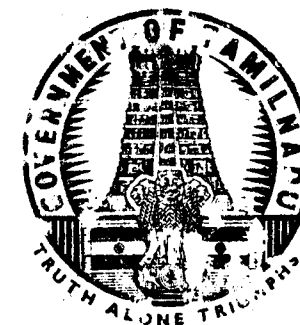




REPORT ON THE HEALTH CONDITIONS IN MADRAS STATE

FOR THE YEAR

1964

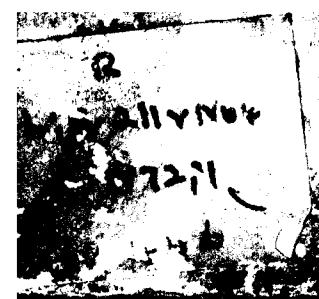
(Including the reports of the Government Analyst and
the Chief Water Analyst for 1964-65)



GOVERNMENT OF TAMIL NADU
1972

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REPORT ON THE HEALTH CONDITIONS IN MADRAS STATE—1964.

CHAPTER I.

POPULATION AND VITAL STATISTICS.

POPULATION.

During the decade 1951—1961, the population of the State increased by 11.85 percent.

The area of the present Madras State is 50,331 square miles. The table below gives details of population for different areas.

Area.	Population as per 1961 census (final.)	Mid-year estimated population 1964.
(1)	(2)	(3)
State	33,686,953	34,876,000
Rural	24,841,479	25,570,000
Urban	8,845,474	9,307,000
Municipal towns	6,002,543	6,335,000
Census towns	2,842,931	2,972,000

REGISTRATION OF BIRTHS AND DEATHS.

There was no change in the registration system during the year 1964. The total number of unregistered births and deaths detected during the year were 31,098 and 13,709 respectively.

The Government have accorded sanction for the implementation of certain schemes for the improvement and strengthening of machinery for the registration of Vital Statistics.

During the year under report effective steps were taken to collect all the monthly birth and death returns. The percentage of returns in arrears during the year 1964 is 2.2 as against 3.2 in 1963. The details of arrear returns in each district are furnished in Annexure (A). The percentage of arrear returns in the Nilgiris District is very heavy (10 per cent).

The Statistical Assistant Director (Statistical) during the inspection tours in districts emphasises the need for accurate and complete registration of births and deaths and also the timely submission of the monthly birth and death returns.

VITAL STATISTICS.

The recorded vital statistics for Madras State for the year 1964 as compared with that of 1963 are furnished below :—

(1)	1964.	1963.
(2)	(3)	
Birth rate (Corrected for the non-receipt of birth and death returns).	25.8	25.7
Death rate (Corrected for the non-receipt of birth and death returns).	11.0	11.5
Infant mortality rate	71.7	80.7
Maternal mortality rate	3.5	3.6
Still Birth rate	16.5	16.4

A total of 886,250 births (460,210 males and 426,040 females) were registered during 1964 giving a birth rate of 25.4 as against 25.7 births with a birth rate of 25.2 during 1963. The proportion of male to female births was 108:100. Annexure B gives the recorded births during different months in rural and urban areas. A straight line fitted to the corrected birth rates during the past decade ($Y = 0.34X + 28.2$) is shown in Chart I.

BIRTHS IN DISTRICTS

Statement I of the Appendix gives the number of births recorded by sex and the birth rate in each district. As the birth and death returns in rural areas in each district except Kanyakumari district were not received in full, estimate of birth and death rates in districts have been made on a proportionate basis and are given in Annexure I.

BIRTHS IN MUNICIPAL TOWNS.

The recorded births in municipal towns including the Madras City were 276,427 (142,394 males and 134,033 females) giving a birth rate of 43.6.

BIRTHS IN CENSUS TOWNS.

There were 74,315 births (38,889 males and 35,435 females) giving a birth rate of 25.0 as against 22.8 in the previous year.

STILL BIRTHS.

The following table gives the details of still births recorded in rural and urban areas of Madras State:—

Area.	Still births.			
	1964.		1963.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
State	14,885	16.5	14,503	16.4
Rural	2,073	3.9	2,650	4.9
Urban	12,812	35.2	11,853	31.4

Annexure 'D' gives the details of still births registered in municipal and non-municipal areas in each district.

DEATHS.

Three lakhs seventy-seven thousand two hundred and twenty-four deaths were recorded in the State during (189,992 males and 187,232 females) giving a death rate of 10.8 as against 11.3 during the previous year. Annexure 'C' gives the number of deaths recorded in each district month-wise in rural and urban areas of this State. The straight line fitted to the corrected death rates during the past decade ($Y = -0.35 X + 13.3$) is shown in Chart I.

DEATHS IN DISTRICTS.

Statement II of the appendix gives the number of deaths sex wise and death rate in each district. Annexure I gives the death rate in each district corrected for non-receipt of birth and death returns.

DEATHS IN MUNICIPAL TOWNS.

There were 89,743 deaths (46,517 males and 43,226 females) giving a death rate of 14.2 as against 14.8 in the previous year.

DEATHS IN CENSUS TOWNS.

The number of deaths registered in the census towns was 23,722 (12,044 males and 11,678 females) with a death rate of 8.0 as against 7.9 in the previous year.

The table below gives age specific mortality rates:—

Age group.	1964.		1963.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
Under one year	63,551	71.7 *	70,263	80.7 *
1 to 4 years	62,031	16.2	67,933	17.9
5 to 9 years	16,107	3.6	16,524	3.7
10 to 14 years	7,634	2.0	7,595	2.0
15 to 19 years	8,921	3.0	9,250	3.2
20 to 29 years	23,023	3.8	23,492	3.9
30 to 39 years	23,394	4.9	23,429	5.0
40 to 49 years	25,436	7.1	25,728	7.2
50 to 59 years	32,629	13.6	31,861	13.4
60 years and upwards	114,498	58.6	112,586	58.2
Total	377,224	10.8	388,661	11.3

* Rate per 1,000 live-births.

DEATH BY CAUSES.

The particulars of deaths by causes for 1964 as compared to that of 1963 are furnished below:—

Causes of death.	1964.		1963.	
	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)
Cholera	3,452	0.10	3,815	0.11
Smallpox	3,193	0.09	4,613	0.13
Plague	1	*	6	*
Malaria	795	0.02	873	0.03
Fevers other than Malaria	55,915	1.58	55,690	1.61
Dysentery and Diarrhoea	23,326	0.67	26,049	0.75
Respiratory Diseases	34,363	0.99	34,267	0.99
Deaths from child birth	3,163	3.51 †	3,815	3.60 †
Suicides	2,120	0.66	1,942	0.66
Wounds and accidents	3,018	0.09	2,954	0.07
Killed by wild beasts and snakes bites.	975	0.03	919	0.03
Hydrophobia	296	0.01	291	0.01
All other causes	247,507	7.10	253,427	7.34
Total	377,224	10.8	388,661	11.3

* Less than 0.01.

† Per 1,000 of live and still births.

The mortality from 58 detailed causes of deaths in 36 municipalities having a population of 30,000 and above with Municipal Health Officers are furnished in Annexure H.

CHAPTER II—CONTROL OF COMMUNICABLE DISEASES.

CHOLERA.

Cholera which broke out in an epidemic form in the later part of the year 1963 spread widely in the beginning of the year 1964 and reached its peak during the third week of January involving a large number of villages situated in the river banks of the districts of South Arcot, Thanjavur, Tiruchirappalli and North Arcot. By the end of February the incidence was almost under complete control. During the period March to October, only sporadic cases were reported. The heavy rains in the month of November resulted in an increase of infection that was prevailing in a sporadic form at that time especially in Madras City.

As reported by the Health Officers, there were 10,027 attacks and 3,653 deaths due to cholera in the whole state, a total of 2,916,021 anticipatory anticholera inoculations were performed during the year. The districts Kanyakumari and the Nilgiris were free from infection.

Area.	Deaths from Cholera.				
	1964.		1963.		
	Number.	Rate.	Number.	Rate.	
(1)	(2)	(3)	(4)	(5)	
State	3,452	0.10	3,815	0.11	
Rural	2,428	0.10	2,584	0.10	
Urban	1,024	0.11	1,231	0.13	

DYSENTERY AND DIARRHOEA.

The number of deaths recorded under this group during 1964 as compared with 1963 are furnished below :—

Area.	Deaths from dysentery and diarrhoea.				
	1964.		1963.		
	Number.	Rate.	Number.	Rate.	
(1)	(2)	(3)	(4)	(5)	
State	23,326	0.67	26,049	0.75	
Rural	15,245	0.59	16,965	0.67	
Urban	8,081	0.89	9,084	0.99	

Statement X of the appendix gives the number of deaths from dysentery and diarrhoea in each month in each district and the annual death rates in each district. Statement VI gives the deaths and death rates registered in each municipal and census towns.

Smallpox.—This was responsible for 0.8 per cent of the total deaths recorded during 1964. The particulars of deaths recorded in different areas are furnished hereunder.

Area.	Deaths due to smallpox.				
	1964.		1963.		
	Number.	Rate.	Number.	Rate.	
(1)	(2)	(3)	(4)	(5)	
State	3,193	0.07	4,613	0.13	
Rural	2,262	0.08	3,107	0.12	
Urban	931	0.10	1,506	0.16	

There is an overall improvement in the mortality rate due to Smallpox during 1964.

The number of deaths registered in each month in each district in each month and the death rates from Smallpox are given in Statement VIII of the appendix.

As reported by the Health Officers there were 5,545 attacks and 1,423 deaths due to Smallpox in the State.

Vaccination.—The number of persons vaccinated during 1964 as compared with that of the previous year is furnished below:—

Area.	Number of persons who had primary vaccinations.		Number of persons re-vaccinated.		Total vaccinated.	
	1964.	1963.	1964.	1963.	1964.	1963.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
District Exclusive of Municipal towns.	1,152,073	1,143,253	10,568,290	11,185,887	11,720,363*	12,329,140
Municipal Towns ..	233,464	237,114	1,873,215	2,597,670	2,106,679	2,834,784
Health Unit, Poonamallee.	3,266	3,783	15,911	18,966	19,177	22,751
Railways	3,085	3,747	24,244	32,558	27,329	36,305
Medical Institutions and Ports.	16	647	3,067	39,410	3,083*	40,057
Total ..	1,391,904	1,388,544	12,484,727	13,874,493	13,876,631	15,263,037

* Provisional.

The percentages of successful vaccination operations performed by different agencies are furnished hereunder :—

Agency.	Percentage of successful among.	
	Primary vaccination.	Re-vaccination.
	(2)	(3)
(1)		
District exclusive of Municipal towns	90.2	32.9
Municipal towns	97.7	30.7
Health Unit, Poonamallee	97.1	26.6
Railways	99.0	20.8
Medical institutions and ports	93.8	83.5

The details of vaccinations performed by different agencies during 1964 are furnished in Statement XIII of the appendix.

National Smallpox Eradication Programme.—The first year of the two year National Smallpox Eradication Programme was completed on 29th February 1964 in Kanyakumari district and in Development Districts of North Cuddalore, East Thanjavur, South Tiruchirappalli, South Madurai, West Ramanathapuram and South Tirunelveli. The first year programme was completed in the Nilgiris district and in the Development Districts of North Salem and West Coimbatore on 31st March 1964. On completion of the first year programme, the second year of the National Smallpox Eradication Programme was taken up for coverage in the Development Districts of South Cuddalore, West Thanjavur, North Tiruchappalli, North Madurai, East Ramanathapuram and North Tirunelveli from 1st March 1964. In South Salem and East Coimbatore Development Districts, the second year programme commenced from 1st April 1964. During the year a total of 836,087 primary vaccinations and 11,195,290 re-vaccination were performed under the National Smallpox Eradication Programme in this State.

Plague.—A total of 46 attacks with one death were reported from Harur and Krishnagiri taluks of Salem district during the year. A total of 83,890 anti-plague inoculations were performed by the health staff in addition to disinfecting treatment of houses and shops and burrows with cyanogas and B.H.C. products.

Enteric fever.—There were 419 deaths from enteric fever in all municipal areas in 1964 with a death rate of 0.07. The health staff performed 14,688 T.A.B. inoculations in districts and municipalities. In Madras City 908 attacks and 58 deaths were recorded due to enteric fever. A total of 6,758 T.A.B. inoculations were performed by the City Health Authorities.

Dengue-Like Fevers in Madras City.—An increase in the number of fever cases was noticed from August 1964 in the Madras City. The symptoms of the fever cases were similar to those of "Flue" with the exception that the joint pains were pre-dominant with high temperature but without catarrhal symptoms. The fever lasted for a week and did not ordinarily cause any serious after effects. Cases were first reported from certain areas in South Madras and later on by the end of August and the beginning of September the infection also spread to North Madras specially Royapuram and Tondiarpet started reporting.

A two per cent sample survey was undertaken by this Department to assess the extent of the incidence of the disease in the City. A total of 3,000 houses were surveyed. The important findings of the surveys are:—

1. That about 15 to 20 per cent of the population may have been affected by Dengue-like-fever.
2. That the hut-dwellers were the most affected.
3. The average duration of the fever was about four days.
4. The incidence was more among males than females.

Fevers other than malaria.—This was responsible for 14.6 per cent of the total deaths. The details of deaths recorded in rural and urban areas are furnished hereunder:—

Deaths from fevers other than Malaria.					
Area.	(1)	1964.		1963.	
		Number.	Rate.	Number.	Rate.
		(2)	(3)	(4)	(5)
State		55,015	1.58	55,690	1.61
Rural		45,221	1.77	45,675	1.80
Urban		9,794	1.05	10,015	1.09

The monthly and annual mortality and the death rates recorded in each district are given in Statement IX of the Appendix.

Malaria.—The mortality from Malaria recorded in the State of Madras during 1964 as compared with 1963 are furnished hereunder:—

Deaths from malaria.					
Area.	(1)	1964.		1963.	
		Number.	Rate.	Number.	Rate.
		(2)	(3)	(4)	(5)
State		795	0.02	873	0.03
Rural		728	0.02	785	0.03
Urban		67	0.01	88	0.01

Statement IX-A of the Appendix shows the month-wise and district-wise mortality from Malaria recorded in 1964.

National Malaria Eradication Programme.—Under the National Malaria Eradication Programme 32 odd units which were implemented at the out-set continued to function in the State covering the entire population. Spray and other special operations were carried out in some of the units according to requirements covering a population of about four million and surveillance operations were continued. Fifteen National Malaria Eradication Programme Unit areas excepting certain pockets therein entered into maintenance phase.

During the year 1964 several important personalities visited the State for study of the National Malaria Eradication Programme operations.

The performance of the National Malaria Eradication Programme in the State has been adjudged as the best in the country and a model to follow.

An organisational chart and distribution of the units functioning in this State are shown in Chart VII.

FILARIA CONTROL.

Filariasis in Madras State is prevalent in the urban, semi-urban and rural areas in varying degrees.

State schemes.—Both anti-mosquito and anti-filariasis schemes have been in operation in several local bodies in Madras State. The State Government provide grants-in-aid from State Funds to the local bodies that implement and carry out successfully approved schemes of anti-malaria and anti-filariasis schemes in their areas. The local bodies under the guidance of Regional Malaria Organisations carried out organised anti-larval measures which consisted of treatment of breeding places of culex fatigans mainly with effective mineral oils and by carrying out minor engineering measures. Necessary technical advice and guidance regarding the planning, organisation programme technique were given by the two Regional Malaria Organisations through frequent inspections and assessments.

National Filaria Control Programme.—The four National Filaria Control Programme Units established in the State of Madras under the National Filaria Control Programme sponsored by the Government of India with grants-in-aid to the State Government continued to function with Headquarters at Kumbakonam, Chidambaram, Vellore and

Chingleput. Intensive control operations consisted of anti-larval measures by means of weekly spray of mosquito control oil, supplemented by minor engineering measures were carried out in all the four units. Periodic anti-larval checks were made in the places where anti-larval measures were in progress besides routine epidemiological surveys.

Respiratory diseases.—The number of death from respiratory diseases recorded in urban and rural areas during 1964 as compared to 1963 are furnished below:—

Deaths from respiratory diseases.					
Area.	(1)	1964.		1963.	
		Numbers.	Rate.	Numbers.	Rate.
		(2)	(3)	(4)	(5)
State		34,363	0.96	34,267	0.99
Rural		17,689	0.69	17,877	0.70
Urban		16,674	1.79	16,390	1.79

Statement XI of the Appendix gives the details of death and deaths rates recorded in each district.

B.C.G. Vaccination Campaign.—During the year 1964 the B.C.G. Vaccination Campaign was in progress at Thanjavur and North Arcot districts.

A total of 663,113 persons were Montoux tested and 193,520 persons were B.C.G. vaccinated.

Guineaworm Eradication Programme.—During the year under report 9,788 villages were surveyed in Guineaworm endemic areas for Guineaworm disease. Out of these villages only 459 villages were found to be infected with Guineaworm diseases as against 650 infected villages during 1963. A total of 4,464 guineaworm patients were detected in all the 459 villages during the period under report as against 5,989 guineaworm cases during 1963.

