5	0.17	..	..	..	..	..	..	11	22	33	65.11
South Arcot district—												
15 Cuddalore	54	0.71	48	0.68	2	0.04	..	..	137	105	242	61.81
16 Chidambaram ..	21	0.50	39	0.72	..	..	..	..	64	46	104	59.19
17 Villupuram	41	0.91	22	0.48	..	..	..	..	52	38	90	46.85
18 Thiruvannam ..	23	0.64	17	0.43	..	..	..	..	43	32	80	57.10
Thanjavur district—												
19 Thanjavur	86	0.68	76	0.69	14	0.11	..	..	199	170	367	61.70
20 Kumbakonam ..	65	0.58	46	0.41	9	0.13	..	..	137	149	295	60.62
21 Nagapattinam ..	13	0.21	16	0.25	11	0.15	..	..	111	114	225	72.12
22 Navuram	6	0.17	21	0.38	1	0.03	..	..	50	50	119	43.48
23 Mannargudi	8	0.17	17	0.48	..	..	..	..	80	76	124	71.17
24 Tiruvann	..	0.25	15	0.45	..	..	..	..	29	25	51	39.76
Tiruchirappalli district—												
25 Tiruchirappalli ..	118	0.44	104	0.39	23	0.09	..	..	316	317	643	64.47
26 Karur	8	0.18	3	0.07	..	..	..	..	57	62	119	63.33
27 Srirangam	..	0.18	..	..	..	..	..	..	33	70	105	38.59
28 Pudukkottai .. .	19	0.35	31	0.58	6	0.11	..	..	105	64	169	63.43
Ramanathapuram district—												
29 Rajapalayam .. .	12	0.16	16	0.22	1	0.01	..	..	81	59	140	61.19
30 Sivuliputhur .. .	5	0.11	27	0.60	..	..	..	..	115	72	197	106.92
31 Bodayakanur .. .	10	0.33	36	0.64	..	..	..	..	62	48	100	42.10
32 Perivakulam .. .	73	2.07	8	0.17	..	..	..	..	49	41	90	90
33 Palani	9	0.21	6	0.22	7	0.07	..	..	31	31	77	75.49
34 Kolakanal	42	3.50	3	0.11	2	0.07	..	0.04	46	38	41	60.64
35 Cumbum	..	..	45	0.75	..	..	..	..	37	30	66	124.31
.. .. .	..	..	..	..	..	..	..	..	35	..	..	97.45
Tirunelveli district—												
36 Tirunelveli	96	0.81	186	1.40	3	0.03	..	..	288	248	536	113.22
37 Tirunelveli .. .	94	1.12	70	0.83	15	0.32	..	..	201	147	348	108.14
38 Palayankottai ..	38	0.80	65	1.37	..	..	..	..	130	111	241	73.03
39 Karaikal	16	0.58	4	0.08	..	..	..	..	37	40	77	100.65
40 Devakottai	1	0.04	3	0.11	..	..	..	..	35	44	79	93.05
41 Sivakasi	11	0.18	45	0.75	..	..	..	..	167	202	366	98.73
42 Aruppukottai ..	..	..	..	..	..	..	..	..	..	..	..	..
Salem district—												
43 Salem	361	1.37	312	1.19	17	0.06	..	..	432	463	895	82.25
49 Rasipuram	2	0.07	7	0.25	..	..	..	..	25	31	60	71.17
Coimbatore district—												
50 Coimbatore	257	1.01	139	0.55	38	0.15	..	..	779	661	1,440	99.12
51 Erode	63	0.87	57	0.78	5	0.07	..	..	94	75	169	48.33
52 Tirunelveli .. .	102	1.49	33	0.48	1	0.01	..	..	111	108	214	68.73
53 Pollachi	51	0.92	25	0.45	15	0.04	..	..	120	105	225	89.46
54 Dharmapuri .. .	23	0.85	28	1.03	..	..	..	..	44	38	82	80.07
55 Kallakurichi .. .	13	0.47	23	0.65	1	0.04	..	..	51	54	105	74.52
56 Mettupalayam ..	20	0.56	23	0.28	1	0.09	..	..	49	35	84	50.06
57 Gobichettipalayam	18	0.43	12	0.28	4	0.09	..	..	21	22	43	49.65
58 Kurchi	8	0.31	3	0.12	..	..	..	..	22	20	42	97.60
The Nilgiris district—												
59 Ootacamund	9.36	3.06	30	0.59	4	0.08	..	..	108	88	196	88.40
60 Ootacamund	34	1.21	12	0.43	2	0.07	..	..	77	58	135	98.97
Kanyakumari district—												
61 Nagercoil	16	0.16	25	0.24	4	0.04	..	..	77	53	130	36.81
62 Chithal	1	0.06	..	..	..	..	..	..	20	16	36	77.59
63 Kuthirai	1	0.08	..	..	..	..	..	..	7	9	16	30.83
64 Padmanabapuram	3	0.21	..	..	1	0.07	..	..	17	13	30	72.29
Total for the State ..	8,244	1.37	3,069	0.51	300	0.05	29	..	12,358	10,768	23,126	92.10

D.P.H.,—11

Less than 0.01

* Less than 0.01

STATEMENT No. VII.—Deaths from cholera registered in the districts in the State of Madras during each month of the year 1959.

Serial Number	Districts	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				Number of circles of registration (towns and municipalities)	Number of villages or towns in each of which a monthly return is received	January	February	March	April	May	June	July	August
1	Madras ..	..	..	1	1	60	3	1	..	..	..	2	..
2	Chingleput ..	..	..	11	2,103	81	6	..	..	..	..	..	..
3	North Arcot ..	..	..	20	2,030	6	..	..	..	..	..	..	..
4	South Arcot ..	..	..	12	2,271	6	2	..	1	..	..	..	..
5	Tanjavur ..	..	..	18	2,435	1	..	..	12	..	..	2	..
6	Tiruchirappalli ..	..	..	14	1,612	5	..	..	..	..	..	..	..
7	Madurai ..	..	..	15	1,975	..	..	..	..	..	..	..	..
8	Ramanathapuram ..	..	..	16	1,535	..	..	..	3	..	..	..	..
9	Tirunelveli ..	..	..	14	1,110	..	..	..	..	..	..	..	..
10	Salem ..	..	..	14	1,618	..	..	..	..	..	..	..	..
11	Coimbatore ..	..	..	18	1,707	1	..	..	..	..	..	..	..
12	Nilgiris, The ..	..	..	5	161	..	..	..	..	..	..	..	..
13	Kanyakumari ..	..	..	8	80	..	..	..	..	..	..	..	..
	Total ..	..	..	166	17,138	163	7	1	16	2	3	2	1

Number of circles of registration (towns and municipalities)

Number of villages or towns in each of which a monthly return is received

Serial Number	Districts	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
		September	October	November	December	Males	Females	Total	Males	Females	Total	Average ratio for the previous five years
1	Madras ..	..	..	..	..	26	38	64	0.03	0.04	0.02	0.05
2	Chingleput ..	..	..	..	..	46	27	83	0.05	0.04	0.04	0.03
3	North Arcot ..	..	..	..	3	3	8	11	*	0.01	*	0.02
4	South Arcot ..	..	..	..	5	10	9	19	0.01	0.01	0.01	0.05
5	Tanjavur ..	..	..	..	..	7	10	17	*	0.01	0.01	0.11
6	Tiruchirappalli ..	..	..	..	..	3	2	5	*	*	*	0.06
7	Madurai ..	..	..	..	..	..	..	..	..	..	..	0.04
8	Ramanathapuram ..	..	..	..	1	..	..	1	..	*	*	0.02
9	Tirunelveli ..	..	..	..	..	2	2	4	*	*	*	0.06
10	Salem ..	..	..	..	..	..	..	..	*	..	*	0.02
11	Coimbatore ..	..	..	..	..	1	..	1	*	..	*	0.02
12	Nilgiris, The ..	..	..	..	..	..	..	..	*	..	*	0.06
13	Kanyakumari ..	..	..	..	..	..	..	..	*	..	*	0.02
	Total ..	..	1	..	10	99	107	206	0.01	0.01	0.01	0.04

Ratio of deaths per 1,000 of estimated mid-year population.

Total

* Less than 0.01

STATEMENT No. VIII.—Deaths from smallpox registered in the districts in the State of Madras during each month of the year 1959.

Serial number	Districts.	(1)	(2)	(3)	Number of villages or groups of villages of which a monthly return is received.												Total
					(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
1	Madras ..	..	..	1	55	38	57	59	39	13	27	54	66	56	..		
2	Chingleput ..	..	..	2,103	47	31	61	27	13	12	3	8	6	..	..		
3	North Arcot ..	..	..	2,030	25	14	15	10	13	8	7	24	13	4	..		
4	South Arcot ..	..	..	2,271	36	8	22	34	16	8	10	3	7	..	..		
5	Thanjavur ..	..	..	2,435	21	27	24	18	24	14	8	17	13	16	..		
6	Tiruchirappalli ..	..	..	1,612	12	10	13	10	17	10	20	4	2	4	..		
7	Madurai ..	..	..	1,075	5	13	7	11	12	11	10	12	18	2	..		
8	Ramanathapuram ..	..	..	1,535	1	2	8	8	3	11	3	5	4	6	..		
9	Tirunelveli ..	..	..	1,110	6	5	3	5	1	5	3	7	1	1	..		
10	Salem ..	..	..	1,618	18	22	31	34	17	18	21	16	14	5	..		
11	Coimbatore ..	..	..	1,107	48	44	48	51	29	30	26	23	18	8	..		
12	Nilgiris, The ..	..	..	160	..	8	4	8	5	7	7	6	8	2	..		
13	Kanyakumari ..	..	..	80	4	1	2	3	..	..	1	2	..	..	..		
	Total ..	..	..	17,136	278	223	295	278	189	147	146	181	170	107	..		

Serial number.	Districts.	November. (15)	December. (16)	Total.		Number of deaths as per ages.			Ratio of deaths per 1,000 of estimated mid-year population.				Average of ratio published for the previous five years. (26)
				Males. (17)	Females. (18)	Total. (19)	Under year. (20)	1—10 years. (21)	10 years and above. (22)	Males. (23)	Females. (24)	Total. (25)	
1	Madras ..	..	..	248	269	517	112	214	191	0.26	0.30	0.28	0.25
2	Chingleput ..	..	..	124	100	224	58	87	79	0.12	0.10	0.11	0.14
3	North Arcot ..	..	..	80	72	152	56	71	25	0.05	0.05	0.05	0.07
4	South Arcot ..	..	..	86	85	171	46	74	51	0.06	0.06	0.06	0.09
5	Thanjavur ..	..	..	110	127	237	55	81	101	0.07	0.08	0.07	0.07
6	Tiruchirappalli ..	..	..	41	65	106	28	29	49	0.03	0.04	0.03	0.05
7	Madurai ..	..	..	56	53	109	31	37	41	0.03	0.03	0.03	0.05
8	Ramanathapuram ..	..	..	22	32	54	15	23	16	0.02	0.03	0.03	0.07
9	Tirunelveli ..	..	..	18	27	45	15	14	16	0.01	0.02	0.02	0.04
10	Salem ..	..	..	110	92	202	45	71	86	0.06	0.05	0.05	0.07
11	Coimbatore ..	..	..	180	159	339	60	125	154	0.10	0.09	0.10	0.06
12	Nilgiris, The ..	..	..	24	32	56	13	14	29	0.12	0.17	0.14	0.04
13	Kanyakumari ..	..	..	9	4	13	1	1	11	0.02	0.01	0.01	0.04
	Total ..	114	97	1,108	1,117	2,225	536	841	849	0.07	0.07	0.07	0.08

REPORT ON HEALTH CONDITIONS IN MADRAS STATE, 1959

STATEMENT No. IX-A.—Deaths from malaria registered in the districts in the State of Madras during each month of the year 1959.