Due to constant, regular and intensive chemical treatment in the drinking water sources, 191 villages which were infected during 1963 have become free from infection during this year. During the year under report chemical treatment was carried out in 2,691 tanks and step-wells which were drinking water sources in the infected villages.

In addition, all the Guineaworm patients were given local treatment with carbolic lotion. The object of this treatment is to alleviate pain and irritation of the affected parts and to prevent the secondary infection.

Yaws Eradication Programme.—During the year under report, 924 villages were surveyed covering 105,136 houses, 408,596 persons were examined out of which 1,521 cases of yaws were recorded. A total of 1,278 cases were given treatment. Besides treatment of cases of yaws, cases of minor ailments such as scabies, conjunctivitis, fever, etc., were also treated and health education work arranged.

Leprosy, venereal diseases and tuberculosis.—Medical department continued to have the administrative control of leprosy, venereal diseases and tuberculosis institutions and subsidiary centres in the State. Health staff advised the patients to take early treatment in the nearby institutions.

Leprosy surveys were conducted by the health staff in Madras City and 249 villages in eight districts. Thousand and hundred sixty seven lepromatous and 1,871 non-lepromatous cases were detected.

In municipal areas 2,868 deaths from pulmonary tuberculosis were recorded giving a death-rate of 0.45 as against 0.49 in 1963.

Epidemiological Unit.—During the year under report the Epidemiologist of the Unit arranged for the institutions of proper preventive and control measures in plague affected areas. He also undertook inspection of cholera work. A survey on the occurrence of the Dongue-like fever in the Madras City was undertaken by the Unit and the results analysed. Collection of epidemiological data has been continued during the year 1964.

Mobile Epidemic Units.—The three mobile epidemic units continued to function during the year. Regarding the fourth unit, only two jeeps with trailers purchased in 1962 were continued. The full unit could not be constituted due to non-availability of chassis. All the vehicles of the units were utilised for epidemic control work. The jeeps with trailers were very useful in affording quick mobility of staff and equipment to the areas infected with Cholera and Smallpox and also supervision the work of public health staff engaged in epidemic duty. The ambulance vans were used for the transportation of cases of cholera and Smallpox for isolation and treatment in the hospital or isolation sheds.

The units were stationed at important festival centres as a pre-cautionary measure to meet any epidemic emergency during the celebration of major festivals.

Infectious Diseases sheds.—The schemes for the construction of isolation sheds was deferred by Government for the duration of the present national emergency and hence it has been decided to take up the scheme during the Fourth Five-Year Plan period.

CHAPTER III—HEALTH SERVICES.

MATERNAL AND CHILD HEALTH.

At the end of 1964 there were 2,811 Maternity and Child Welfare Centres as against 2,451 in 1963. The details are furnished herewith :—

Name of the institution.	Maternity homes.		Maternal and Child Welfare Centres with beds.		Maternity and Child Welfare Centres without beds.	Total Maternity Homes and Maternity and Child Welfare centres.
	Number.	Bed strength.	Number.	Bed strength.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Government—						
Health Unit, Poonamallee ..	7	32	..	..	1	8
Backward Area Scheme ..	..	..	12	12	83	95
Others (Primary Health Centre).	..	..	106	412	38	144
II. Local Bodies—						
Panchayat Unions	..	..	197	347	2,080	2,277
Municipalities	54	681	54	172	130	238
Corporation of Madras ..	..	..	25	307	21	46
Voluntary organisations ..	..	..	2	16	1	3
Total ..	61	713	396	1,266	2,354	2,811*

* Provisional.

Details of Maternity and Child Welfare Centres and homes are furnished in the Annexure K. Annexure J gives the details of out turn of work carried out by the Women Medical Officers, Health Visitors and Maternity Assistants working under various agencies.

Maternity and Child Welfare Centres under Backward Area Schemes.—The 19 Maternity and Child Welfare centres with 4 sub-centres attached to each opened during 1955-56 under this scheme were continued useful work during 1964. The entire expenditure under this scheme was borne by State funds.

Thayis Training Scheme.—The number of Thayis trained so far during the Third Five-Year Plan period is 2,309.

Health Visitors Training.—Thirty-seven candidates under regular State Scheme were recruited in July 1964. Thirty four candidates recruited in July 1963 under the regular State Scheme have completed their training by the end of December 1964.

Forty candidates recruited in July 1963 under the Integrated Course of Midwifery and Health Visiting were continuing their training. One post of domestic science teacher and one additional post of Health Visitor were sanctioned during the year under report for the Health Visitor's School.

Towards payment of maintenance grant a sum of Rs. 23.6 lakhs to Panchayat Unions and Rs. 3.4 lakhs to local bodies and Corporation of Madras were paid by Government.

Family Planning Programme in Madras State.—The State Family Planning Officer and the staff attached to the Family Planning Bureau were transferred to the administrative control of the Director of Public Health, Madras during August-September 1964. The State Family Planning Board which was constituted on 18th July 1957 in this State was reconstituted on 13th June 1962 for the duration of the Third Five-Year Plan period with the Minister of Public Health as Chairman. The Board is also having a Programme Committee and twelve District Family Planning Committees. These Committees meet once in every half year to review the progress of implementation of Family Planning Programme.

Family Planning Clinics.—Twenty-seven Urban Family Planning Clinics and 90 Rural Family Planning Clinics were functioning during the year in all the Districts and in almost all the taluks. Contraceptives are stocked in all Government Hospitals, Primary Health Centres, Maternity and Child Welfare Centres for free distribution to fathers and mothers visiting the centres in Rural and Urban areas and to persons having an income of less than Rs. 300.

Government have recognised 305 Medical Institutions as approved Family Planning Surgeries for Vasectomy and Salpingectomy of which 127 are recognised for Vasectomy alone. Twenty-seven thousand eight hundred and fifty-two vasectomy and 3,634 Salpingectomy operations were performed during the year 1964.

UNICEF supply of Drugs and Diet Supplements.—This was continued during the year 1964 also. Under the UNICEF assisted programme for the supply of packages containing various Drugs and Diet Supplements to Primary Health Centres and Maternity and Child Health Centres 133 packages intended for the Primary Health Centres were released by the UNICEF and 44 Drugs and Diet supplements intended for Maternity and Child Health Centres were received. The total cost of these Drugs and Diet Supplements works out to 1.74 lakhs. Besides, a quantity of 36,350 vials of penicillin 4 Lac. were supplied to the Primary Health Centres and Maternity and Child Health Centres for administration to the needy persons.

Maternal mortality.—The number of maternal deaths and maternal mortality rates in 1964 as compared to 1963 are furnished below :—

Year.	Maternal deaths.	
	Number.	Rate per 1,000 live and still births.
(1)	(2)	(3)
1963	3,185	3.6
1964	3,165	3.5

The rates recorded in urban and rural areas are furnished below :—

Area.	Maternal mortality.			
	1964.		1963.	
(1)	Number.	Rate.	Number.	Rate.
(2)	(3)	(4)	(5)	(6)
State	3,163	3.5	3,185	3.6
Rural	1,681	3.1	1,734	3.2
Urban	1,482	4.0	1,451	4.2

Statement II of the appendix gives the deaths and death rates in each district while Statement VI of the appendix furnish maternal deaths the maternal mortality rates recorded in each Municipality and Census Towns. Annexure 'G' gives the maternal deaths in municipal and non-municipal areas in each district and in each district as a whole.

The infant mortality rate is the most sensitive index of the health conditions of a community. The infant mortality rate for Madras State in 1964 as compared to 1963 are given below :—

Year.						Infant Mortality Rate
(1)						(2)
1963	..	..	..	..	..	80.7
1964	..	..	..	..	..	71.7

There is a sharp decline in the infant mortality rate from 1963 to 1964. This depicts improvement in the public health conditions. A straight line fitted to the recorded infant mortality rates ($Y=3.95 \times +95.7$) shows a steady decline. The following is the particulars of infant deaths and infant death rates in urban and rural areas of the State.

Areas.	(1)	Infant mortality.			
		1964.		1963.	
		Number.	Rate per 1,000 live births.	Number.	Rate per 1,000 live births.
		(2)	(3)	(4)	(5)
State	..	63,551	71.5	70,263	80.7
Rural	..	40,365	75.4	46,130	85.9
Urban	..	23,186	66.1	24,124	72.4

Statements IV and IV-A of the appendix gives the infant mortality rates by sex recorded in rural and urban areas in each district and those in each municipality by communities respectively. Annexure "E" gives the infant deaths and death rates in municipal and non-municipal areas of the districts.

Details of infant mortality under one year in rural and urban areas are given below :—

Age group.	(1)	Number of infant deaths.					
		Rural.		Urban.		Total.	
		Male.	Female.	Male.	Female.	Male.	Female.
		(2)	(3)	(4)	(5)	(6)	(7)
Under one week	..	3,941	3,295	4,283	3,388	8,224	6,683
One week to one month.	..	6,405	5,086	1,913	1,676	8,319	6,762
One month to six months.	..	5,057	4,697	3,080	2,872	8,137	7,569
Six months to one year.	..	6,021	5,862	3,006	2,968	9,027	8,830
Total	..	21,425	18,940	12,282	10,904	33,707	29,844

		Infant mortality rate					
		Rural.		Urban.		Total.	
		Male.	Female.	Male.	Female.	Male.	Female.
		(8)	(9)	(10)	(11)	(12)	(13)
Under one week	..	14.1	12.8	23.6	20.0	17.7	15.7
One week to one month.	..	23.0	19.8	10.6	9.9	18.1	15.9
One month to six months.	..	18.1	18.3	17.0	16.9	17.7	17.8
Six months to one year.	..	21.6	22.8	16.6	17.5	19.6	26.7
Total	..	76.8	73.8	67.8	64.3	73.3	70.0

The neo-natal mortality was 33.9 as against 38.1 in 1963.

Industrial Hygiene.—The Health Officers inspected 1,184 out of 4,827 and 1,133 out of 4,628 factories during the I and II half-years of 1964 respectively in their capacity as Additional Inspectors of Factories.

Residential and Industrial Areas.—Under section 89 of the Madras Public Health Act, 1939, residential areas were notified by two municipalities and one panchayat during 1964. A number of proposals for exclusion from Residential areas were received from local bodies out of which 15 proposals were approved. Industrial areas under the provisions of the Madras District Municipalities Act were notified by one municipality, three panchayat unions and six panchayats during the year.

Health Education.—Training Programmes were conducted for the Health Inspectors of Panchayat Unions, Health Inspectors of Smallpox Eradication Programme and Health Assistants of South Arcot and Tirunelveli districts to incorporate effective Health Education in their daily work. An inservice training in Health Education was conducted for the Health Inspectors and Health Visitors of 5 Primary Health Centres in Madurai and Chingleput Districts. Training in Health Education was given to students of several colleges.

The Field Study and Demonstration Centre teams continued their activities in the Avadi Primary Health Centre and Poonamallee Health Unit area in developing various Public Health programme such as Nutrition, Tuberculosis, Maternity and Child Health, Family Planning, etc.

The two quarterly departmental publications, viz. "Madras Health" in English and "Arogya Margam" in Tamil were regularly published and issued to all public health workers. The second and third number of the publication were prepared as Special Numbers in connection with the "Celebration of World Health Day", and "Smallpox".

Folders and Booklets on "Triple Antigen" "Filariasis" "Smoking" "Rabies" "Dog Bites" "Smallpox" "The Story of the Fly" "Tuberculosis", etc., were printed and distributed throughout the State.

The Health Education Bureau participated in several exhibitions organised by different agencies to promote health habits and educate the people in Health Education activities.

Background material on various health subjects were sent to the All India Radio, Tiruchirappalli for use in preparing the feature programme on health for broadcast in Radio Rural Forum Programme.

In the film library various films, filmstrips and slides on health subjects are stocked for the use of the Health Education Bureau.

Primary Health Centres.—During the year 1964, One hundred and forty-four Primary Health Centres were functioning with full complement of staff. As the Government of India have suggested that the maintenance phase of the National Malaria Eradication Programme should be undertaken by the Primary Health Centres, Government in their G.O. Ms. No. 2688, Health, dated 26th December 1964 have accorded approval for the opening of 120 Primary Health Centres in the areas entering into the maintenance phase of the National Malaria Eradication Programme. Under the scheme "Opening of 220 Primary Health Centres during the Third Five-Year Plan Period" only 24 Primary Health Centres have so far been opened, the main reason being the National Emergency and it was decided not to open new Primary Health Centres except in places where buildings are already completed or under construction.

Out of 144 Primary Health Centres functioning in the State 133 are already in receipt of UNICEF assistance. One hundred and twelve Primary Health Centres have been provided with UNICEF vehicles. Twenty-two Primary Health Centres are having State owned vehicles. UNICEF authorities have been addressed for the assistance in respect of other eligible Primary Health Centres.

Third Five-Year Plan Schemes.—Out of the 19 schemes included in the Third Five-Year Plan, 16 schemes were under implementation during 1964. The total Budget provision made for 1964-65 amounted to 99.99 lakhs.—

1. Provision of Mobile Epidemic Unit.
2. Training of 120 Health Visitors.
3. Training of 4,000 thayis.
4. National Malaria Eradication Programme.
5. National Filaria Control Programme.

6. BCG Vaccination Campaign.
7. Smallpox Eradication Programme.
8. Immunisation of pre-school children with triple vaccine.
9. Control of Guineaeworm.
10. Eradication of Yaws in Coimbatore district.
11. Provision of Sanitary facilities in Elementary School in Panchayat Union areas.
12. Development of Public Health Laboratory Services.
13. Establishment of Epidemiological Unit at the Directorate of Public Health, Madras.
14. Improvement and strengthening of machinery of registration of vital statistics.
15. Opening of Primary Health Centres.
16. Family Planning.

Poonamallee Health Unit.—The vital statistics recorded in the Health Unit, Poonamallee during 1964 as compared with 1963 are furnished hereunder :—

(1)	1964.		1963.	
	Number.	Rate.	Number.	Rate.
Birth	(2) 3,141	(3) 41.5	(4) 3,024	(5) 40.5
Deaths	1,215	16.1	1,241	16.6
Infant deaths	376	119.7	317	104.8
Maternal deaths	1	0.3	3	1.0
Still births	105	32.4	84	27.0

The total number of unregistered live, still births and deaths detected during the year were 2,893 and 327 respectively.

During the year 1964, sixty-five attacks and two deaths due to Cholera secured during January, February, November and December, 1964. There were 29 attack with five deaths due to Smallpox. Thirty-four thousand nine hundred and eight Anti-cholera inoculations, 3,283 Primary Vaccinations and 15,911 Re-vaccinations were performed during the year under report. The activities of the National Malaria Eradication Programme and National Filaria Control Programme were extended to the Health Unit area also and the villages were under strict surveillance.

Leprosy survey was carried out in three villages. Three Lepromatus and four non-lepromatus cases were detected.

The Tuberculosis control programme implemented in 1959 was in operation during 1964 also.

During the year under report, 66 private latrines (borehole type) were constructed, 285 private latrines, Borehole type were re-constructed. Maternity and Child Health staff conducted 2,577 Labour cases while private mid-wives and trained Dais attended 107 and 302 deliveries respectively. For purpose of Maternity and Child Welfare Services, the Health Unit, Poonamallee is divided into four ranges and each range is in charge of one Health Visitor and few mid-wives. There are four Health Visitors and 18 Mid-wives supervised by a Resident Matron and a Woman Medical Officer. Ante-natal, Post-natal, infant and children clinics are held at these Maternity and Child Welfare Centres on fixed days in a week.

Since the introduction of Family Planning Programme in the Health Unit, Poonamallee in 1955 a total of 284 Salpingectomy and 67 Vasectomy operations have so far been performed.

ORIENTATION TRAINING CENTRE.

During the year 18 Medical Officers, 56 Health Inspectors or Sanitary Inspectors, 17 Health Visitors and 39 Maternity Assistants were trained in 5 batches making the total number of health personnel trained so far from the commencement of the training programme in February 1954 to 1737.

The programme for 1964 was drawn well in advance and submitted to Government of India for approval. This programme was also communicated to other participating States earlier before the commencement of the course so as to enable them to depute their candidates.

During 1964, a new feature, i.e., "Method demonstration" has been introduced in the practical work of the training programme in a few selected villages.

Prominent officials and non-officials both from India and abroad visited the centre and appreciated the training programme.

CHAPTER IV—FOOD AND NUTRITION.

RAINFALL AND PRODUCTION OF FOOD STUFFS.

The average monthly district rainfall in different seasons in 1964 compared to the normal are given below :—

(1)	Average monthly district rainfall in millimetres.	
	Actual.	Normal.
(2)	(3)	
Winter	25.5	5.4
Hot weather	45.9	25.0
South-West Monsoon	76.9	84.2
North-East Monsoon	150.1	142.0

DIET AND NUTRITION SURVEYS.

During the year 1964, twenty-two family diet surveys among 504 families and 13 institutional diet surveys were conducted and details are given in Annexure 'H'. Details of the results of study are given in annexures 01, 02, 03 and P1, P2 and P3.

Analysis of the Nutrient value of the diet served in institutions reveals that the diet is deficient in protein, fat, Carbohydrate, calcium, Phosphorus and Vitamins. The calorie values of the diets consumed by most of the families and inmates are inadequate to meet of the requirements of an individual.