Serial number	Districts.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
				Number of circles of registration (taluk and municipalities).	Number of villages and groups of villages from which birth and death returns are received.	January.	February.	March.	April.	May.	June.	July.	August.
1	Madras ..	..	..	1	1	..	1	1	..	..	1	2	1
2	Chingleput ..	..	..	11	2,103	..	6	6	..	16	10	10	1
3	North Arcot ..	..	..	20	2,030	1	9	..	3	1	..	..	6
4	South Arcot ..	..	..	12	2,271	..	..	2	2	4	5	4	..
5	Thanjavur ..	..	..	18	2,435	4	5	1	3	2	..	3	1
6	Tiruchirappalli ..	..	..	14	1,612	4	3	16	16	5	26	19	6
7	Madurai ..	..	..	15	1,075	1	..	2	6	1	6	6	1
8	Ramanathapuram ..	..	..	16	1,535	5	..	2	6	19	31	9	10
9	Tirunelveli ..	..	..	14	1,110	1	4	..	3	..	1	..	1
10	Salem ..	..	..	14	1,618	19	8	43	23	9	5	24	16
11	Coimbatore ..	..	..	18	1,107	..	4	3	2	2	5	10	7
12	Nilgiris, The ..	..	..	5	160	..	..	..	4	9	1	7	..
13	Kanyakumari ..	..	..	8	80	..	..	..	..	..	..	..	..
	Total ..	..	..	166	17,126	37	40	76	77	68	81	94	49

Serial number	Districts.	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1	Madras ..	..	..	1	1	6	2	8	0.01	*	*	0.03
2	Chingleput ..	..	..	9	10	40	49	89	0.04	0.05	0.05	0.05
3	North Arcot ..	..	13	4	2	22	17	39	0.04	0.01	0.01	0.05
4	South Arcot ..	..	..	..	9	15	16	31	0.02	0.01	0.01	0.02
5	Thanjavur ..	..	..	2	..	11	11	22	0.01	0.01	0.01	0.02
6	Tiruchirappalli ..	..	1	1	5	54	52	108	0.03	0.03	0.03	0.04
7	Madurai ..	..	2	1	5	15	17	32	0.01	0.01	0.01	0.02
8	Ramanathapuram ..	..	3	..	3	45	39	85	0.04	0.03	0.04	0.02
9	Tirunelveli ..	..	..	..	44	24	30	54	0.02	0.02	0.02	0.02
10	Salem ..	..	23	5	4	83	94	182	0.05	0.05	0.05	0.13
11	Coimbatore ..	..	4	5	18	27	34	61	0.02	0.02	0.02	0.04
12	Nilgiris, The ..	..	..	..	..	9	13	22	0.01	0.07	0.06	0.02
13	Kanyakumari ..	..	..	..	..	..	..	..	..	..	..	*
	Total ..	33	48	28	101	358	74	732	0.02	0.02	0.02	0.03

Ratio of deaths per 1,000 of estimated mid-year population.

Average of the ratio published for the previous five years.

* Less than 0.01.

STATEMENT NO. X.—Deaths from dysentery and diarrhoea registered in the districts in the State of Madras during each month of the year 1959.

Serial number.	District.	(1)	(2)	(3)	(4)	Number of villages and groups of villages and towns from each of which a monthly return is received.												Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
						January.	February.	March.	April.	May.	June.	July.	August.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
1	Madras ..	..	..	1	1	443	416	388	281	320	293	435	625	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

Serial number.	District.	(1)	Ratio of deaths per 1,000 of estimated mid-year population.												Average of the ratio published for the previous five years.
			(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1	Madras ..	..	..	2,355	2,530	4,885	2,44	2,83	2,62	2,99	..	..	..	..	..
2	Chingleput ..	..	..	1,129	1,170	2,299	1,13	1,20	1,17	1,20	..	..	..	..	..
3	North Arcot ..	..	..	2,268	2,379	4,045	1,47	1,53	1,50	1,66	..	..	..	..	..
4	South Arcot ..	..	..	1,240	1,135	2,375	0,85	0,78	0,81	1,14	..	..	..	..	..
5	Tanjavur ..	..	..	585	643	1,228	0,35	0,38	0,37	0,59	..	..	..	..	..
6	Tiruchirappalli ..	..	..	792	781	1,573	0,49	0,48	0,49	0,94	..	..	..	..	..
7	Madurai ..	..	..	1,192	1,147	2,339	0,74	0,71	0,72	0,86	..	..	..	..	..
8	Ramanathapuram ..	..	..	696	778	1,474	0,68	0,69	0,68	0,95	..	..	..	..	..
9	Tirunelveli ..	..	..	1,079	1,018	2,097	0,82	0,74	0,78	0,91	..	..	..	..	..
10	Salem ..	..	..	1,000	988	1,988	0,53	0,52	0,52	0,58	..	..	..	..	..
11	Coimbatore ..	..	..	1,347	1,347	2,694	0,76	0,76	0,76	0,83	..	..	..	..	..
12	Nilgiris, The ..	..	..	132	144	276	0,64	0,76	0,70	0,61	..	..	..	..	..
13	Kanyakumari ..	..	..	561	599	1,160	1,16	1,28	1,22	0,64	..	..	..	..	..
	Total ..	..	..	14,374	14,659	29,033	0,87	0,88	0,87	1,04	..	..	..	..	..

STATEMENT No. XI.—Deaths from respiratory diseases registered in the districts in the State of Madras during each month of the year 1959.

Serial number.	District.	(1)	(2)	Number of circles of registration (Talukas and municipalities).	(3)	(4)	Number of villages or groups of towns from each of which a monthly return is received.											
							January.	February.	March.	April.	May.	June.	July.	August.				
							(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)				
1	Madras ..	..	..	1	1	1	820	747	734	651	690	715	767	835				
2	Chingleput ..	..	..	11	2,103		252	202	238	177	204	182	241	240				
3	North Arcot ..	..	..	20	2,030		321	277	308	289	307	268	306	365				
4	South Arcot ..	..	..	12	2,271		211	186	205	210	182	159	237	191				
5	Tanjavur ..	..	..	18	2,435		207	168	182	159	103	123	125	146				
6	Tiruchirappalli ..	..	..	14	1,612		210	141	186	184	219	193	203	224				
7	Madurai ..	..	..	15	1,075		359	335	348	284	374	345	371	313				
8	Ramanathapuram ..	..	..	16	1,535		194	153	175	165	175	198	180	167				
9	Tirunelveli ..	..	..	14	1,110		277	242	252	234	258	267	292	232				
10	Salem ..	..	..	14	1,618		230	228	233	225	254	237	263	272				
11	Coimbatore ..	..	..	18	1,107		364	300	344	378	369	345	406	361				
12	Nilgiris, The ..	..	..	5	160		49	44	58	54	77	51	69	59				
13	Kanyakumari ..	..	..	8	80		93	71	74	65	89	95	117	93				
	Total ..	..	..	165	17,136		3,587	3,094	3,337	3,075	3,301	3,178	3,547	3,498				

Serial number.	Districts.	Ratio of deaths per 1,000 of estimated mid-year population.											
		September.			October.			November.			December.		
		(13)	(14)	(15)	(16)	Males. (17)	Females. (18)	Total. (19)	Males. (20)	Females. (21)	Total. (22)	Average of the ratio published for the previous five years. (23)	
1	Madras ..	653	542	865	1,068	4,643	4,444	9,087	4.80	4.97	4.88	5.10	
2	Chingleput ..	222	189	227	296	1,399	1,241	2,640	1.40	1.28	1.34	1.61	
3	North Arcot ..	276	311	323	421	2,061	1,711	3,772	1.34	1.10	1.22	1.37	
4	South Arcot ..	277	317	320	507	1,444	1,258	2,702	0.99	0.86	0.93	0.96	
5	Tanjavur ..	127	145	177	223	1,028	857	1,885	0.62	0.51	0.57	0.72	
6	Tiruchirappalli ..	182	199	209	248	1,322	1,076	2,398	0.82	0.66	0.74	1.06	
7	Madurai ..	295	288	373	399	2,138	1,946	4,084	1.32	1.20	1.26	1.86	
8	Ramanathapuram ..	149	157	194	241	1,136	1,012	2,148	1.10	0.90	1.00	1.30	
9	Tirunelveli ..	258	325	440	306	1,762	1,621	3,383	1.35	1.17	1.26	1.33	
10	Salem ..	251	207	221	230	1,512	1,339	2,851	0.79	0.71	0.75	0.79	
11	Coimbatore ..	334	329	368	373	2,270	2,001	4,271	1.28	1.13	1.21	1.28	
12	Nilgiris, Tho ..	45	48	80	48	364	318	682	1.77	1.67	1.72	2.02	
13	Kanyakumari ..	73	55	61	63	518	435	953	1.07	0.93	1.00	0.86	
Total ..		3,142	3,116	3,858	4,123	21,597	19,259	40,856	1.30	1.16	1.23	1.41	

STATEMENT No. XII.—Deaths from plague registered in the districts in the State of Madras during each month of the year 1959.

Serial number.	Districts.	(1)	(2)	Number of villages and towns from which returns received.	(3)	Number of males and females in the population.	Total.												Ratio of deaths per 1,000 of estimated mid-year population.			Average of the ratio published for the previous five years.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
							January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.		Males.	Females.	Total.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
1	Madras ..	..	..	1	2103	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

STATEMENT No. XIII.—Statement showing the particulars of vaccinations in the Madras State for the calendar year 1959.

Serial number and name of municipality.	(1)	Total number of persons vaccinated.				Primary vaccination.							Total of all ages.	Unsuccessful.	Total.
		Male.	Females.	(5)	(6)	Successful.				(10)	(11)				
						(7)	(8)	(9)	(10)						
1 Madras ..	..	145,141	143,118	288,259	40,737	10,547	599	15	51,988	8	..	..			
2 Kanchipuram ..	..	18,015	17,806	35,821	2,335	626	71	15	3,232	1	..	..			
3 Tiruvallur ..	..	13,311	13,066	26,377	3,121	191	14	..	5,177	21	..	..			
4 Chingleput ..	..	26,706	7,334	34,040	1,182	445	66	..	810	11	..	..			
5 Tiruvallur ..	..	29,500	12,611	42,111	2,091	743	298	..	1,382	401	..	..			
6 Villupputur ..	..	13,180	11,375	24,555	1,375	904	22	..	4,443	6	..	..			
7 Tiruvannamalai ..	..	46,700	2,767	49,467	6,046	307	45	..	1,201	3	..	..			
8 Tiruvannamalai ..	..	56,500	3,917	60,417	6,213	1,178	17	1	1,609	91	..	..			
9 Tiruvannamalai ..	..	44,900	10,773	55,673	2,530	939	186	..	2,924	209	..	..			
10 Tiruvannamalai ..	..	30,000	2,588	32,588	1,587	293	1	..	1,103	..	..	..			
11 Tiruvannamalai ..	..	13,900	1,690	15,590	475	408	31	1	1,400	..	..	..			
12 Tiruvannamalai ..	..	46,900	2,691	49,591	998	531	35	..	918	30	..	..			
13 Tiruvannamalai ..	..	28,700	3,333	32,033	1,011	778	198	3	999	3	..	..			
14 Tiruvannamalai ..	..	23,300	3,155	26,455	940	328	11	..	608	18	..	..			
15 Tiruvannamalai ..	..	16,100	10,244	26,344	1,921	1,643	36	..	2,425	33	..	..			
16 Tiruvannamalai ..	..	41,800	3,437	45,237	2,734	739	11	..	921	3	..	..			
17 Tiruvannamalai ..	..	33,000	11,404	44,404	1,988	800	89	..	1,967	6	..	..			
18 Tiruvannamalai ..	..	33,000	1,002	34,002	1,078	39	11	1	231	..	..	..			
19 Tiruvannamalai ..	..	119,900	27,502	147,402	8,301	1,709	70	..	2,605	17	..	..			
20 Tiruvannamalai ..	..	62,000	3,770	65,770	3,315	1,665	283	..	3,803	2	..	..			
21 Tiruvannamalai ..	..	35,400	3,709	39,109	3,113	1,171	690	..	3,099	2	..	..			
22 Tiruvannamalai ..	..	35,400	2,923	38,323	1,422	700	55	..	1,334	..	..	..			
23 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
24 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
25 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
26 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
27 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
28 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
29 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
30 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
31 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
32 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
33 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
34 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
35 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
36 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
37 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
38 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
39 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
40 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
41 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
42 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			
43 Tiruvannamalai ..	..	35,400	3,709	39,109	1,580	223	14	..	859	..	..	..			