NUTRITION LABORATORY.

The diet served in New College Hostel and Voluntary Health Services Hospital, Adyar were chosen. The diet supplied in New College Hostel is good and it yields more calories than the prescribed limit. Protein yields eighty grams which is adequate for adolescents. The diet contains more fat and it can be reduced by not using more oil in the cooking. The results of diet served in Voluntary Health Services Hospital will be furnished later on.

ANALYSIS OF HOTEL MEALS.

An analysis of meals served in (1) Udipi Home, Egmore, (2) Geetha Cafe, Mambalam, (3) Lalitha Lunch Home, Teynampet and (4) Light of India Hotel (Non-Vegetarian) was taken up for study. The results are given in Annexure 'S'.

SCHOOL FEEDING PROGRAMME.

A new food stuff which is specially suitable for school children with ingredients of roasted Bengalgram, hand-pounded rice and Brown Sugar in the ratio of 2 : 1 : 2 was prepared in the Nutrition Laboratory and was first introduced in the Balamahdhir.

ANIMAL EXPERIMENT.

This was conducted to study the effect of protein level of different pulses. The results are given in Annexure 'U'.

DEMONSTRATIONS.

Demonstration classes were conducted to a batch of Health Inspectors, Health Visitors and Sanitary Inspectors and also for the graduates who underwent training for dietician course at Voluntary Health Services Hospital, Adyar. The training classes were arranged twice a week from 17th July to 30th November 1964.

UNICEF MILK FEEDING PROGRAMME.

A quantity of six lakhs pounds of skim milk powder donated by the UNICEF was distributed through Maternity and Child Health Centres, Primary Health Centres, etc.

A meeting of the State Co-ordinating Committee constituted for reviewing the progress of skim milk feeding programme was held in April 1964.

FOOD ADULTERATION.

The Prevention of Food Adulteration Act, 1954, was implemented in 265 local bodies as against 257 in 1963.

A total of 25,173 samples were taken under the Act of which 6,395 samples were adulterated. The percentage of adulterated samples was about 25.4 per cent. The details are furnished in Annexure 'V'.

HOTEL SANITATION.

The non-official Committee for suggesting improvements in regard to the upkeep and maintenance of hotels has been constituted in 18 municipalities.

FOOD CONTROL.

Milk supply.

The officers of the Animal Husbandry Department examined the milch animals belonging to Jails, Co-operative Milk Supply Societies and unions for maintaining the milking-yard and utensils in hygienic condition.

Meat inspection.

This was done in few municipalities and local bodies having full time Veterinary Surgeons, 22,61,002 animals were examined ante-mortem and were passed for slaughter and the meat inspected.

CHAPTER V—ENVIRONMENTAL HYGIENE.

RURAL WATER-SUPPLY.

Rural water-supply (comprehensive) scheme.—The scheme is to provide drinking water in rural areas of places having a population not more than 10,000.

The water-supply works under this scheme are being executed by the Panchayat Unions concerned from Village Works Grant with the technical supervision of the officers of the Highways Department. In 1963-64, 400 protected water-supply works, 4,941 new well works and 1,098 works of improvement to old wells have been executed at a cost of Rs. 1.08 crores under village works grant programme.

National Water-supply and Sanitation (Rural) Scheme.—In 1963-64 an amount of Rs. 3.90 lakhs has been spent completing 43 works of protected water-supply and sanitation. An amount of Rs. 1.50 lakhs has been provided for in the Budget 1964-65 and it is stated that 22 works are to be completed. The works are under progress.

Urban Water-supply and Drainage Scheme.—Forty-eight municipalities are having protected water-supply scheme in commission and two municipalities are benefitted with pilot water-supply. Twenty-four major panchayats are provided with protected water-supply. During the year, investigation of new water-supply projects to two municipali-

ties and 16 panchayats and for water-supply improvements in 10 municipalities were carried-out. Schemes of water-supply to industrial centres in and around Madras and Tuticorin were also investigated. Detailed plans and estimates for 16 municipal water-supply projects were under preparation. Plans and estimates for the Industries and Harbour at Tuticorin and Package Programme for Madurai and Coimbatore were under preparation. Ten municipalities are having drainage systems and the rest are sewage systems.

Provision of sanitary facilities in schools.—During 1964-65 the provision of sanitary facilities has been made in 45 schools and Rs. 75,312.71 have been incurred. The expenditure on this scheme is initially met from Panchayat Union Funds and the grant from the State Fund is sanctioned and disbursed on the post execution system.

Water analysis.—The water analysis laboratory continued to provide analytical supervision over the public water-supplies to local bodies, hospitals, railway stations, etc. A total number of 8,864 samples of water were tested for bacteriological, biological, and chemical characteristics.

Field investigations were conducted in Atmospheric pollution at Kaduvetti, Nellikuppam and Ennore, treatment and disposal of sugar factory waste at Pugalur, treatment and disposal of tannery waste at Dindigul and Salem, corrosive properties of water for the Kodayar Hydro-electric Scheme, occurrence of worms in water-supply at Vellore Municipality, treatment and disposal of sewage in Bharat Heavy Electricals, Tiruchirappalli, Seepage water at the Lower Bhavani Dam and corrosivity in water at Mayuram Water-supply. Studies on the fat of certain bacterial organism on onion were done and a critical survey of Cauvery River and its branches in Tiruchirappalli and Thanjavur districts with special reference to the occurrence of Cholera bacteria was started during this year.

Two meetings of the Water and Sewage Purification Committee were held during the year.

Compost manufacture.—Urban compost manufacture scheme which aims at the sanitary disposal of the rubbish and night-soil by profitably, converting them into compost manure for utilisation towards increasing agricultural production was implemented in 72 municipalities, 324 notified panchayats and in 5 township committees and the Corporation of Madras. A total of 4,71,937 tonnes of compost manure was prepared.

Town-Planning and Housing.—During the year under review there were in all 87 sanctioned Town Planning Schemes in the various local bodies. These were at various stages of execution and have shown good progress in their execution.

Fairs and festivals.—During the year, 600 major and minor fairs and festivals were celebrated in the State.

Research-cum-Action Project, Poonamallee.—The project has taken up an integrated programme embracing health education, in the fields of environmental sanitation, school health, nutrition, etc.

I. Studies.—Studies on the Family Planning work in Poonamallee Health Unit, Food beliefs and practices in Paruthipet village, peoples, attitude and knowledge of leprosy were done during the year. A study was designed and carried out to evaluate the impact of the training programme given to National Smallpox Eradication Programme workers in Thanjavur district and also a base line study of people's knowledge and attitude to smallpox and vaccination was carried out in 6 villages in Tirunelveli district. An extensive survey of the impact of the Research-cum-Action Project on latrine acceptance, use and maintenance of latrines in Chingleput district was carried out by the staff and results communicated to the Director-General of Health Services who wanted the conduct of the study. Sessions and Social Sciences in Public Health activities were held for several batches of the Orientation Training Centre students. Health Education activities on Environmental sanitation, Smallpox Eradication programme were undertaken. A programme to correct the service type of latrines to pour flush latrines has been launched during the year.

The activities of the Research-cum-Action Project, Poonamallee, are also extended to the projects in Thanjavur and Madurai districts.

CHAPTER VI—GENERAL ADMINISTRATION AND CONCLUDING REMARKS.

Public Health staff.—The strength of the officers in the Public Health Department as on 31st December 1964 is given in Annexure 'W'. Eighteen Health Officers were recruited under emergency provisions and or on re-employment basis. One Health Officer continued to be on deputation to the Health Project, Gandhigram. One post of Medical Officer (Maternity and Child Health) has been filled up by a regular candidate and the other by a temporary candidate. The re-employment of three Health Officers were terminated. The post of Statistical Assistant Director (Statistical) has been filled up by promoting the permanent Statistician of this department. Two posts of Assistant Water Analysts and one post of Senior Assistant to Government Analyst have been filled up. Two Assistant Directors of Public Health retired from service. The department still experiences a shortage of qualified persons for appointment as Health Officers as such Government have permitted the continuance of the re-employment of certain retired Health Officers up to 30th June 1965.

Public Health Subordinate staff.—The strength of Public Health Subordinate staff is given in Annexure 'X'. Seven Health Inspectors were deputed to other Government departments and 5 Health Inspectors retired from service. Twenty-one Health Inspectors were awarded punishment. Annexure 'Y' gives the strength under local bodies.

Finance.—The actual expenditure incurred during 1963-64 is as follows :—

I. Under the control of the Director of Public Health—

	RS.
1 Pay of Officers	7,81,565
2 Pay of Establishments	40,61,933
3 Allowances	18,05,842
4 Other Charges	84,19,612
Total ..	1,50,68,952

II. Under the control of other departmental officers—

	RS.
1 Sanitary Engineer	2,54,820
2 Director of Town-Planning	8,54,287
3 Director of Medical Services, Madras	27,27,474
4 Corporation of Madras	21,57,235
5 National Water-Supply	1,84,800
Total ..	61,78,616
Grants of Public Health Purposes	30,03,011
Grand Total	2,42,50,579

Besides expenditure of Rs. 1,50,68,952 controlled by the Director of Public Health, expenditure amounting to Rs. 1,68,680 was also incurred by this department during the year 1963-64. (Rs. 16,596 incurred in respect of Vital Statistics Establishment and Rs. 1,52,084 in respect of training of Thais).

Total expenditure incurred by the State during the year under the major heads "30. Public Health" and "29. Medical" was Rs. 242.51 lakhs and Rs. 820.24 lakhs, respectively.

Statement showing the receipts and expenditure for the year 1963-64 in respect of Corporation of Madras and Municipalities—

Subject head of account.	Expenditure.		Receipts including Government grants.	
	Corporation of Madras.	Municipalities.	Corporation of Madras.	Municipalities.
	(2) RS.	(3) RS.	(4) RS.	(5) RS.
1 Medical Relief ..	19,22,705	17,06,725	1,71,319	46,454
2 Preventive Medicine ..	1,21,97,159	1,92,56,983	3,60,391	49,19,462
3 Town-Planning ..	6,26,255	15,53,446	4,12,433	12,17,022
4 Water-Supply and Drainage.	1,33,78,428	1,46,31,671	1,37,86,538	1,27,46,808
Total ..	2,81,24,547	3,73,48,825	1,47,30,681	1,89,29,746

The Public Health Board met at Madras and Kanyakumari and the proceedings of the meetings are appended as Annexure 'Z'.

CONCLUDING REMARKS.

The department was inspected by a senior member of the Madras Secretariat and has reported to be generally satisfactory.

The work of the officers in the department continued to be satisfactory.

H. M. SHARMA,
Director of Public Health, Madras

CHART No. 1

MADRAS STATE

BIRTH AND DEATH RATES

(1954-64)

— BIRTH RATE
- - - DEATH RATE

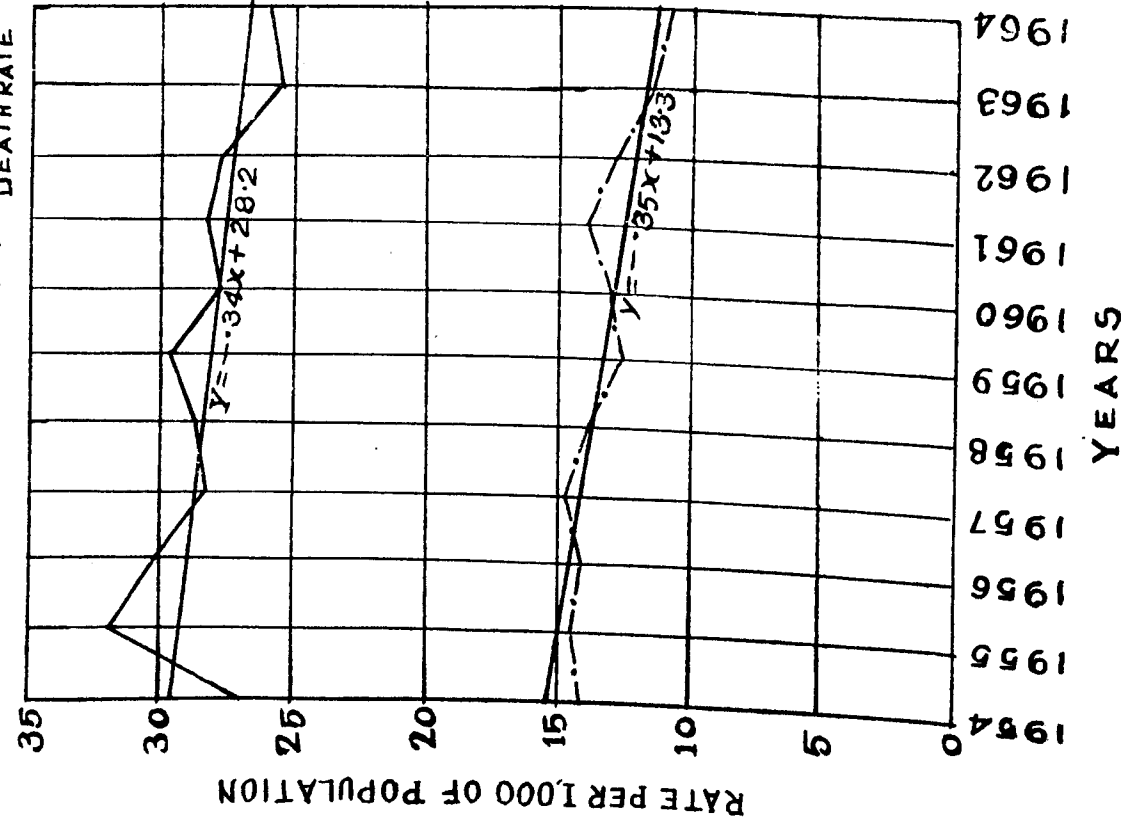


CHART No. 2

MADRAS STATE

INFANT MORTALITY RATES

(1954-64)

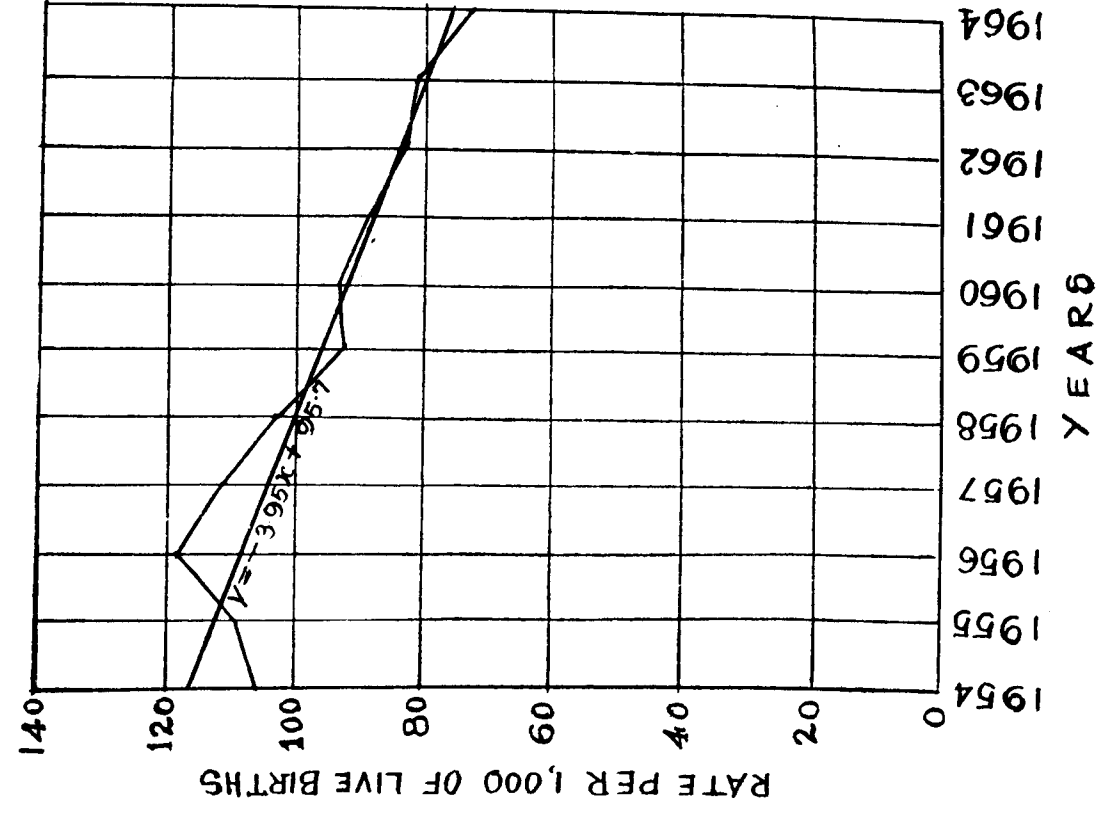


CHART No. 3

MADRAS STATE

DEATHS FROM CHOLERA

(1954-64)