44 Aruppukottai ..	..	59,500	59,500	119,000	1,685	432	282	..	2,117	27	..	..
45 Tirunelveli ..	..	18,500	18,500	37,000	3,125	674	50	..	4,044	123	..	..
46 Pudukkottai ..	..	47,500	47,500	95,000	2,118	437	50	..	2,675	123	..	..
47 Melapalayam ..	..	42,500	42,500	85,000	1,814	472	..	..	2,286	81	..	..
48 Salem ..	..	19,400	19,400	38,800	1,022	89	..	..	551	1	..	..
49 Tirupur ..	..	262,000	262,000	524,000	8,169	1,477	157	..	10,203	75	..	..
50 Tirupattur ..	..	17,600	17,600	35,200	8,427	3,459	40	..	12,990	37	..	..
51 Erode ..	..	253,000	253,000	506,000	8,427	3,459	301	..	12,990	37	..	..
52 Tirupattur ..	..	72,000	72,000	144,000	1,525	656	..	..	2,181	98	..	..
53 Pollachi ..	..	65,000	65,000	130,000	2,471	556	..	..	2,258	41	..	..
54 Dharmapuri ..	..	55,000	55,000	110,000	2,065	985	147	..	3,077	9	..	..
55 Mettur ..	..	27,000	27,000	54,000	2,645	307	..	..	3,077	154	..	..
56 Mettur ..	..	35,000	35,000	70,000	1,839	312	..	..	2,151	11	..	..
57 Mettur ..	..	42,000	42,000	84,000	1,839	312	..	..	2,151	11	..	..
58 Mettur ..	..	25,000	25,000	50,000	1,451	536	..	..	2,036	67	..	..
59 Mettur ..	..	51,000	51,000	102,000	1,451	536	..	..	2,036	67	..	..
60 Mettur ..	..	28,200	28,200	56,400	1,716	636	..	..	2,352	45	..	..
61 Mettur ..	..	102,000	102,000	204,000	1,716	636	..	..	2,352	45	..	..
62 Mettur ..	..	15,500	15,500	31,000	813	358	..	..	1,171	20	..	..
63 Kozhikode ..	..	12,500	12,500	25,000	50	56	..	..	142	20	..	..
64 Padmanabapuram ..	..	14,000	14,000	28,000	93	115	..	..	279	27	..	..
Grand total ..	..	6,007,000	6,007,000	12,014,000	135,366	51,262	6,926	216	108,750	6,182	5,118	..

STATEMENT No. XIII.—Statement showing the particulars of vaccinations in the Madras State for the calendar year 1959—cont.

Serial number and name of municipalities.	Primary vaccination—cont.				Revaccination.				Percentage of successful cases in which the results were known (15)	Total number of operations (16)	Successful in all ages (17)	Unsuccessful (18)	Unknown (19)	Number of cases in which the results were known (20)	Percentage of successful cases in which the results were known (21)	Total number of successful operations (22)	Primary vaccination (23)	Revaccination (24)
	(14)	(13)	(12)	(11)	(10)	(9)	(8)	(7)										
1 Madras ..	51,806	3,232	100.0	99.98	236,369	8,506	173,016	54,787	181,582	4.7	17.8	18.1	60,464	51,910	216,308	51,910	216,308	
2 Kanchipuram ..	3,232	538	100.0	99.99	26,014	2,503	21,335	2,776	24,138	11.6	35.95	36.0	6,035	3,233	26,014	3,233	26,014	
3 Tirunelveli ..	821	987	99.7	99.7	15,879	416	11,701	3,762	12,117	3.4	11.82	11.8	1,226	821	15,879	821	15,879	
4 Tiruppur ..	1,783	1,783	100.0	100.0	14,761	1,643	9,684	3,424	11,337	52.8	14.5	14.5	6,086	4,760	14,761	4,760	14,761	
5 Tiruchirappalli ..	1,204	1,204	100.0	100.0	4,321	331	4,461	4,321	4,321	6.9	1.622	1.622	1,204	1,204	4,321	1,204	4,321	
6 Tiruvannamalai ..	1,709	1,709	100.0	100.0	19,033	1,871	16,068	486	17,639	8.9	17.8	17.8	3,795	1,728	19,033	1,728	19,033	
7 Tiruvallur ..	1,193	1,193	100.0	100.0	4,847	566	3,960	31	4,816	10.5	1.476	1.476	2,049	1,287	4,816	1,287	4,816	
8 Tiruvarur ..	1,002	1,002	100.0	100.0	3,656	241	3,611	374	3,237	7.3	1.150	1.150	988	988	3,656	988	3,656	
9 Tiruvarur ..	1,002	1,002	100.0	100.0	7,119	739	4,442	825	5,135	17.3	1.892	1.892	1,611	1,611	7,119	1,611	7,119	
10 Tiruvarur ..	2,685	2,685	100.0	100.0	16,145	3,789	11,031	1,600	14,773	25.3	1.674	1.674	1,563	2,476	16,145	2,476	16,145	
11 Tiruvarur ..	1,871	1,871	100.0	100.0	5,307	852	3,750	958	4,249	13.7	1.577	1.577	1,563	981	5,207	981	5,207	
12 Tiruvarur ..	1,871	1,871	100.0	100.0	21,838	2,058	17,780	1,157	19,839	10.4	1.611	1.611	4,020	1,602	20,006	1,602	20,006	
13 Tiruvarur ..	9,629	9,629	100.0	100.0	21,838	2,058	17,780	1,157	19,839	10.4	1.611	1.611	4,020	1,602	20,006	1,602	20,006	
14 Tiruvarur ..	3,305	3,305	100.0	100.0	55,770	5,416	48,206	3,609	51,097	4.7	12.609	12.6	3,498	2,895	55,770	2,895	55,770	
15 Tiruvarur ..	3,305	3,305	100.0	100.0	7,573	546	6,812	1,279	6,894	13.1	1.879	1.879	3,780	3,113	7,573	3,113	7,573	
16 Tiruvarur ..	1,204	1,204	100.0	100.0	4,570	474	1,714	922	2,245	2.1	1.570	1.570	1,422	1,422	4,570	1,422	4,570	
17 Tiruvarur ..	910	910	100.0	100.0	7,826	91	7,301	731	6,570	1.6	1.004	1.004	1,004	904	7,826	904	7,826	
18 Tiruvarur ..	8,257	8,257	100.0	100.0	3,763	557	3,206	301	3,403	31.1	2,122	2,122	1,183	1,183	3,763	1,183	3,763	
19 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
20 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
21 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
22 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
23 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
24 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
25 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
26 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
27 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
28 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
29 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
30 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
31 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
32 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
33 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
34 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
35 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
36 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
37 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
38 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
39 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
40 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	
41 Tiruvarur ..	1,105	1,105	100.0	100.0	4,707	537	3,170	350	3,048	14.7	1.625	1.625	1,298	1,298	4,707	1,298	4,707	