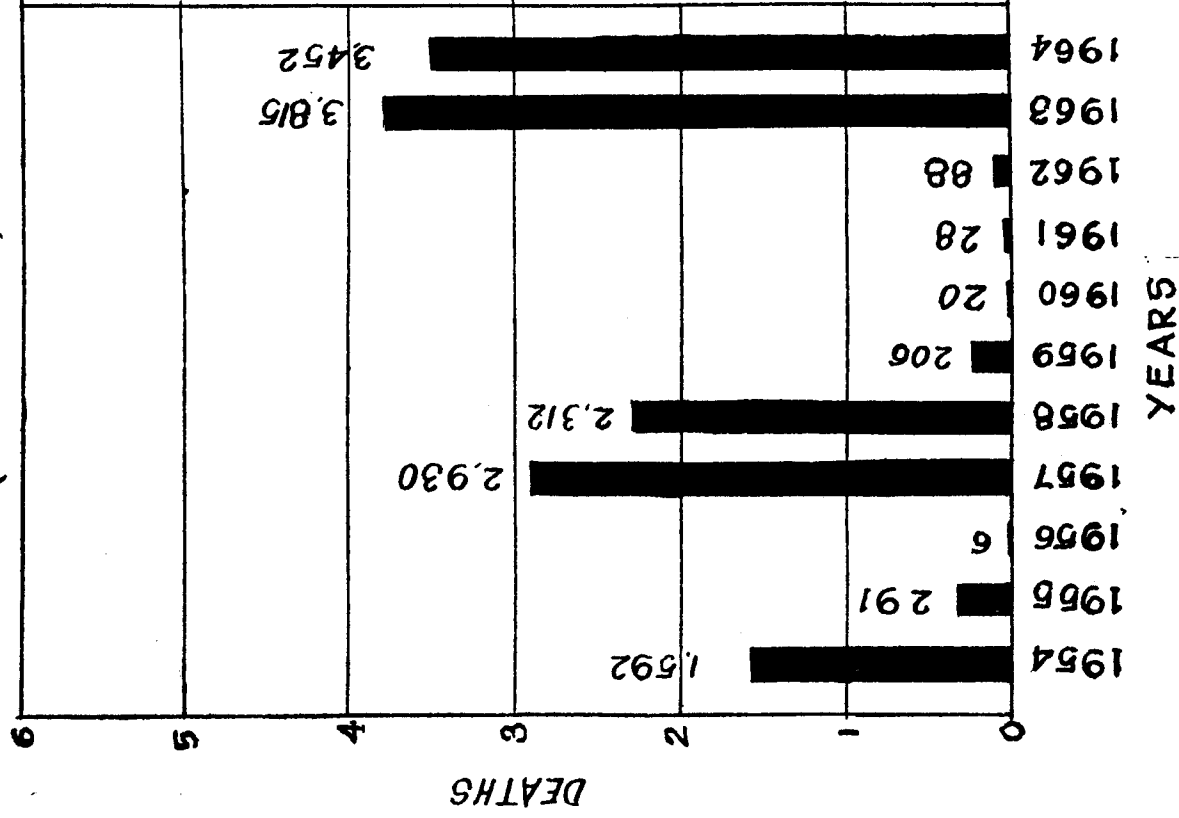
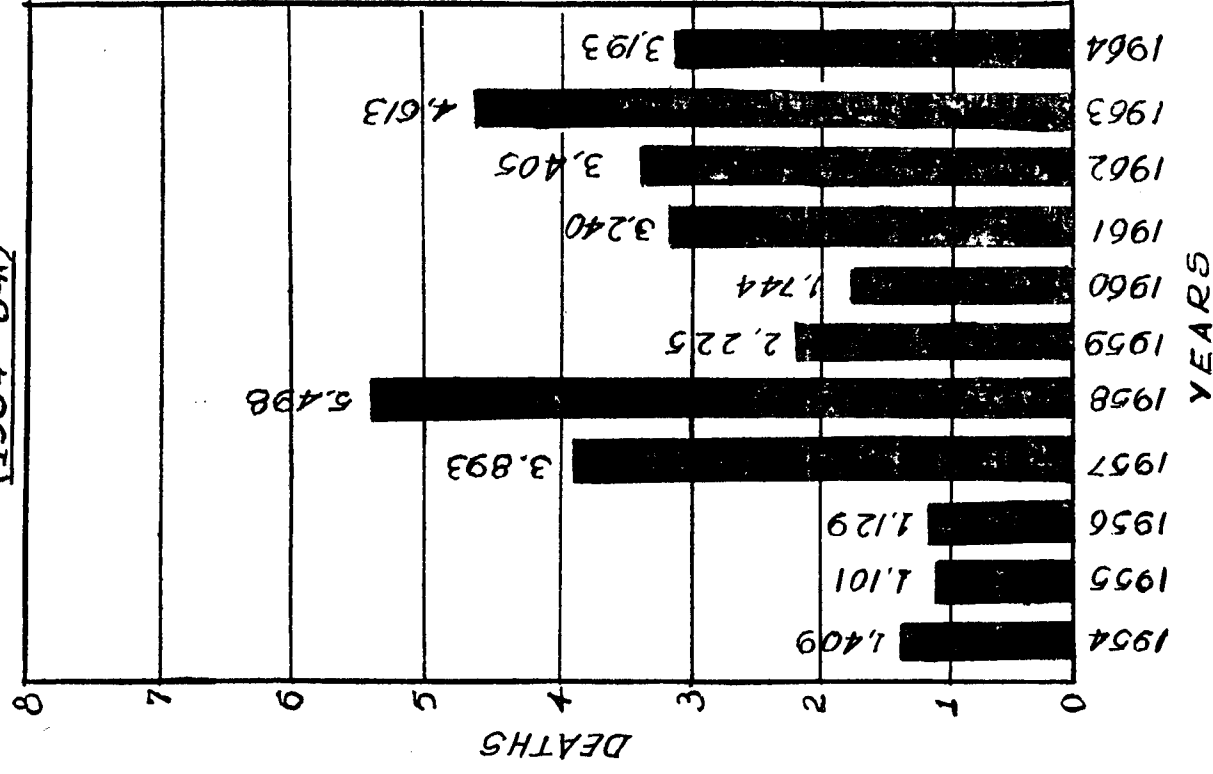


CHART No. 4

MADRAS STATE

DEATHS FROM SMALL-POX

(1954-64)



APPENDIX.

STATEMENT I—Vital Statistics of the general population, Birth registered in the district and in the State during the year 1964.

Serial number and districts.	Estimated mid-year population for 1964.			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)
1 Madras	967,000	866,000	1,834,000	967,000	866,000	1,834,000
2 Chingleput	1,163,000	1,113,000	2,276,000	1,163,000	1,113,000	2,276,000
3 North Arcot	1,626,000	1,602,000	3,229,000	1,626,000	1,602,000	3,229,000
4 South Arcot	1,584,000	1,554,000	3,138,000	1,584,000	1,554,000	3,138,000
5 Thanjavur	1,658,000	1,676,000	3,334,000	1,658,000	1,676,000	3,334,000
6 Tiruchirappalli	1,631,000	1,641,000	3,272,000	1,631,000	1,641,000	3,272,000
7 Madurai	1,663,000	1,654,000	3,318,000	1,663,000	1,654,000	3,318,000
8 Ramanathapuram	1,236,000	1,299,000	2,535,000	1,236,000	1,299,000	2,535,000
9 Tirunelveli	1,368,000	1,438,000	2,806,000	1,368,000	1,438,000	2,806,000
10 Salem	2,002,000	1,947,000	3,949,000	2,002,000	1,947,000	3,949,000
11 Coimbatore	1,885,000	1,807,000	3,692,000	1,885,000	1,807,000	3,692,000
12 The Nilgiris	230,000	212,000	442,000	230,000	211,000	442,000
13 Kanyakumari	533,000	521,000	1,054,000	533,000	521,000	1,054,000
Total for the State ..	17,547,000	18,330,000	34,876,000	17,547,000	17,330,000	34,876,000
Urban areas ..	4,753,000	4,554,000	9,307,000	4,753,000	4,554,000	9,307,000
Rural areas ..	12,794,000	12,776,000	25,570,000	12,794,000	12,776,000	25,570,000

Serial number and districts.	Number of births registered (excluding still-births).			Ratio of births per 1000 of estimated mid-year population.			Average of the rates published for the previous five years (1959-63).		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1 Madras	37,478	36,088	73,566	20.43	19.68	40.11	20.16	19.66	40.17
2 Chingleput	27,915	25,438	53,354	12.26	11.17	23.44	13.07	12.24	25.31
3 North Arcot	45,944	42,732	88,676	14.23	13.23	27.46	15.29	14.23	29.52
4 South Arcot	36,100	33,136	69,244	11.50	10.56	22.07	12.29	11.27	23.56
5 Thanjavur	37,578	35,502	73,080	11.27	10.65	21.92	12.41	11.59	24.00
6 Tiruchirappalli	40,996	37,722	78,718	12.53	11.53	24.06	13.20	12.35	25.54
7 Madurai	49,831	46,272	96,103	15.01	13.94	28.96	14.50	13.44	27.93
8 Ramanathapuram	31,495	29,430	60,925	12.42	11.61	24.03	13.28	12.24	25.51
9 Tirunelveli	40,055	36,486	76,541	14.28	13.01	27.29	15.05	13.99	29.40
10 Salem	44,022	39,734	83,756	11.15	10.06	21.21	11.71	10.77	22.49
11 Coimbatore	45,201	41,318	86,519	12.24	11.19	23.43	12.80	11.86	24.66
12 The Nilgiris	6,061	5,860	11,921	13.71	13.26	26.97	13.46	12.61	26.08
13 Kanyakumari	17,625	16,322	33,947	16.63	15.48	32.11	14.37	13.44	27.81
Total for the State ..	460,214	426,040	886,250	13.20	12.22	25.41	13.72	12.77	26.45
Urban areas ..	181,274	169,468	350,742	19.47	18.26	37.67	18.69	17.81	36.76
Rural areas ..	278,936	256,572	535,508	10.91	10.03	20.94	11.89	10.97	22.86

STATEMENT I.A—Still-births registered according to classes and sex in the municipal towns in the State of Madras during the year 1964.

Serial number and municipal towns.	Hindus.		Muslims.		Christians.		Other Classes.		Total.		Still-birth rate per 1,000 live and still-births.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Madras ..	675	662	73	69	23	25	52	2	776	758	1,534
2 Kancheepuram ..	127	107	2	2	..	1	..	..	129	110	239
3 Tiruvallur ..	7	10	1	1	..	..	..	..	8	11	19
4 Chingleput ..	93	76	6	5	2	1	..	..	101	82	183
5 Tiruvottiyur ..	5	7	..	1	..	..	..	..	5	8	13
6 Tambaram ..	7	15	..	1	..	..	..	..	8	16	24
7 Alandur ..	4	2	..	..	..	..	..	..	4	2	6
8 Vellore ..	195	138	20	24	3	5	..	..	218	167	385
9 Tiruvanamalai ..	62	42	4	4	..	..	..	..	66	46	112
10 Gudiyasbham ..	49	44	20	9	2	..	..	..	71	53	124
11 Vaniyambadi ..	18	14	21	9	..	..	..	..	39	23	62
12 Tiruppathur ..	42	32	7	9	..	..	..	..	49	41	90
13 Walajepet ..	11	4	..	1	..	..	..	..	11	5	16
14 Asai ..	48	31	6	2	1	..	..	..	55	33	88
15 Arkonam ..	43	40	8	3	4	2	..	..	55	45	100
16 Anbur ..	20	27	16	16	3	2	..	..	39	45	84
17 Arcot ..	4	1	..	..	..	..	..	..	4	1	5
18 Ranipet ..	32	12	8	..	2	1	..	..	42	13	55
19 Oudalore ..	41	31	2	1	..	..	..	..	46	32	78
20 Chidambaram ..	47	44	3	4	1	..	..	..	51	48	99
21 Villupuram ..	22	15	1	3	1	1	..	..	24	19	43
22 Tindivanam ..	23	19	2	3	..	3	..	..	25	25	50
23 Thanjavur ..	159	127	10	6	12	8	..	..	181	141	322
24 Kumbakonam ..	168	174	18	23	6	5	..	..	192	202	394
25 Mayuram ..	80	56	8	6	2	2	..	..	90	64	154
26 Mannargudi ..	78	69	6	5	..	2	..	..	84	76	160
27 Nagapattinam ..	73	55	12	10	1	3	..	..	86	68	154
28 Tiruvavur ..	28	28	1	4	..	..	..	..	29	32	61
29 Tiruchirappalli ..	136	123	43	37	33	26	..	..	211	186	397
30 Karur ..	38	45	2	1	..	1	..	..	40	47	87
31 Srirangam ..	48	51	..	..	..	..	..	..	48	52	100
32 Pudukkottai ..	129	94	15	11	7	4	..	..	151	109	260
33 Madurai ..	515	436	41	26	15	14	..	..	571	476	1,047
34 Dindigul ..	43	34	3	4	7	10	..	..	53	48	101
35 Bodinayakanur ..	10	11	..	1	..	..	..	..	10	12	22
36 Periyakulam ..	66	43	5	7	5	2	..	..	76	52	128
37 Palni ..	51	29	3	3	3	..	..	..	57	32	89
38 Cumbum ..	2	2	..	..	..	..	..	..	2	2	4
39 Allinagar ..	27	18	..	..	1	1	..	..	28	21	49
40 Rajapalayam ..	73	56	1	..	1	..	..	..	75	56	131

STATEMENT I.A—Still-births registered according to classes and sex in the municipal towns in the State of Madras during the year 1964—cont.

Serial number and municipal towns.	Hindus.				Muslims.		Christians.		Other classes.		Total.		Still birth's rate per 1,000 live and still births.
	Males.		Females.		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
(1)													
41 Srivilliputhur ..	41	35	1	2	4	2	..	..	46	39	85	48.0	
42 Virudhunagar ..	66	60	3	..	1	2	..	..	70	62	132	40.7	
43 Karaikudi ..	10	10	2	..	..	..	..	..	12	10	22	11.9	
44 Sivakasi ..	31	25	1	..	..	..	..	..	32	25	57	44.1	
45 Devakottai ..	16	9	2	..	1	2	..	..	19	11	30	29.0	
46 Aruppukkottai ..	39	28	..	..	..	..	..	..	39	28	67	35.0	
47 Ramanathapuram ..	31	21	2	3	..	..	..	..	25	24	49	24.2	
48 Paramakudi ..	46	37	3	1	..	2	..	..	49	40	89	57.1	
49 Tuticorin ..	21	20	1	1	3	8	..	..	25	38	63	15.1	
50 Tirunelveli ..	57	40	4	..	..	..	..	..	61	41	101	27.1	
51 Palayamkottai ..	124	123	11	6	13	4	..	..	148	133	281	84.5	
52 Melapalayam ..	4	1	1	2	..	..	..	..	5	3	8	10.6	
53 Sheencottah ..	36	24	3	3	..	1	..	..	39	28	67	64.4	
54 Koilpatti ..	20	22	1	1	..	2	..	..	21	25	46	41.7	
55 Sankarankoil ..	26	15	..	1	..	1	..	..	26	17	43	58.8	
56 Salem ..	339	295	24	21	4	1	..	..	367	317	684	50.8	
57 Rasipuram ..	33	19	..	..	..	..	..	..	33	19	52	41.4	
58 Dharmapuri ..	51	27	1	1	2	2	..	..	54	30	84	63.0	
59 Coimbatore ..	423	402	26	17	13	18	..	..	462	437	899	50.3	
60 Erode ..	95	61	1	2	2	1	..	..	98	64	162	37.9	
61 Tiruppur ..	75	61	8	4	1	2	..	..	84	67	151	38.2	
62 Pollachi ..	72	63	3	..	..	1	..	..	75	64	139	43.8	
63 Dharmapuri ..	29	27	2	4	2	3	..	..	33	34	67	39.9	
64 Udumalpet ..	53	44	7	4	..	..	..	..	60	48	108	67.4	
65 Mettupalayam ..	27	24	5	2	..	..	..	..	32	26	58	33.6	
66 Gobichettipalayam ..	42	38	1	1	..	..	..	..	43	39	82	61.4	
67 Ootacamund ..	13	20	3	2	4	2	..	..	20	24	44	18.0	
68 Oonor ..	38	17	6	1	6	4	..	..	50	22	72	32.6	
69 Nagarcoil ..	47	36	3	4	14	13	..	..	61	33	117	22.9	
70 Colachel ..	..	..	..	..	..	..	..	..	..	..	..	..	
71 Kuthithurai ..	12	11	..	..	8	8	..	..	20	19	39	46.5	
72 Padmanabhapuram ..	3	1	..	1	1	1	..	..	4	3	7	9.7	
Total	5,509	4,449	492	397	217	200	8	2	5,926	5,049	10,974		

STATEMENT II.—Statement showing deaths registered in the districts in the State of Madras during the year 1964.

Serial number and districts.	Area in square miles.	Population per square mile as per 1961 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.	
			(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)			(13)	(14)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)			
1 Madurai ..	49	35,289	16,542	15,456	31,998	17.11	17.85	17.45	17.08	17.98	17.51	134	1.78			
2 Chingleput ..	3,031	725	13,070	12,329	25,399	11.24	11.08	11.16	12.33	12.21	12.27	167	3.08			
3 North Arcot ..	4,942	637	19,972	19,447	39,419	12.23	12.14	12.21	14.56	14.81	14.67	334	3.71			
4 South Arcot ..	4,204	725	17,776	17,756	35,532	11.22	11.43	11.32	11.98	11.96	11.97	286	4.09			
5 Thanjavur ..	3,740	868	18,278	18,611	36,889	11.03	11.10	11.06	11.17	11.39	11.28	341	4.56			
6 Tiruchirappelli ..	5,514	579	18,840	18,993	37,833	11.24	11.57	11.41	12.42	12.54	12.50	435	5.44			
7 Madurai ..	4,910	654	17,626	17,364	34,990	10.60	10.50	10.54	11.67	11.59	11.63	249	2.54			
8 Ramanathapuram ..	4,849	499	11,480	11,434	22,914	9.29	8.80	9.04	11.11	10.65	10.87	148	3.39			
9 Tirunelveli ..	4,419	618	16,787	16,727	33,514	12.27	11.63	11.95	14.99	10.70	14.84	351	4.52			
10 Tiruppur ..	7,938	541	15,997	15,682	31,679	7.99	8.06	8.02	8.87	9.05	8.96	257	3.03			
11 Coimbatore ..	6,018	591	17,226	17,081	34,307	9.14	9.46	9.29	9.84	10.07	9.95	335	3.79			
12 The Nilgiris ..	934	416	1,787	1,519	3,306	7.77	7.20	7.48	7.78	7.59	7.68	20	1.63			
13 Kanyakumari ..	643	1,550	5,111	4,833	9,944	9.56	9.27	9.43	9.77	10.14	9.95	106	3.09			
Total for the State	50,331	669	189,992	187,232	377,224	10.83	10.80	10.82	11.93	12.00	11.97	3,163	3.51			
Urban areas	..	..	58,561	54,904	113,465	12.32	12.06	12.19	..	..	..	..	..			
Rural areas	..	..	131,431	132,328	263,759	10.27	10.33	10.32	..	..	..	..	..			

STATEMENT III.—Statement showing the deaths registered in the State of Madras during each month of the year 1964.

Serial number and districts inclusive of municipal towns.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)												
1 Madras ..	..	2,226	2,307	2,144	2,023	2,270	2,122	2,537	2,579	3,273	2,905	3,313	4,269	31,998												
2 Chingleput ..	..	2,653	2,428	2,077	1,716	1,790	1,771	2,008	2,161	2,072	1,926	2,398	2,399	25,393												
3 North Arcot ..	..	4,433	3,436	2,919	2,572	2,934	2,837	2,973	3,012	3,419	3,281	3,725	3,848	39,419												
4 South Arcot ..	..	5,262	3,586	2,722	2,348	2,540	2,451	2,591	2,638	2,618	2,430	3,213	3,133	35,532												
5 Thanjavur ..	..	5,003	3,859	3,080	2,485	2,486	2,277	2,524	2,933	2,924	2,718	3,335	3,255	35,389												
6 Tiruchirappalli ..	..	4,949	3,365	2,774	2,179	2,697	2,760	3,028	3,163	2,996	2,887	3,423	3,401	37,333												
7 Madurai ..	..	4,025	3,110	2,541	2,431	2,432	2,572	2,705	2,924	2,887	2,630	2,975	3,708	34,990												
8 Ramanathapuram ..	..	2,365	2,075	1,738	1,645	1,633	1,635	1,631	1,899	1,912	1,877	2,186	2,418	24,914												
9 Tirunelveli ..	..	4,197	3,197	2,730	2,408	2,401	2,130	2,516	2,443	2,529	2,444	3,043	3,476	33,514												
10 Salem ..	..	2,872	2,475	2,376	2,466	2,655	2,805	2,728	2,940	2,625	2,412	2,572	2,753	31,679												
11 Coimbatore ..	..	3,478	2,691	2,458	2,478	2,402	2,597	2,812	3,280	3,100	2,823	2,901	3,87	34,307												
12 The Nilgiris ..	..	248	256	247	291	273	313	288	253	248	261	279	349	3,306												
13 Kanyakumari ..	..	862	774	702	724	756	784	937	899	873	830	847	956	9,944												
Total for the State ..	..	41,973	33,559	28,508	26,067	27,219	27,054	29,298	31,124	31,506	29,424	34,210	37,282	3,77,224												
Rate per 1,000 of estimated population.		14.21	12.14	9.65	9.12	9.22	9.46	9.92	10.54	11.02	9.96	11.97	12.62	10.82												
Total for urban areas ..	..	10,964	9,486	8,169	3,040	8,291	8,053	8,808	9,285	9,904	9,271	10,412	12,432	113,465												
Rate per 1,000 of estimated population.		13.91	12.86	10.75	10.54	10.52	10.55	11.18	11.79	12.98	11.77	13.94	15.84	12.20												
Total for rural areas ..	..	31,009	24,073	20,339	18,027	18,928	19,001	20,490	21,839	21,602	20,153	23,798	24,850	263,753												
Rate per 1,000 of estimated population.		14.32	11.88	9.25	8.60	8.74	9.07	9.46	10.08	10.31	9.30	11.36	11.45	10.32												

STATEMENT IV.—Deaths registered according to ages in the State of Madras during the year 1964.

Serial number and municipal towns and urban towns in the districts of	Not exceeding one month.										Over one month and not exceeding six months.									
	Males.					Females.					Males.					Females.				
	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.
	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)		(10)	(11)	(12)	(13)		(14)	(15)	(16)	(17)	
1 Chingleput ..	300	628	928	248	456	704	1,632	551	466	1,017	551	466	1,017	551	466	1,017	551	466	1,017	551
2 North Arcot ..	484	691	1,175	385	523	908	2,083	662	647	1,309	662	647	1,309	662	647	1,309	662	647	1,309	662
3 South Arcot ..	329	437	802	301	362	663	1,465	554	531	1,085	554	531	1,085	554	531	1,085	554	531	1,085	554
4 Thanjavur ..	286	648	934	247	490	737	1,671	540	466	1,006	540	466	1,006	540	466	1,006	540	466	1,006	540
5 Tiruchirappalli ..	369	581	950	296	507	803	1,753	592	448	1,040	592	448	1,040	592	448	1,040	592	448	1,040	592
6 Madurai ..	341	633	974	286	505	791	1,765	585	553	1,138	585	553	1,138	585	553	1,138	585	553	1,138	585
7 Ramanathapuram ..	240	424	664	195	314	509	1,173	386	354	740	386	354	740	386	354	740	386	354	740	386
8 Tirunelveli ..	408	852	1,260	336	688	1,024	2,289	514	458	972	514	458	972	514	458	972	514	458	972	514
9 Salem ..	404	584	1,078	435	505	940	2,015	452	394	846	452	394	846	452	394	846	452	394	846	452
10 Coimbatore ..	462	562	1,024	370	482	852	1,876	377	378	755	377	378	755	377	378	755	377	378	755	377
11 The Nilgiris ..	52	89	141	56	73	129	270	32	43	75	32	43	75	32	43	75	32	43	75	32
12 Kanyakumari ..	176	236	412	140	184	324	736	263	268	531	263	268	531	263	268	531	263	268	531	263
Total for rural areas ..	2,941	6,406	10,347	3,295	5,086	8,381	18,728	5,087	4,697	9,784	5,087	4,697	9,784	5,087	4,697	9,784	5,087	4,697	9,784	5,087
Total for the State ..	8,224	8,319	16,543	6,683	13,445	29,988	29,988	13,445	13,445	29,988	13,445	13,445	29,988	13,445	13,445	29,988	13,445	13,445	29,988	13,445

	Over six months and not exceeding twelve months.										Total under one year.										One and under five years	
	Males.					Females.					Total.					Males.					Females.	
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)				
1 Chingleput ..	592	533	1,125	2,071	3,196	1,703	3,774	1,687	1,776	3,463	1,703	3,774	1,687	1,776	3,463	1,703	3,774	1,687	1,776	3,463		
2 North Arcot ..	891	906	1,797	2,728	4,525	2,461	6,189	2,489	2,774	5,263	2,461	6,189	2,489	2,774	5,263	2,461	6,189	2,489	2,774	5,263		
3 South Arcot ..	798	804	1,602	2,149	3,751	1,998	4,147	1,740	1,907	3,647	1,998	4,147	1,740	1,907	3,647	1,998	4,147	1,740	1,907	3,647		
4 Thanjavur ..	532	537	1,069	2,006	3,075	1,740	4,746	1,781	1,907	3,688	1,740	4,746	1,781	1,907	3,688	1,740	4,746	1,781	1,907	3,688		
5 Tiruchirappalli ..	680	667	1,347	2,132	3,489	1,918	5,406	2,319	2,715	5,034	1,918	5,406	2,319	2,715	5,034	1,918	5,406	2,319	2,715	5,034		
6 Madurai ..	435	403	838	1,794	2,632	1,547	4,181	1,633	2,244	3,875	1,547	4,181	1,633	2,244	3,875	1,547	4,181	1,633	2,244	3,875		
7 Ramanathapuram ..	398	367	765	1,287	2,052	1,121	3,178	1,336	1,842	3,178	1,121	3,178	1,336	1,842	3,178	1,121	3,178	1,336	1,842	3,178		
8 Tirunelveli ..	517	558	1,075	2,296	3,371	2,035	5,406	2,219	2,408	4,627	2,035	5,406	2,219	2,408	4,627	2,035	5,406	2,219	2,408	4,627		
9 Salem ..	564	503	1,067	2,094	3,161	1,834	5,000	1,836	1,842	3,678	1,834	5,000	1,836	1,842	3,678	1,834	5,000	1,836	1,842	3,678		
10 Coimbatore ..	374	320	694	1,175	1,580	1,580	3,355	1,361	1,418	2,779	1,580	3,355	1,361	1,418	2,779	1,580	3,355	1,361	1,418	2,779		
11 The Nilgiris ..	41	32	73	214	285	204	418	160	119	533	204	418	160	119	533	204	418	160	119	533		
12 Kanyakumari ..	204	207	411	879	1,290	879	1,678	582	687	1,269	879	1,678	582	687	1,269	879	1,678	582	687	1,269		
Total for rural areas	6,021	5,862	11,883	21,425	33,308	18,940	40,365	21,234	22,898	44,132	18,940	40,365	21,234	22,898	44,132	18,940	40,365	21,234	22,898	44,132		
	31-53	22-84	22-19	76-80	75-36	73-81	75-36	73-81	75-36	73-81	73-81	75-36	73-81	75-36	73-81	73-81	75-36	73-81	75-36	73-81		
Total for the State	9,037	8,830	17,867	33,707	52,594	29,844	63,561	29,987	32,044	62,031	29,844	63,561	29,987	32,044	62,031	29,844	63,561	29,987	32,044	62,031		
	19-62	20-72	20-16	73-25	70-04	70-04	71-74	70-04	71-74	70-04	70-04	71-74	70-04	71-74	70-04	70-04	71-74	70-04	71-74	70-04		

STATEMENT IV.—Deaths registered according to ages in the State of Madras during the year 1964—cont.

Serial number and municipal towns and rural towns in the district of.

	Five and under ten years.		Ten and under fifteen years.		Fifteen and under twenty years.		Twenty and under thirty years.		Thirty and under forty years.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1 Chingleput	498	517	197	201	170	243	461	576	525	587
2 North Arcot	752	733	276	268	281	375	633	960	712	900
3 South Arcot	820	763	350	365	298	472	786	1,221	1,010	1,223
4 Thanjavur	714	712	318	309	310	359	641	943	808	1,047
5 Tiruchirappalli	670	606	272	304	268	445	758	1,224	779	1,011
6 Madurai	478	420	209	208	268	299	564	761	598	747
7 Ramnathapuram	853	830	138	138	130	178	313	528	420	508
8 Tirunelveli	522	534	235	269	212	286	473	722	579	755
9 Salem	444	478	273	286	287	415	654	1,090	764	890
10 Coimbatore	403	408	212	254	224	374	634	885	562	717
11 The Nilgiris	36	24	12	8	16	5	32	53	46	59
12 Kanyakumari	126	143	57	61	71	68	147	206	205	233
Total for rural areas	5,816	5,668	2,537	2,668	2,525	3,519	6,103	9,169	5,998	8,627
Total for the State	8,182	7,925	3,762	3,872	3,808	5,113	9,307	3,716	10,771	12,723

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	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.
1 Chingleput	737	560	875	768	3,314	3,083	10,525	9,944
2 North Arcot	921	815	1,284	1,086	4,506	4,192	16,149	15,103
3 South Arcot	1,349	1,189	1,764	1,540	4,640	4,198	16,665	15,765
4 Thanjavur	1,022	1,065	1,531	1,413	4,626	4,764	13,757	14,259
5 Tiruchirappalli	1,066	1,023	1,472	1,288	9,845	4,980	14,571	15,514
6 Madurai	787	725	1,057	980	3,353	3,451	11,238	11,382
7 Ramnathapuram	629	488	853	698	2,407	2,641	6,160	5,325
8 Tirunelveli	763	673	1,053	893	3,901	3,764	12,253	12,329
9 Salem	850	806	1,246	993	4,949	4,650	13,397	13,181
10 Coimbatore	736	718	866	765	4,772	4,572	11,555	11,691
11 The Nilgiris	44	29	57	50	234	185	851	736
12 Kanyakumari	263	202	399	284	1,531	1,438	4,320	4,121
Total for rural areas	9,167	8,293	12,467	10,758	43,138	41,788	131,431	132,328
Total for the State	14,044	11,292	18,328	14,301	59,195	56,302	189,992	187,932

STATEMENT IV.—Deaths registered according to ages in the State of Madras during the year 1964—cont.

	Not exceeding one month.		Over one month and not exceeding six months.	
	Males.	Females.	Males.	Females.
	Under one week.	Over one week.	Under one week.	Over one week.
	(2)	(3)	(4)	(5)
1 Madras	1,109	507	1,616	846
2 Chingleput	136	70	206	105
3 North Arcot	319	144	463	255
4 South Arcot	62	45	107	53
5 Thanjavur	280	89	369	290
6 Tiruchirappalli	306	144	420	216
7 Madurai	590	232	822	434
8 Ramnathapuram	193	167	360	171
9 Tirunelveli	328	181	509	245
10 Salem	206	77	283	174
11 Coimbatore	620	211	831	494
12 The Nilgiris	110	50	160	83
13 Kanyakumari	24	26	50	23
Total for municipal towns and census towns.	4,233	1,913	6,196	3,388
Total for rural areas	23-63	10-55	34-18	19-99
Total for the State	4,257	1,939	6,230	3,388

Serial number and municipal towns and census towns in the districts of.

	Over six months and not exceeding twelve months.		Total under one year.	
	Males.	Females.	Males.	Females.
1 Madras	1,198	1,254	2,452	2,452
2 Chingleput	148	144	292	292
3 North Arcot	276	279	554	554
4 South Arcot	81	74	155	155
5 Thanjavur	200	172	372	372
6 Tiruchirappalli	106	103	209	209
7 Madurai	295	260	554	554
8 Ramnathapuram	168	189	357	357
9 Tirunelveli	195	171	366	366
10 Salem	81	99	180	180
11 Coimbatore	215	229	444	444
12 The Nilgiris	35	31	66	66
13 Kanyakumari	19	23	42	42
Total for municipal towns and census towns.	3,008	2,968	5,974	5,974
Total for rural areas	16-68	17-51	34-18	19-99
Total for the State	3,024	2,985	6,008	5,993

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	Over six months and not exceeding twelve months.		Total under one year.	
	Males.	Females.	Males.	Females.
1 Madras	1,198	1,254	2,452	2,452
2 Chingleput	148	144	292	292
3 North Arcot	276	279	554	554
4 South Arcot	81	74	155	155
5 Thanjavur	200	172	372	372
6 Tiruchirappalli	106	103	209	209
7 Madurai	295	260	554	554
8 Ramnathapuram	168	189	357	357
9 Tirunelveli	195	171	366	366
10 Salem	81	99	180	180
11 Coimbatore	215	229	444	444
12 The Nilgiris	35	31	66	66
13 Kanyakumari	19	23	42	42
Total for municipal towns and census towns.	3,008	2,968	5,974	5,974
Total for rural areas	16-68	17-51	34-18	19-99
Total for the State	3,024	2,985	6,008	5,993

STATEMENT IV—Deaths registered according to ages in the State of Madras during the year 1964—cont.