42	Arappakkudi	..	..	..	..	2,154	93.3	5,150	573	3,684	893	4,257	2,490	2,147	5,150	2,147	5,150
43	Tuticorin	..	..	..	..	4,167	97.1	28,857	7,022	16,236	4,298	24,558	11,666	4,251	28,857	4,251	28,857
44	Trunelveli	..	..	..	..	2,803	95.4	16,596	625	13,200	2,771	13,825	3,306	2,043	16,596	2,043	16,596
45	Palayamkottai	..	..	..	..	2,437	97.9	9,079	3,247	5,266	1,166	8,513	5,633	2,684	9,079	2,684	9,079
46	Malapalam	..	..	..	..	512	99.8	4,630	80	4,225	325	4,305	591	574	4,630	574	4,630
47	Shencottah	..	..	..	..	663	88.7	1,144	102	519	523	621	590	1,004	1,144	1,004	1,144
48	Salem	..	..	..	..	10,299	99.1	69,387	6,583	60,390	2,414	66,973	16,786	10,303	69,387	10,303	69,387
49	Rasipuram	..	..	..	..	496	92.6	2,086	645	1,332	709	2,287	1,106	550	2,086	550	2,086
50	Cumabatore	..	..	..	..	12,512	99.5	153,292	16,555	111,838	24,849	128,393	28,773	12,370	153,292	12,370	153,292
51	Krode	..	..	..	..	2,512	96.1	10,568	509	7,347	2,712	7,856	2,923	3,214	10,568	3,214	10,568
52	Trimpur	..	..	..	..	2,299	98.2	47,780	1,483	40,608	5,089	42,091	5,950	4,711	47,780	4,711	47,780
53	Pollachi	..	..	..	..	3,206	99.7	29,285	2,753	24,548	1,987	27,801	1,204	1,089	29,285	1,089	29,285
54	Dharapuram	..	..	..	..	1,071	85.6	5,805	287	5,104	417	5,391	1,204	1,089	5,804	1,089	5,804
55	Udumalpet	..	..	..	..	875	99.9	2,820	543	2,107	170	2,550	1,417	878	2,820	878	2,820
56	Mettupalayam	..	..	..	..	2,254	95.3	7,713	249	6,883	581	7,132	2,492	2,519	7,713	2,519	7,713
57	Gobichettipalayam	..	..	..	..	1,086	100.0	436	36	284	126	310	997	1,265	436	997	436
58	Korichi	..	..	..	..	692	90.3	2,720	372	835	1,513	1,207	1,112	1,242	2,720	1,112	2,720
59	Ootacamund	..	..	..	..	2,036	100.0	28,112	3,928	19,665	4,619	23,433	5,384	2,064	28,112	2,064	28,112
60	Coimoor	..	..	..	..	873	94.8	5,361	186	4,546	630	4,731	1,614	943	5,361	943	5,361
61	Nagorell	..	..	..	..	10,155	94.9	40,366	10,215	21,615	2,536	37,830	25,852	9,623	40,366	9,623	40,366
62	Calacel	..	..	..	..	676	100.0	3,102	1,027	2,300	155	2,457	1,153	170	3,102	170	3,102
63	Kuzhithurai	..	..	..	..	306	87.7	3,767	1,011	1,900	192	2,811	1,153	317	3,767	1,153	3,767
64	Pudumalabapuram	..	..	..	..	306	91.2	3,767	1,753	1,466	538	3,219	2,042	320	3,767	320	3,767
Grand total																	
204,932																	
1,273,182																	
120,141																	
955,556																	
191,496																	
1,031,096																	
11.06																	
324,891																	
211,907																	
1,270,371																	

VACCINATION.

Summary of Statement No. XIII.

Agencies.	Total number of persons vaccinated.		Total number of operations.		Percentage of successful cases in which the results were known.		Number of children successfully vaccinated.				Total successful operations at all ages.
	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	0-1 Year			5-10 Years.	
							(8)	(9)	(10)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)					(11)
Districts, (exclusive of municipalities)	911,556	3,733,186	939,084	3,734,750	87.97	14.89	338,157	230,109	32,970	602,609	
Municipalities	211,807	1,270,371	214,080	1,270,371	96.98	11.66	135,316	56,262	6,926	198,750	
Poonamallee Health Unit	3,384	13,818	3,487	13,907	93.05	13.68	2,242	628	61	2,931	
By Medical subordinates and Port Health Officers.	7,675	77,710	7,675	77,710	93.30	63.24	909	1,303	238	6,828	
Railways.	2,239	14,781	2,239	15,439	93.17	11.65	844	1,187	169	2,203	
State	1,136,661	5,109,866	1,166,615	5,114,983	90.11	14.78	477,476	289,489	40,364	813,381	

STATEMENT XIV.—Statement showing the health services in rural and urban areas of the State of Madras during the year 1959.