Serial number and districts.	Five and under ten years.		Ten and under fifteen years.		Fifteen and under twenty years.		Twenty and under thirty years.		Thirty and under forty years.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1 Madras ..	769	740	297	264	283	283	770	833	821	781
2 Chingleput ..	137	108	47	51	56	85	157	231	152	183
3 North Arcot ..	236	189	126	112	97	143	266	397	327	382
4 South Arcot ..	111	76	66	54	52	63	142	249	168	199
5 Thanjavur ..	189	163	91	106	103	131	289	405	350	379
6 Tiruchirappalli ..	122	123	70	108	98	125	262	421	299	326
7 Madurai ..	196	185	144	142	178	201	377	503	401	447
8 Ramanathapuram ..	107	115	78	53	66	90	158	225	219	224
9 Tirunelveli ..	173	180	77	96	113	134	203	397	251	354
10 Salem ..	100	98	60	61	71	123	170	241	197	222
11 Coimbatore ..	186	211	119	112	135	163	340	517	396	404
12 The Nilgiris ..	31	39	72	33	26	28	55	63	49	66
13 Kanyakumari ..	29	30	21	13	24	25	45	62	43	69
Total for municipal towns and census towns.	2,366	2,257	1,223	1,204	1,283	1,594	3,204	4,547	3,973	4,096

Serial number and districts.	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.
1 Madras ..	1,154	710	1,505	936	3,594	3,626	16,542	15,456
2 Chingleput ..	186	126	252	150	701	613	2,545	2,385
3 North Arcot ..	416	235	487	271	1,212	1,005	4,823	4,344
4 South Arcot ..	199	158	276	161	610	594	2,121	2,075
5 Thanjavur ..	417	298	555	307	1,364	1,329	4,521	4,352
6 Tiruchirappalli ..	387	239	397	254	1,034	937	3,769	3,479
7 Madurai ..	621	329	631	374	1,455	1,594	6,388	5,982
8 Ramanathapuram ..	262	186	334	224	944	907	3,320	3,108
9 Tirunelveli ..	348	284	455	308	1,452	1,365	4,534	4,398
10 Salem ..	253	131	267	148	716	719	2,600	2,601
11 Coimbatore ..	492	312	509	312	1,502	1,409	5,671	5,390
12 The Nilgiris ..	71	60	97	47	190	165	936	783
13 Kanyakumari ..	71	60	96	51	284	251	791	712
Total for municipal towns and census towns.	4,877	3,089	5,861	3,543	15,068	14,514	58,561	54,904

STATEMENT IV-A—Infant deaths according to communities in the municipal towns in the State of Madras during the year 1964.

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—										
1 Madras ..	1,597	102.12	902	152.62	303	99.57	1	25.31	7,803	106.12
Chingleput district—										
2 Kancheepuram ..	254	63.02	4	25.64	1	..	..	..	259	61.54
3 Tiruvallur ..	54	58.1	5	74.7	2	111.1	..	..	61	60.12
4 Chingleput ..	129	80.5	7	76.1	3	52.6	..	..	139	79.3
5 Tiruvottiyur ..	80	132.48	10	227.30	7	269.22	..	..	97	143.95
6 Thambaram ..	21	30.26	2	39.2	1	12.2	..	..	24	39.0
7 Alandur ..	32	74.94	5	113.65	3	96.78	..	..	40	79.68
North Arcot—										
8 Vellore ..	504	88.1	112	110.79	15	48.1	..	..	631	89.5
9 Tiruvannamalai ..	124	74.3	11	65.5	..	..	..	..	135	72.5
10 Gudiyatham ..	203	101.0	54	144.4	1	50.0	..	..	258	107.3
11 Vaniyambadi ..	52	59.9	88	109.3	2	60.6	..	..	142	83.2
12 Tirupathur ..	53	37.5	61	125.8	1	47.6	..	..	115	59.9
13 Walajapet ..	28	48.19	4	56.32	..	..	..	..	32	4.89
14 Arni ..	88	60.3	11	90.2	1	34.5	..	..	100	62.1
15 Arkonam ..	39	30.18	3	18.52	..	..	..	..	42	26.94
16 Ambur ..	59	55.4	61	86.0	5	52.1	..	..	125	66.1
17 Arcot ..	19	34.5	2	26.7	..	..	..	..	21	23.4
18 Ranipet ..	66	65.6	4	31.0	6	103.4	..	..	76	63.4
South Arcot—										
19 Cuddalore ..	67	18.8	8	51.3	..	..	3	34.1	78	30.36
20 Chidambaram ..	77	38.8	3	28.3	1	71.4	..	..	81	38.5
21 Villupuram ..	41	23.9	6	39.6	4	44.0	..	..	52	26.2
22 Tindivanam ..	51	39.1	7	55.1	4	44.0	..	..	58	39.9
Thanjavur district—										
23 Thanjavur ..	309	63.4	27	98.6	18	41.0	..	..	354	62.4
24 Kumbakonam ..	231	45.6	15	35.9	4	17.1	..	..	250	43.6
25 Mayuram ..	94	37.3	6	35.5	2	33.3	..	..	102	37.1
26 Mannargudi ..	115	57.0	5	33.6	4	85.1	1	166.7	135	56.3
27 Tiruvarur ..	65	51.59	7	42.2	..	..	..	..	72	50.08
Tiruchirappalli district—										
28 Tiruchirappalli ..	378	56.1	45	51.0	23	36.6	..	..	446	52.4
29 Karur ..	51	26.7	4	52.0	1	22.6	..	..	56	27.7
30 Srirangam ..	97	36.5	1	43.5	..	..	..	..	98	36.3
31 Pudukkottai ..	141	51.3	12	42.3	4	31.3	..	..	157	46.6

STATEMENT IV-A.—Infant deaths according to communities in the municipal towns in the State of Madras during the year 1964—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)
<i>Madurai district—</i>										
32 Madurai	1,440	69.5	78	53.3	54	45.9	..	..	1,572	67.3
33 Dindigul	153	43.9	10	15.9	8	11.8	..	..	171	35.7
34 Bodinayakanur ..	73	65.3	6	73.2	3	130.4	..	..	82	67.0
35 Periyakulam ..	91	62.2	7	27.1	10	65.70	..	..	108	57.7
36 Palni	84	50.5	15	88.8	..	..	..	..	99	53.2
37 Cumbum	45	78.0	2	21.1	4	108.1	..	..	51	71.6
38 Allinagaram ..	26	30.6	2	80.0	..	..	..	..	28	21.1
<i>Ramanathapuram district—</i>										
39 Rajapalayam ..	141	56.7	5	29.5	2	43.5	..	..	146	56.0
40 Srivilliputhur ..	151	96.9	7	200.0	5	55.0	..	..	163	96.7
41 Virudhunagar ..	87	30.6	1	7.9	1	7.2	..	..	89	28.4
42 Karaikudi	78	47.01	6	45.46	1	23.28	..	..	85	46.34
43 Sivakasi	45	42.8	6	81.1	..	..	..	..	51	44.2
44 Devakottai	60	66.9	4	54.0	1	30.3	..	..	65	64.8
45 Aruppukottai ..	134	76.2	5	65.8	1	100.0	..	..	140	75.9
46 Ramanathapuram ..	84	53.8	20	52.1	2	30.3	..	..	104	52.7
47 Paramakudi ..	53	40.46	..	..	..	..	..	..	53	36.06
<i>Tirunelveli district—</i>										
48 Tuticorin	257	56.8	12	75.0	65	65.7	..	..	334	81.33
49 Tirunelveli	227	76.95	25	47.7	4	33.9	..	..	254	71.6
50 Palayamkottai ..	139	55.1	13	57.5	18	60.4	..	..	170	55.8
51 Melapalayam ..	12	48.19	45	91.67	..	..	..	..	57	76.0
52 Shencottah	49	60.9	7	46.7	..	..	..	..	56	57.5
53 Koilpatti	25	25.8	1	50.0	..	..	..	..	26	24.6
54 Sankarankoil ..	40	65.8	1	20.0	1	33.8	..	..	42	61.0
<i>Salem district—</i>										
55 Salem	541	46.5	61	65.8	3	13.2	..	..	605	47.3
56 Rasipuram	69	59.9	1	28.6	..	..	..	..	70	52.2
57 Dharmapuri ..	18	16.0	2	20.4	..	..	1	37.0	21	16.8
<i>Coimbatore district—</i>										
58 Coimbatore	936	63.4	77	60.4	65	69.4	..	..	1,078	63.5
59 Erode	233	63.9	12	36.5	5	36.2	..	..	250	60.8
60 Tiruppur	149	43.9	20	65.1	2	40.4	..	..	173	45.6
61 Pollachi	226	80.5	17	91.4	3	66.7	..	..	246	81.0
62 Dharapuram ..	68	51.3	9	52.6	6	52.2	..	..	83	51.5
63 Udumalpet	78	58.7	5	34.7	1	45.5	..	..	84	56.2
64 Mottupalayam ..	65	47.1	3	12.3	..	..	..	..	68	40.7
65 Gobichettipalayam.	45	38.7	1	13.0	..	..	..	..	46	36.7
<i>The Nilgiris district—</i>										
66 Ootacamund	110	66.5	22	73.9	3	76.2	..	..	166	69.2
67 Coonoor	66	57.0	3	38.3	25	56.3	..	..	90	54.7
<i>Kanyakumari district—</i>										
68 Nagercoil	86	25.0	14	39.7	23	19.2	..	..	123	24.6
69 Kolachel	4	34.5	2	13.1	5	26.7	..	..	11	24.3
70 Kuzhithurai ..	17	35.8	..	..	6	19.2	..	..	23	28.8
71 Padmanabhapuram.	22	47.7	1	15.9	2	10.3	..	..	25	34.8
Total ..	16,427	69.3	2,078	85.7	793	53.4	5	33.8	19,304	69.5

STATEMENT V—Deaths registered according to classes in the State of Madras during the year 1964.

Serial number and districts.	Number of deaths registered.										Deaths rate per 1,000 of estimated mid-year population.														
	Christians.					Muslims.					Hindus.					Other Classes.									
	Males.		Females.		(1)	Males.		Females.		(4)	Males.		Females.		(8)	Males.		Females.		(12)	Males.		Females.		(16)
	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)		(10)	(11)	(12)	(13)		(14)	(15)	(17)							
1 Madras	793	741	1,616	1,497	14,098	13,202	35	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
2 Chingleput	233	203	274	228	12,506	11,862	57	36	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
3 North Arcot	318	287	1,182	1,125	18,393	17,947	79	88	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
4 South Arcot	461	486	500	488	16,610	16,596	207	193	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
5 Thanjavur	381	372	575	520	16,831	17,553	53	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
6 Tiruchirappalli	381	372	575	520	16,831	17,553	53	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
7 Madurai	592	585	603	506	16,376	16,229	55	44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
8 Ramanathapuram	397	394	523	535	10,513	10,407	47	38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
9 Tirunelveli	1,600	1,543	883	870	14,289	14,365	15	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
10 Salem	123	132	352	304	15,438	15,164	71	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
11 Coimbatore	378	422	465	436	16,361	16,204	22	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
12 The Nilgiris	224	182	160	132	1,386	1,187	17	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
13 Kanyakumari	1,788	1,642	179	162	3,187	3,027	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Total for the State	8,275	8,064	8,276	7,677	172,678	170,785	7.2	6.74	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964

Serial number.	Districts and towns.	Births.			Deaths.						
		Males.		Females.	Total.	Birth rate per 1,000 of population.	Cholera.	Smallpox.	Plague.	Malaria.	Potential.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. RURAL DISTRICTS.											
DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS AND CENSUS TOWNS.											
1	Chingleput	1,806,000	20,539	18,821	39,360	21.80	87	183	..	46	3,113
2	North Arcot	2,587,000	32,440	30,150	62,590	24.19	161	288	..	127	7,234
3	South Arcot	2,741,000	23,086	26,297	49,384	20.06	1,073	381	..	130	4,579
4	Thanjavur	2,665,000	22,887	21,619	44,506	16.70	491	341	..	55	2,230
5	Tiruchirappalli	2,583,000	28,446	26,335	54,781	21.21	180	208	..	47	4,364
6	Madurai	2,245,000	27,614	25,497	53,111	22.66	75	153	..	42	3,733
7	Ramanathapuram	1,940,000	20,055	18,452	38,507	17.85	75	166	..	42	3,374
8	Tirunelveli	1,935,000	26,176	23,722	49,898	23.79	88	156	..	62	3,579
9	Salem	3,206,000	31,862	28,318	60,180	19.26	57	335	..	18	6,806
10	Coimbatore	2,588,000	23,562	21,525	45,087	17.42	141	152	..	43	3,349
11	The Nilgiris	260,000	2,869	2,763	5,632	21.66	..	4	..	5	388
12	Kanyakumari	895,000	13,799	13,083	26,882	30.11	..	1	..	1	2,107
	Rural areas total	25,539,000	278,936	256,572	535,508	20.94	2,428	2,262	..	728	33,221
B. TOWNS.											
MUNICIPAL TOWNS AND CENSUS TOWNS.											
1	Madras	1,834,000	3,71,478	36,088	73,566	40.11	153	573	..	5	848
Chingleput district.											
2	T.C. Kancheepuram	95,300	2,262	1,957	4,209	44.15	6	53	..	..	134
3	" Tiruvellore	20,100	502	513	1,015	50.50	..	..	..	..	30
4	" Chingleput	27,100	937	815	1,752	64.65	..	..	..	..	25
5	" Tiruvotiyur	42,600	331	343	647	15.82	..	..	..	..	96
6	" Tambaram	38,500	421	407	828	21.50	2	..	..	1	35
7	" Alandur	35,900	267	235	502	13.99	..	3	..	..	52
	Total	259,500	4,710	4,270	8,980	34.64	8	56	..	1	373
8	T.C. Poonamallee	11,900	363	312	675	56.72	..	..	..	..	18
9	" Uthiramerur	14,500	76	88	164	11.31	1	3	..	..	25
10	" Pallavaram	17,700	81	65	146	8.25	..	..	..	..	10
11	" Tirukalikundram	13,400	157	139	295	22.09	..	..	..	..	40
12	" Maduranthakam	15,600	78	75	153	9.81	..	..	..	..	22
13	" Welajabad	8,700	192	232	424	48.72	..	2	..	..	21
14	" Cheyyur	7,000	102	87	189	27.01	..	9	..	..	22
	T.C. Total	210,400	2,667	2,347	5,014	23.83	5	35	..	..	423
	Urban areas total	469,900	7,377	6,617	13,994	29.78	13	91	..	1	796
North Arcot district.											
26	M.T.C. Vellore	1,16,300	3,627	3,422	7,049	60.61	13	1	..	..	69
27	" Tiruvannamalai	48,300	920	942	1,863	38.55	20	4	..	..	88
28	" Gudiyatham	52,000	1,250	1,154	2,404	46.23	10	..	..	..	121
29	" Vaniyambadi	43,200	863	844	1,707	39.52	2	..	..	..	92
30	" Tirupathur	32,100	973	947	1,920	59.81	14	..	..	..	67
31	" Walajpet	13,400	334	318	652	48.66	1	..	..	..	13
32	" Ambur	39,500	953	917	1,870	47.35	1	..	..	..	148
33	" Arni	33,600	833	778	1,611	47.94	..	1	..	..	98
34	" Arkonam	33,200	846	713	1,559	46.96	..	..	..	..	43
35	" Arcot	26,300	342	287	629	24.01	6	..	..	..	23
36	" Ranipet	24,700	624	571	1,195	48.39	8	..	..	..	71
	M.T.C. Total	462,000	11,566	10,993	22,459	48.58	75	6	..	..	823
37	T.C. Tiruvottipuram	15,713	118	133	251	15.97	..	9	..	..	49
38	" Polur	14,800	210	154	364	24.60	..	..	..	..	28
39	" Vishram	14,900	152	132	284	19.19	..	6	..	..	51
40	" Pernampet	19,900	205	202	407	20.45	2	2	..	..	20
41	" Sholinghur	11,700	136	130	266	22.74	..	..	..	..	24
42	" Palikonda	10,600	118	79	197	18.58	..	1	..	..	16
43	" Wandiwash	12,700	152	135	287	22.60	..	..	..	..	35
44	" Kalambur	9,900	156	138	294	31.61	..	..	..	..	38
45	" Chetpet	11,000	109	102	211	19.18	..	..	..	..	16
46	" Kaveripakkam	7,900	74	72	146	18.48	..	..	..	..	16
47	" Panapakkam	5,500	70	60	130	23.63	..	1	..	..	13
48	" Sathuvacheri	6,500	43	42	85	13.07	..	..	..	1	28
49	" Jalarpet	17,100	119	76	195	11.40	..	..	..	..	18
50	" Dharampattinam	9,000	149	133	282	31.33	..	..	..	..	2
51	" Tharapadi	8,300	72	59	131	15.79	..	..	..	..	7
52	" Udumendram	5,900	55	52	107	18.14	..	..	..	..	..
	T.C. Total	179,800	1,938	1,699	3,637	20.23	41	19	..	1	3.0
	Urban areas total	641,800	13,504	12,532	26,036	40.63	116	25	..	1	1,193
South Arcot district.											
53	M.T.C. Cuddalore	82,500	1,988	1,880	3,868	48.88	20	3	..	..	79
54	" Chidambaram	42,700	1,085	1,018	2,103	49.25	52	..	..	..	3
55	" Villupuram	46,100	1,025	958	1,983	43.01	17	2	..	..	48
56	" Tindivanam	36,900	768	685	1,453	40.48	..	..	..	..	73
	Total	2,07,200	4,866	4,541	9,407	45.40	89	6	..	..	203