District.	Rural areas (Non-Municipal).												Urban areas (Municipal only).											
	Health Officers.						Health Officers.						Health Officers.											
	With public health qualifications.	Without public health qualifications.	Medical Graduates.	Medical Graduates.	Medical Graduates.	Medical Graduates.	With public health qualifications.	Without public health qualifications.	Medical Graduates.	Medical Graduates.	Medical Graduates.	Medical Graduates.	With public health qualifications.	Without public health qualifications.	Medical Graduates.	Medical Graduates.	Medical Graduates.	Medical Graduates.	Males.	Females.	Vaccinators.	Inspectors Vaccination.	School Medical Officers.	Other Health staff.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)		
1 Madras ..	..	..	..	..	..	..	..	..	..	..	..	5	1	37	39	70	..	5	8	67	7	117		
2 Chingleput ..	..	2	..	..	..	5	17	19	..	..	25	..	1	1	1	11	..	3	1	..	..	7		
3 North Arcot ..	2	..	..	..	7	7	23	42	1	..	..	1	..	..	3	31	..	18	..	..	..	5		
4 South Arcot ..	..	1	..	..	..	1	26	49	1	..	21	1	..	1	1	17	..	10	..	..	..	1		
5 Thiruvallur ..	1	..	..	..	3	..	34	49	..	..	..	..	4	..	..	31	..	18	..	..	..	11		
6 Tiruchirappalli ..	..	1	..	..	..	7	..	1	..	..	2	..	1	..	6	9	..	20	1	..	..	1		
7 Madurai ..	..	1	..	..	3	10	22	44	1	..	4	1	3	1	1	48	..	27	4	..	..	10		
8 Ramanathapuram ..	..	1	..	..	..	9	19	33	1	..	..	..	2	..	1	26	..	16	1	..	..	1		
9 Tirunelveli ..	1	..	..	..	1	..	19	40	2	..	..	3	..	..	1	26	..	17	1	..	..	2		
10 Salem ..	..	1	..	..	3	16	25	43	2	..	..	..	1	..	..	14	..	18	..	..	..	..		
11 Coimbatore ..	..	..	..	..	1	7	26	..	..	..	38	2	..	..	3	47	1	23	6	..	..	13		
12 Nilgiris, The ..	..	1	..	..	6	2	14	7	..	..	..	1	1	..	..	7	2	5	..	..	..	..		
13 Kanyakumari ..	..	..	..	..	..	9	8	57	..	..	..	1	..	..	..	8	..	7	..	..	..	..		
Total ..	4	8	..	2	26	73	233	384	8	..	89	15	13	40	56	348	3	192	22	67	7	199		

MISCELLANEOUS.



EDUCATION AND PUBLIC HEALTH DEPARTMENT
(Health.)

G.O. No. 1004, 19th April 1961

Public Health—Public Health Administration report for 1959—Reviewed.

READ—the following papers :—

From the Director of Public Health, dated 14th July 1960,
R. No. 74114-VS./60.

From the Director of Public Health, dated 28th September 1960 and
25th November 1960, R.No. 74114-VS./60.

Order—No. 1004, Health, dated 19th April 1961.

Recorded.

2. The registration of births and deaths was compulsory throughout the State, except in certain backward areas and hilly tracts which form only a very small proportion of the total area of this State. The vital statistical indices for the year 1959 reveal the following salient features.

- (a) An increase in the birth rate from 27·00 in 1958 to 28·50 in 1959.
- (b) A fall in the death rate from 13·09 in 1958 to 11·93 in 1959.
- (c) The state was practically free from plague.
- (d) Infant deaths account for 21·8 per cent of the total deaths while the corresponding percentage for old peoples of 60 and above is 26·3.
- (e) A larger reduction in the mortality from "fever other than Malaria, respiratory diseases and all other causes" was recorded.

3. *Communicable diseases control*—(i) *Cholera*.—There was a sharp fall in the Cholera mortality as compared to 1958. The total number of deaths due to Cholera during the year was 206 as against 2,312 in 1958.

(ii) *Dysentery and Diarrhoea*.—The number of deaths registered under this head in 1959 was 29,033 as against 34,406 in 1958 marking a slight decrease in the year 1959.

(iii) *Enteric fever*.—There were 486 deaths under this category in the Municipal Areas as against 671 deaths in 1958.

Small-pox and vaccination.—There were 2,225 deaths due to small-pox during 1959 as against 5,498 in 1958. The epidemic in 1958 continued to persist till April 1959 and in Madras City the incidence was high. The districts of Chingleput Coimbatore and Tanjore experienced a mild epidemic. In the State, over 11 lakhs of primary vaccination and 51 lakhs of revaccination were performed in the year 1959 as against over 11 lakhs and 56 lakhs respectively done in 1958.

Plague.—The programme of “Of season” anti-plague measures was continued by the spraying of D.D.T. in the endemic areas of the State.

Fever other than Malaria.—The total number of deaths under this head was 57,572 in 1959 as against 64,491 in 1958 there being a decrease in the year 1959.

Malaria.—There were 732 deaths due to malaria during the year as against 1,229 in 1958. Anti-malaria schemes functioned during the year with the assistance received from the National Malaria control programme. The scheme of free distribution of quinine and spraying of D.D.T. were the measures for the control of Malaria in the State.

Filaria.—Filaria control operations were continued by the Department. Anti-filarial schemes were adopted by the local bodies with the financial assistance from the Government equivalent to one third or one fourth of the total expenditure.

Respiratory diseases.—There was a decrease in the number of deaths under this head from 42,258 in 1958, 40,856 in 1959. The death rate was higher in the urban areas than in rural areas.