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number	Districts and towns.	Deaths—cont.													Total deaths from all causes.	
		Injuries.														
		Suicides.			Wounds and acci- dents.			Snake bite and killed by wild beasts.			Hydrophobia.	Total.	All other causes.	Males.	Females.	Total.
		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.						
(14)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)				
A. RURAL DISTRICTS—cont.																
DISTRICTS EXCLUSIVE OF MUNICIPAL TOWNS AND CENSUS TOWNS—cont.																
1	Chingleput	1,625	1,452	22	15	86	71	13	207	13,726	10,525	20,469				
2	North Arcot	2,867	2,135	83	92	168	72	21	436	17,004	13,149	30,252				
3	South Arcot	2,359	1,955	54	51	111	94	36	346	20,575	15,655	31,398				
4	Thanjavur	1,499	1,493	110	88	126	81	21	426	21,481	13,757	28,016				
5	Tiruchirappalli	1,236	1,617	84	96	142	90	17	429	21,605	14,571	30,085				
6	Madurai	1,322	1,790	59	77	106	77	9	328	15,142	11,258	22,620				
7	Ramanathapuram	572	1,298	46	28	64	37	4	179	10,885	8,160	16,466				
8	Tirunelveli	1,061	1,201	72	76	86	60	40	334	18,101	12,253	24,682				
9	Salem	1,773	1,397	135	148	240	103	20	646	16,361	13,397	26,578				
10	Coimbatore	1,022	2,234	96	96	183	103	11	489	15,816	11,555	23,246				
11	The Nilgiris	126	214	8	3	9	2	..	22	828	851	1,587				
12	Kanyakumari	784	903	43	14	64	18	1	140	4,505	4,320	8,441				
	Rural areas, total	15,245	17,689	812	784	1,385	808	103	3,982	16,204	131,431	132,325	263,759			

B. TOWNS—cont.
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.

1	Madras	3,379	8,272	107	59	395	21	15	597	18,171	16,542	15,196	31,998			
Chingleput district.																
2	M.T.C. Kancheepuram	103	209	1	..	28	..	..	29	962	728	1,496				
3	" Tiruvellore	19	22	1	2	4	..	..	8	206	140	286				
4	" Chingleput	37	109	..	..	34	4	7	45	455	369	671				
5	" Tiruvottiyur	92	25	..	..	2	..	..	2	210	179	246				
6	" Tambaram	9	58	2	..	3	..	..	6	120	139	232				
7	" Alandur	27	20	..	..	1	..	..	1	99	108	202				
	Total	287	443	4	2	72	4	9	91	2,052	1,672	1,657	3,311			
8	T.C. Poonamallee	85	6	..	..	1	2	..	2	121	102	189				
9	" Uthiramerur	10	9	2	..	..	..	..	2	80	61	127				
10	" Pallavaram	6	3	..	..	..	..	..	..	44	24	66				
11	" Tirukalkundram	7	5	1	..	..	1	..	..	67	60	122				
12	" Maduranthakam	20	7	..	..	..	1	..	2	28	36	60				
13	" Walejabad	12	6	..	..	..	..	..	..	47	63	89				
14	" Cheyyur	..	..	..	..	..	..	..	..	36	42	59				
North Arcot district.																
15	" Arni	6	3	..	..	..	..	..	..	39	37	76				
16	" St. Thomas Mount	8	2	..	..	3	..	..	3	30	58	88				
17	" Villivakkam	20	17	1	..	8	..	..	2	43	42	85				
18	" Sripurambudur	38	9	..	..	..	..	..	..	99	99	198				
19	" Kurathur	10	11	1	..	4	..	..	5	55	60	115				
20	" Ponneri	11	5	..	..	..	..	..	1	58	57	115				
21	" Avadi	..	..	..	..	..	..	..	..	7	14	21				
22	" Anakaputhur	6	9	..	2	1	..	..	3	26	37	67				
23	" Ambethur	..	..	..	..	..	..	..	..	1	17	24				
24	" Proddathurpet	..	..	..	..	..	..	..	..	25	15	34				
25	" Tiruthani	..	..	..	..	..	..	..	..	897	873	1,619				
	T. C. Total	192	103	6	3	11	4	..	24	2,889	2,545	2,365	4,930			
	Urban areas total	479	546	10	5	83	8	9	115	2,889	2,545	2,365	4,930			

North Arcot district.

26	M.T.C. Vellore	140	546	1	..	39	..	1	91	2,037	1,610	1,237	2,897			
27	" Tiruvannamalai	73	121	2	..	15	..	1	18	444	386	352	768			
28	" Gudiyatham	79	106	2	3	18	1	..	24	613	482	471	953			
29	" Vaniyambadi	63	64	..	..	5	..	..	5	303	271	258	529			
30	" Tirupathur	15	68	..	..	3	..	..	3	276	226	215	444			
31	" Walajpet	10	4	2	1	..	..	..	..	199	103	124	227			
32	" Ambur	41	57	2	1	3	1	1	8	328	300	253	583			
33	" Arni	42	60	..	1	4	..	1	5	235	242	199	441			
34	" Arkonam	14	10	3	..	4	1	..	9	174	132	118	250			
35	" Arcot	12	14	..	..	3	..	..	3	101	84	75	159			
36	" Ranipet	22	32	..	..	5	1	1	7	250	206	184	390			
	M.T.C. Total	511	1,082	10	5	149	4	6	174	4,960	4,042	3,509	7,641			
37	T.C. Tiruvotipuram	17	8	..	..	..	..	..	..	61	66	81	147			
38	" Polur	3	12	..	..	2	..	..	2	91	66	70	136			
39	" Vishram	6	18	1	..	1	..	..	2	86	94	87	181			
40	" Pernampet	6	14	..	..	..	..	..	..	31	44	31	75			
41	" Sholinghur	3	2	..	..	..	..	..	..	60	37	52	99			
42	" Pallikonda	14	10	1	..	..	..	..	1	63	59	46	105			
43	" Wandiwash	6	9	..	..	1	..	..	1	74	61	64	125			
44	" Kalambur	14	4	..	..	1	..	..	2	66	54	68	122			
45	" Chetpet	6	13	..	..	1	1	..	3	60	52	59	91			
46	" Kaveripakkam	7	8	..	..	1	1	..	1	50	54	52	106			
47	" Panepakkam	3	8	..	..	..	1	..	1	19	25	20	45			
48	" Sethuvacheri	17	7	2	1	..	..	..	3	16	34	39	72			
49	" Jalarpet	4	14	..	..	1	..	..	1	55	39	33	72			
50	" Dharpadavadu	..	..	..	..	..	..	..	..	81	47	57	84			
51	" Torapadi	1	8	1	..	2	..	..	3	33	33	19	62			
52	" Udayandrum	..	..	..	..	..	..	..	..	24	16	8	24			
	Total	102	136	5	1	8	3	..	17	850	781	749	1,266			
	T. C. Urban areas total	613	1,218	15	6	157	7	6	191	5,810	4,823	4,314	9,167			

South Arcot district.

53	M.T.C. Cuddalore	36	61	..	3	34	5	2	44	789	540	453	1,032			
54	" Chidambaram	13	15	..	..	8	..	1	9	478	307	293	570			
55	" Villupuram	26	13	2	4	9	1	1	17	350	223	245	468			
56	" Tindivanam	15	4	..	..	..	1	..	1	214	167	155	312			
	Total	90	93	2	7	51	7	4	71	1,831	1,236	1,146	2,832			

STATEMENT VI.—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number.		Districts and towns.		Death rate per 1,000 of estimated mid-year population.																Number of maternal deaths.		Rate per 1,000 births (live and still).		Number of months for which complete birth and death returns have not been received.	
				(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)											
A. RURAL, DISTRICTS—cont.																									
TOWNS AND CENSUS TOWNS.—cont.																									
TOWNS EXCLUSIVE OF MUNICIPAL																									
1	Chingleput	0.05	0.10	..	0.03	1.74	0.90	0.80	0.11	7.60	11.34	12.65	77	1.94	..	..	..	..							
2	North Arcot	0.06	0.11	..	0.05	2.80	1.11	0.83	0.17	6.57	11.69	14.49	197	3.14	..	..	..	..							
3	South Arcot	0.39	0.13	..	0.05	1.67	0.85	0.71	0.13	7.51	11.46	12.21	227	4.12	..	..	..	..							
4	Thanjavur	0.18	0.13	..	0.02	0.84	0.76	0.56	0.16	8.06	10.51	10.77	157	3.51	..	..	..	..							
5	Tiruchirappalli	0.07	0.08	..	0.02	1.83	0.78	0.63	0.17	8.32	11.65	12.83	266	5.51	..	..	..	..							
6	Meduraj	0.03	0.07	..	0.02	1.68	0.79	0.80	0.15	6.74	10.07	11.09	99	1.46	..	..	..	..							
7	Ramanathapuram	0.04	0.03	..	0.02	1.74	0.79	0.67	0.09	5.61	10.64	10.64	78	2.02	..	..	..	..							
8	Tirunelveli	0.05	0.08	..	0.03	1.85	0.75	0.62	0.17	9.35	12.70	15.30	170	3.42	..	..	..	..							
9	Salem	0.02	0.10	..	0.04	2.00	0.73	0.42	0.20	5.05	8.06	8.77	155	2.67	..	..	..	..							
10	Coimbatore	0.05	0.06	..	0.02	1.29	0.39	0.86	0.19	0.12	8.98	9.28	137	3.03	..	..	..	..							
11	The Nilgiris	..	0.02	..	..	1.49	0.42	0.82	0.08	3.18	6.10	6.26	10	1.74	..	..	..	..							
12	Kanyakumari	..	*	..	*	2.36	0.88	1.01	0.16	5.05	9.45	10.10	88	3.24	..	..	..	..							
Rural areas, total		0.09	0.09	..	0.03	1.77	0.60	0.69	0.16	6.89	10.32	11.53	1,681	3.13	..	..	..	..							
B. TOWNS.																									
MUNICIPAL TOWNS AND CENSUS TOWNS.																									
1	Madras	0.08	0.31	..	*	0.46	1.84	4.51	0.33	9.91	17.45	17.51	134	1.78	..	..	..	..							
Chingleput district.																									
2	M.T.C. Kancheepuram	0.06	0.56	..	..	1.41	1.08	2.19	0.30	10.09	15.69	15.48	48	10.79	..	..	..	..							
3	" Tiruvallur	..	..	..	..	0.92	0.95	1.09	0.40	10.25	14.18	11.48	3	2.90	..	..	..	..							
4	" Chingleput	..	..	..	..	0.92	1.37	4.02	1.66	16.79	24.76	18.81	27	13.95	..	..	..	..							
5	" Tiruvotiyur	..	..	..	..	2.95	2.16	0.59	0.05	4.93	9.97	10.14	2	2.91	..	..	..	..							
6	" Tambaram	0.05	..	..	0.03	0.23	0.23	1.51	0.16	3.12	6.03	3.15	3	3.5	..	..	..	..							
7	" Alandur	..	0.08	..	..	1.45	0.75	0.56	0.03	2.76	5.63	8.36	..	..	..	..	..	..							
Total		0.31	0.22	..	*	1.44	1.11	1.71	0.35	7.92	12.77	..	83	8.96	..	..	..	..							
North Arcot district.																									
8	T.C. Poonamallee	..	..	..	..	1.51	2.94	0.50	0.25	10.17	15.63	12.38	..	..	..	..	..	..							
9	" Uthiramerur	..	..	..	..	0.92	0.95	1.09	0.40	10.25	14.18	11.48	3	2.90	..	..	..	..							
10	" Pallavaram	0.07	0.25	..	..	1.72	0.69	0.62	0.14	5.52	8.73	14.89	1	6.07	..	..	..	..							
11	" Tiruvallur	..	0.17	..	..	0.57	0.34	0.17	..	3.73	3.91	9.24	1	6.85	..	..	..	..							
12	" Tirukalikundram	..	0.07	..	..	2.99	0.52	0.37	0.15	5.00	9.10	9.45	..	..	..	..	..	..							
13	" Madurantakam	..	0.58	..	..	1.41	..	0.06	..	1.79	3.85	6.63	..	..	..	..	..	..							
14	" Walsajabad	..	0.23	..	..	2.41	2.30	0.80	0.23	5.40	11.38	12.84	3	7.03	..	..	..	..							
15	" Cheyyur	..	1.29	..	..	3.44	1.71	0.86	..	5.14	12.15	11.43	..	..	..	..	..	..							
Total		0.02	0.17	..	0.01	..	0.91	0.49	0.11	3.98	7.70	..	7	1.37	..	..	..	..							
Urban areas total		0.03	0.19	..	*	1.69	1.02	1.16	0.24	6.15	10.49	..	96	6.18	..	..	..	..							
North Arcot district.																									
26	M.T.C. Vellore	0.11	0.01	..	..	0.59	1.20	4.69	0.78	17.51	24.91	23.56	49	6.59	..	..	..	..							
27	" Tiruvannamalai	0.41	0.08	..	..	1.82	1.51	2.50	0.37	9.19	15.90	19.97	18	1.11	..	..	..	..							
28	" Gudiyatham	0.19	..	..	..	2.33	1.52	2.04	0.46	11.79	18.33	17.92	18	7.12	..	..	..	..							
29	" Vaniyambadi	0.05	..	..	..	2.13	1.46	1.48	0.12	7.01	12.25	12.38	4	2.26	..	..	..	..							
30	" Tirupathur	0.44	..	..	..	2.09	0.47	2.15	0.12	8.60	13.83	14.43	9	4.78	..	..	..	..							
31	" Walsajabad	0.07	..	..	..	0.97	0.75	0.30	..	14.85	16.94	16.36	..	..	..	..	..	..							
32	" Ambur	0.03	0.03	..	..	3.75	1.04	1.44	0.20	8.30	14.76	12.54	8	4.00	..	..	..	..							
33	" Arni	..	..	..	..	2.92	1.25	1.79	0.15	6.24	7.63	19.14	6	3.54	..	..	..	..							
34	" Arkonam	..	..	..	..	1.30	0.42	0.80	0.27	5.24	6.07	6.66	6	3.62	..	..	..	..							
35	" Arcot	0.23	..	..	..	0.88	0.46	0.53	0.11	3.86	6.07	6.66	2	3.16	..	..	..	..							
36	" Ranipet	0.32	..	..	..	2.87	0.39	1.30	0.28	10.12	15.79	17.35	5	4.00	..	..	..	..							
Total		0.16	0.01	..	..	1.80	1.11	2.34	0.38	10.73	16.53	..	125	5.30	..	..	..	..							
Urban areas total		0.19	0.04	..	*	1.86	0.95	1.50	0.30	9.05	14.27	..	137	5.02	..	..	..	..							
South Arcot district.																									
53	M.T.C. Cuddalore	0.24	0.04	..	..	0.96	0.44	0.74	0.53	9.56	12.51	13.50	5	1.27	..	..	..	..							
54	" Chidambaram	1.22	..	..	..	0.07	0.30	0.35	0.21	11.19	13.35	13.69	14	6.36	..	..	..	..							
55	" Villupuram	0.37	0.04	..	..	0.93	0.56	0.28	0.37	7.59	10.16	11.03	28	13.82	..	..	..	..							
56	" Tindivanam	..	..	..	..	2.17	0.42	0.11	0.03	5.96	8.69	8.43	1	0.07	..	..	..	..							
Total		0.43	0.02	..	..	0.98	0.43	0.45	0.84	8.84	11.50	..	48	5.00	..	..	..	..							