Tuberculosis.—During the year 765,863 persons were tuberculin tested of whom 214,558 persons were B.C.G. Vaccinated.

There has been a noticeable fall in the mortality from fevers other than malaria, respiratory diseases and all other causes. In respect of a large proportion of deaths, the cause of death is not known. This is attributed to the fact that the certificate of death in rural areas is not insisted upon by the agency in charge of this work.

Influenza.—During the year there was no epidemic of Influenza. A few cases of “flu” of a mild character occurred in some parts of the State due to seasonal changes.

Leprosy.—During the year 1959 leprosy survey was conducted by the Health staff and 10,328 cases of leprosy were detected.

Veneral diseases.—The Veneral Diseases Control Scheme started by the Madurai Municipality continued to function this year also.

Yaws.—A survey to assess the prevalence of yaws in Palladam taluk, Coimbatore district, was carried out this year. Six hundred and six cases were diagnosed of which 294 were active. Out of the 294 cases, 19 were infectious.

Guinea worm.—Nine districts of the State mostly rural areas, were endemic for this disease and control measures were undertaken.

Kalaazar.—Cosatal regions of Madras City were endemic. The sand fly survey undertaken in the City and other places of the State was continued this year also.

4. *Health Services.*—(i) *Maternity and Child Welfare.*—During the year, Government, local bodies and other agencies maintained 1,759 Maternity and Child Welfare Centres (including Maternity Homes) of which the Government maintained 975 such centres during the period. Ninety six centres were sanctioned during the year under the Second Five-Year Plan. The nineteen Maternity and Child Welfare Centres opened in the backward areas of the State were continued.

The UNICEF continued their supply of Maternity and Child Health equipments, drugs and diet supplements for distribution in the Centres in this State. The total number of infant deaths in 1959 was 86,151 as against 91,513 in 1958.

(ii) *Industrial Hygiene.*—The Health Officers in their capacity as Inspectors of Factories inspected the factories in their areas and their observations were reported to the respective Inspectors of Factories for further action under the Factories Act.

(iii) *Residential and Industrial Areas.*—During the year 68 proposals pertaining to the Notification of residential areas and exclusion of certain areas from residential areas received from the various local authorities were examined and 21 were approved. Four proposals for setting apart additional industrial areas were approved.

(iv) *Health, education and publicity.*—Health propaganda was carried on in this State through pamphlets, posters, leaflets, radio broadcast talks, film shows on Health subjects and by participation in exhibitions.

(v) *Health Unit, Poonamallee.*—This Unit which continued to serve as a field training centre for all categories of health workers has been placed on permanent basis.

(vi) *Orientation Training Centre, Poonamallee.*—This Centre continues to give training to the Health personnel and doctors in the philosophy of rural health work, to equip them for the better discharge of their duties in the rural health centres. The centre functioned satisfactorily during the year.

5. *Food and Nutrition.*—During the year, the diets of 344 families of different occupational groups were surveyed. The diets provided for the patients in the Government General Hospital, Madras and in certain college hostels were also surveyed. Free distribution of gift skim milk from UNICEF and other sources was arranged for children and expectant and nursing mothers through Maternity and Child Welfare Centres and Hospitals during the year. The Mid-day meals programme by the Government and Corporation of Madras was continued during the year.

In addition, distribution of multivitamin tablets, fish liver oil and food yeast was undertaken by the Nutrition Unit. Nutrition education was carried on by organising Exhibitions, Film shows and by issue of booklets. The Prevention of Food Adulteration Act (Central Act) was in force in the State and the provisions of the Act were duly enforced.

6. *Environmental Hygiene.*—(i) *Water supply and drainage.*—The progress in the execution of water supply and drainage schemes was appreciable. Twenty four water supply schemes and three drainage schemes in urban areas were under various stages of investigation and nineteen water supply schemes were in different stages of design.

(ii) *Rural and Urban Sanitation*.—During the year, a number of private and public latrines were provided by persuasion and by enforcing the provisions of the Madras Public Health Act wherever necessary.

(iii) *Compost manufacture*.—Sixty two municipalities and 244 Panchayats besides Mettur, Courtallam and Bhavanisagar, Town-ship Committees and the Madras Corporation manufactured compost during the year.

(iv) *Building and Town-planning Schemes*.—A number of town-planning schemes under the Corporation of Madras, Municipalities and Panchayats were under various stages of execution.

(v) *Fairs and Festivals*.—As usual, necessary sanitary arrangements were provided for fairs and festivals and all the festivals passed off without out-break of any epidemic disease.

(vi) *Research-cum-action Project, Poznamallee*.—The main object of the Research-cum-Action Project is to study environmental Sanitation in rural areas with a view among other things to find out most the effective education approach which will make people not only want latrines but also use and maintain them properly, and to evolve the most suitable design of latrine under rural conditions. Research-cum-Action Project staff guided and helped the workers individually and in groups to interpret the principles and apply them in the field. The project has made considerable advance in the research of new types of latrines.

Training.—During the year, four Health Officers underwent a course of training in Malariology in Malaria Institute, New Delhi and one in Epidemiology at the All India Institute of Hygiene and Public Health, Calcutta.

General.—The Public Health Administration in this State during the year continued to be satisfactory. The Public Health Board met twice during 1959 and dealt with several public health questions referred to it by the Government. The proceedings of the Public Health Board are appended to the Report (Annexure X).

(By order of the Governor)

K. SRINIVASAN,

Secretary to Government.

32622

To the Director of Public Health, Madras.

„ Director of Medical Services, Madras.

„ Public (Services) Department.

„ Public (Information and Publicity) Department.

„ Rural Development and Local Administration Department.

„ Director-General of Health Services, New Delhi. (with C.L.)

„ Consul for United States of America at Madras. (with C.L.).

„ Secretary to Government of Andhra Pradesh, Health Department, Hyderabad (with C.L.).

„ Chief Secretary to Government of Kerala, Trivandrum.

„ Milk Commissioner, Madras (2 copies).

„ Commissioner of Labour.