STATEMENT VI.—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number.		Districts and towns.		Births.			Deaths.						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
B. TOWNS—cont.													
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.													
South Arcot district—cont.													
57	T.C. Panruti ..	20,100	314	305	619	30.80	52	6	..	..	49		
58	" Porto Novo ..	15,200	220	239	459	31.05	11	..	..	1	91		
59	" Nelikuppam ..	22,500	296	283	579	25.73	16	..	..	..	25		
60	" Tirukoilur ..	13,700	393	343	736	53.72	28	..	..	2	46		
61	" Pennadam ..	7,500	90	110	200	26.66	1	..	..	..	8		
62	" Kurinjipadi ..	12,900	101	10	111	14.81	..	..	..	..	9		
63	" Mannargudi ..	12,300	147	133	280	23.17	..	..	..	..	..		
64	" Virudhachalam ..	15,300	133	113	246	16.08	4	..	..	4	..		
65	" Bhuvanagiri ..	11,600	189	132	321	27.67	..	..	..	..	11		
66	" Kallakurichi ..	14,100	94	82	177	12.55	2	..	..	..	10		
67	" Chinnasalem ..	10,800	65	30	95	10.65	..	..	..	..	25		
68	" Valavanoor ..	10,800	176	133	312	28.89	3	10	..	..	2		
69	" Srimushnam ..	7,600	100	69	169	23.56	5	..	..	1	49		
70	" Ulundurpet ..	7,100	81	15	96	20.56	3	..	..	..	7		
71	" Kottakuppam ..	9,600	146	124	270	28.13	..	..	..	..	23		
	Total ..	190,200	2,555	2,223	4,853	25.52	124	16	..	8	384		
	Urban areas total ..	397,400	7,421	6,839	14,260	35.58	213	21	..	8	587		
Thanjavur district.													
72	M.T.C. Thanjavur ..	114,600	2,832	2,753	5,587	48.75	1	7	..	1	54		
73	" Kumbakonam ..	929,000	2,932	2,782	5,714	61.48	24	1	..	..	81		
74	" Nagapattinam ..	39,500	1,416	1,320	2,736	45.59	7	..	..	..	53		
75	" Mayuram ..	54,000	1,407	1,341	2,748	50.89	10	..	..	..	15		
76	" Mannargudi ..	34,800	1,559	1,061	2,620	63.80	40	..	..	..	56		
77	" Tiruvarur ..	31,100	748	633	1,381	46.23	56	1	..	..	50		
	Total ..	386,500	10,494	9,499	20,443	52.87	138	9	..	1	314		
78	T.C. Vedaranyam ..	18,700	269	245	514	27.39	1	..	..	..	8		
79	" Sirkali ..	21,000	524	494	1,018	48.48	33	..	..	..	24		
80	" Papanasam ..	10,000	89	84	173	17.30	..	..	..	..	2		
81	" Tranquebar ..	14,800	293	278	571	38.38	5	..	..	..	22		
82	" Kuttalam ..	8,500	134	117	251	28.17	..	..	..	..	..		
83	" Thiruvadamardur ..	9,200	154	137	291	31.63	..	..	..	..	2		
84	" Pattukkottai ..	26,500	688	663	1,351	49.55	5	..	..	4	19		
85	" Adirampattinam ..	13,400	182	160	342	25.97	4	6	..	..	11		
86	" Ayyampettai ..	9,700	169	131	300	34.02	1	..	..	..	4		
87	" Tiruvaiyaru ..	11,200	81	87	168	15.00	..	5	..	..	11		
88	" Vallam ..	8,300	74	68	142	17.11	..	..	..	..	..		
89	" Thiruthuraiipoondi ..	14,300	56	32	88	6.15	6	1	..	..	2		
90	" Mudupet ..	11,800	141	129	270	22.88	..	..	..	..	13		
91	" Thirukattupalli ..	8,400	218	215	433	51.53	..	..	..	..	..		
92	" Kuthanallur ..	14,600	500	499	999	13.63	..	..	..	..	..		
	Total ..	281,700	4,197	3,934	8,131	21.87	57	15	..	9	242		
	Urban areas total ..	668,600	14,691	13,883	28,574	42.75	195	24	..	10	556		
Tiruchirappalli district.													
103	M.T.C. Tiruchirappalli ..	260,200	4,528	4,059	8,582	32.98	37	11	..	..	162		
104	" Karur ..	52,400	1,056	964	2,020	37.83	..	1	..	..	76		
105	" Srirangam ..	43,700	983	893	1,876	42.92	1	1	..	..	29		
106	" Pudukottai ..	52,500	1,646	1,517	3,163	60.26	5	..	..	..	25		
	Total ..	409,700	8,208	7,433	15,641	38.16	43	12	..	..	292		
107	T.C. Golden Rock (RC) ..	19,600	412	404	816	41.63	..	1	..	..	9		
108	" Do. (PB) ..	26,100	233	205	438	17.45	6	..	..	..	25		
109	" Tirathayangarpettai ..	9,000	82	69	151	16.78	..	..	..	..	21		
110	" Turayur ..	16,400	217	197	414	29.25	..	..	..	..	9		
111	" Laigudi ..	14,300	387	317	704	49.23	32	..	..	..	14		
112	" Thottiam ..	9,900	145	158	303	30.60	..	..	..	..	4		
113	" Ariyalur ..	13,200	300	279	579	43.87	..	..	..	..	59		
114	" Perambalur ..	11,800	224	196	420	35.70	..	..	..	..	2		
115	" Palapatti ..	11,900	155	131	286	24.03	..	..	..	3	13		
116	" Kulithalai ..	14,000	125	115	240	16.67	..	..	..	..	11		
117	" Udayerpalayam ..	7,600	131	127	258	33.95	5	..	..	..	32		
118	" Morupatti (Methupalayam) ..	6,600	93	88	181	27.42	1	4	..	..	1		
119	" Musiri ..	13,800	339	290	629	45.58	..	..	..	..	22		
120	" Jayakondacholapuram ..	14,100	230	217	447	31.70	..	..	..	..	44		
121	" Manachanallur ..	10,000	71	55	126	11.56	..	3	..	..	20		
122	" Manaparai ..	12,600	219	212	431	34.21	..	..	..	..	30		
123	" Ponnamaravathi ..	9,400	216	192	408	43.41	..	..	..	..	..		
124	" Aravakurichi ..	5,600	83	83	166	29.65	..	..	..	..	11		
125	" Punalpugalur ..	10,500	58	59	117	11.14	..	..	..	..	11		
126	" Kattuputhur ..	7,700	197	167	364	47.28	..	4	..	..	26		
127	" Poovalur ..	6,400	98	81	179	27.96	..	..	..	..	25		
128	" Kallakudi ..	12,000	55	65	116	9.67	..	..	..	..	14		
129	" Karambakudi ..	6,200	44	44	88	17.58	..	..	..	..	..		
130	" Alangudi ..	5,900	185	146	331	56.10	..	3	..	2	25		
131	" Arimelam ..	5,300	43	40	83	15.10	..	..	..	..	8		
	Total ..	279,800	4,342	3,954	8,296	29.64	44	15	..	5	420		
	Urban areas total ..	689,500	12,550	11,387	23,937	34.71	87	27	..	5	712		
Madurai district.													
132	M.T.C. Madurai ..	445,800	12,049	11,306	23,355	52.39	60	4	..	..	866		
133	" Dindigul ..	97,800	2,469	2,330	4,789	48.94	..	1	..	..	294		
134	" Bodinayakanur ..	47,800	641	583	1,224	25.56	2	..	..	..	28		
135	" Periyakulam ..	36,100	981	892	1,873	49.17	9	..	..	..	5		
136	" Palni ..	41,600	962	900	1,862	44.76	..	..	..	..	38		
137	" Cumbuna ..	34,400	371	338	709	20.61	..	..	..	..	35		
138	" Allinagaram ..	26,600	455	446	901	33.87	..	..	..	..	26		
	Total ..	732,200	17,928	16,785	34,713	47.42	71	5	..	..	1,392		

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number.	Districts and towns.	Injuries.												Total death from all causes.	
		Suicides.		Wounds and accidents. (17)	Snake bite and killed by wild beasts. (18)	Hydrophobia. (19)	Total. (20)	All other causes. (21)	Males. (22)	Females. (23)	Total. (24)				
		Respiratory diseases (14)	Males. (15)									Females. (16)			
B. TOWNS—cont.															
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.															
South Arcot district—cont.															
57	F.C. Panruti ..	20	15	..	1	1	1	1	2	105	120	129	249		
58	" Portonovo ..	2	5	..	..	1	1	..	3	52	76	89	165		
59	" Nellikuppam ..	15	31	..	..	1	1	..	1	116	105	98	202		
60	" Tirukoilur ..	19	..	..	..	..	..	..	..	159	123	131	254		
61	" Pennadam ..	5	5	..	..	1	1	..	3	44	33	33	66		
62	" Kurinipadi ..	..	12	..	3	..	..	..	4	14	19	20	39		
63	" Mannargudi ..	..	10	..	..	..	..	..	..	130	65	65	136		
64	" Virudhachalam ..	6	..	..	..	..	..	..	..	63	57	59	116		
65	" Bhuvanagiri ..	19	..	..	..	..	..	..	..	94	64	60	124		
66	" Kallakurichi ..	12	..	..	..	..	..	..	..	43	43	25	68		
67	" China salem ..	2	3	..	..	..	1	..	1	27	33	27	60		
68	" Valavanoor ..	1	..	..	..	..	..	..	..	48	31	33	64		
69	" Srinushnam ..	11	8	..	..	6	..	..	7	19	54	46	109		
70	" Ulundurpet ..	7	2	..	..	..	..	..	..	24	23	20	43		
71	" Kottakuppam ..	36	3	..	..	..	..	..	..	10	39	32	71		
	Total ..	155	94	3	5	5	10	1	24	947	885	897	1,752		
	Urban areas total ..	245	187	5	12	56	17	5	95	2,778	2,121	2,013	4,134		
Thanjavur district.															
72	M.T.C. Thanjavur ..	176	194	4	1	38	4	2	49	1,707	1,133	1,056	2,189		
73	" Kumbakonam ..	56	108	1	1	35	4	..	42	993	650	655	1,305		
74	" Nagapattinam ..	68	105	3	1	22	1	3	30	655	497	426	923		
75	" Mayuram ..	11	30	2	1	16	1	..	19	632	383	334	717		
76	" Mannargudi ..	32	41	..	..	7	4	..	11	534	369	345	714		
77	" Tiruvarur ..	26	33	3	1	10	..	..	14	296	269	207	476		
	Total ..	369	511	13	5	127	15	5	165	4,817	3,301	3,023	6,324		
78	T.C. Vedaranyam ..	8	21	1	1	2	..	..	4	192	98	120	218		
79	" Sirkali ..	5	21	1	..	1	1	1	4	212	160	142	302		
80	" Papanasam ..	..	1	2	..	..	..	..	2	80	46	39	85		
81	" Tranquebar ..	2	17	..	..	..	..	..	..	76	59	63	122		
82	" Kuttalam ..	4	2	..	..	1	1	..	..	70	32	46	78		
83	" Thiruvadamardur ..	..	1	..	..	..	..	..	..	40	21	22	43		
84	" Pattukkottai ..	4	8	4	2	4	..	..	10	116	66	100	166		
85	" Adirampattinam ..	7	1	..	..	..	..	1	1	100	64	74	138		
86	" Ayyampettai ..	2	6	1	1	1	..	..	2	84	45	54	99		
87	" Thiruvaiyaru ..	..	2	2	2	2	1	..	7	126	67	82	149		
88	" Vallam ..	1	..	2	..	2	..	..	2	101	57	50	107		
89	" Thiruthuraiipoondi ..	1	..	..	..	1	..	1	2	71	45	38	83		
90	" Muthupet ..	17	4	..	..	2	1	..	3	59	50	49	99		
91	" Thirukattupalli ..	5	..	..	..	..	..	..	..	43	23	25	48		
92	" Kuthanallur ..	..	..	..	..	..	..	..	..	77	36	42	78		

93	Thirumullaivasal ..	8	4	..	..	..	..	..	..	44	31	32	62
94	" Valanginam ..	..	7	1	..	1	..	..	1	32	35	42	77
95	" Arantangi ..	..	6	1	..	..	1	..	3	36	30	26	56
96	" Nannilam ..	2	4	1	1	..	..	..	2	125	64	80	144
97	" Kodavasal ..	..	1	..	..	1	..	..	1	105	60	61	121
98	" Orathanad ..	..	..	..	..	..	..	..	..	29	15	14	29
99	" Ammapet ..	6	5	..	..	..	..	..	..	46	35	41	76
100	" Aduthurai ..	1	3	..	..	..	..	..	..	27	21	14	35
101	" Anakudy ..	1	7	..	..	..	..	..	..	34	21	24	45
102	" Vatheeswarankoil ..	9	..	..	..	1	..	..	..	55	39	49	88
	Total ..	86	105	12	7	19	5	4	47	1,988	1,220	1,329	2,549
	Urban areas total ..	455	616	25	12	146	20	9	212	6,805	4,521	4,352	8,873
Tiruchirappalli district.													
103	M.T.C. Tiruchirappalli ..	87	265	1	2	16	1	5	25	2,496	1,619	1,464	3,083
104	" Karur ..	16	33	..	..	16	2	2	20	387	265	261	526
105	" Srirangam ..	21	31	2	..	3	..	..	5	392	259	221	480
106	" Pudukottai ..	51	102	10	4	18	3	..	35	500	384	334	718
	Total ..	169	431	13	6	53	6	7	85	3,775	2,537	2,250	4,807
107	T.C. Golden Rock (RC) ..	3	25	..	..	..	1	..	1	177	125	91	216
108	" Do. (PB) ..	14	1	2	..	..	..	..	3	43	53	39	92
109	" Thathayangarpettai ..	5	5	1	1	..	..	..	2	31	28	36	61
110	" Turaiyur ..	9	23	1	1	2	..	..	4	125	88	82	170
111	" Lalgudi ..	3	16	..	..	5	2	..	7	126	100	98	198
112	" Thottiam ..	13	26	..	..	..	1	..	..	66	62	47	109
113	" Aranythir ..	4	8	..	..	..	..	..	1	54	33	36	69
114	" Perambalur ..	6	25	1	1	..	..	..	1	21	53	53	106
115	" Palapatti ..	6	6	1	1	..	..	..	..	67	42	53	95
116	" Kuthalai ..	3	1	..	..	2	..	..	3	62	40	40	80
117	" Udayarpalayam ..	12	31	1	1	1	1	..	3	61	64	79	145
118	" Morupatti (Metupalayam) ..	..	..	1	..	..	..	..	1	76	55	58	113
119	" Musiri ..	2	10	1	..	1	..	..	2	112	82	96	178
120	" Jayankondacholapuram ..	2	20	..	..	..	..	..	..	44	41	40	81
121	" Manachenallur ..	9	4	..	..	5	..	..	6	115	83	80	163
122	" Manapparai ..	14	9	..	1	5	..	..	2	43	21	24	45
123	" Ponnamaravathi ..	..	4	..	1	..	..	..	..	47	38	25	63
124	" Aravakurichi ..	1	2	..	..	..	1	..	1	11	14	12	26
125	" Punalpugalur ..	1	2	..	..	..	1	..	1	45	40	38	78
126	" Ketuputhur ..	2	..	..	..	..	1	..	1	33	55	46	101
127	" Poovalur ..	5	37	..	..	5	1	..	6	11	24	22	46
128	" Kallakudi ..	10	5	..	..	1	..	..	..	40	20	20	40
129	" Karambakudi ..	..	..	..	..	1	..	..	1	25	28	26	56
130	" Alangudi ..	1	..	..	..	..	..	..	..	31	22	18	40
131	" Arinallan ..	..	..	..	..	..	..	..	..	..	..	..	..
	Total ..	125	258	7	4	79	8	7	45	1,529	1,242	1,199	2,441
	Urban areas total ..	297	689	20	10	79	14	7	130	5,304	3,769	3,479	7,248
Madurai district.													
132	M.T.C. Madurai ..	123	823	10	9	65	2	5	91	4,697	3,424	3,240	6,664
133	" Dindigul ..	52	59	5	1	15	2	1	24	611	539	502	1,041
134	" Bodinayakanur ..	23	2	1	..	..	..	..	1	219	171	156	327
135	" Periyakulam ..	114	117	1	..	6	..	..	7	318	287	283	570
136	" Paim ..	93	76	..	..	28	2	..	30	342	342	276	618
137	" Cumbum ..	26	8	1	..	2	1	..	3	180	143	109	252
138	" Allinagar ..	26	15	..	..	2	..	..	3	110	82	98	180
	Total ..	459	1,119	18	10	117	8	6	159	6,547	4,988	4,664	9,652

STATEMENT VI.—Births and Deaths from different causes registered in the State of Madras during the year 1944—cont.

Death rate per 1,000 of estimated mid year population.

Districts and towns.

B. TOWNS—cont.
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.
South Arcot district—cont.

Serial number.	Cholera.	Smallpox.	Plague.	Malaria.	Fever.	Dysentery.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average of published ratio for the previous five years.	Number of Maternal deaths.	Rate per 1,000 births (live and still).	Number of months for which complete returns have not been received.
57 T.C. Panruti ..	2.59	0.30	..	0.07	2.44	1.00	0.75	0.10	5.22	12.39	9.35	1	1.53	..
58 " Portonovo ..	0.72	..	..	..	5.99	0.13	0.33	0.20	3.42	10.86	8.43	1	2.11	..
59 " Nellikuppam ..	0.66	..	..	..	1.10	0.06	1.37	0.04	5.11	8.94	8.12	1	1.71	..
60 " Tirukoilur ..	2.04	..	..	0.15	3.36	1.39	0.67	0.40	11.61	18.54	17.39	2	2.41	..
61 " Pennadam ..	0.13	..	..	..	1.07	0.67	0.67	0.31	5.87	8.80	8.68	1	4.97	..
62 " Kurinjipadi ..	..	..	..	..	0.70	..	0.93	..	1.09	3.02	2.03	..	..	..
63 " Mannargudi ..	..	..	..	0.26	1.90	0.39	0.65	..	4.12	10.57	6.16	1	3.49	..
64 " Virudhachalam ..	0.26	..	..	..	0.95	1.63	..	..	8.10	10.69	7.48	..	4.06	..
65 " Bhuvanagiri ..	0.14	..	..	..	0.71	0.85	..	0.07	3.05	4.82	7.10	..	..	..
66 " Kallakurichi ..	..	..	..	..	2.31	0.10	0.28	0.28	2.50	5.56	5.37	..	..	..
67 " Chinnaalem ..	0.28	0.93	..	..	0.19	0.09	1.05	0.92	4.44	5.93	5.71	..	..	..
68 " Valavanoor ..	0.66	..	..	0.13	6.45	1.45	0.28	..	2.50	13.16	12.39	3	16.75	..
69 " Srimushnam ..	0.42	..	..	..	0.99	0.99	0.28	..	3.88	6.05	8.70	..	..	..
70 " Ulundurpet ..	..	..	..	..	2.40	3.75	0.31	..	0.94	7.40	..	..	..	..
71 " Kottakuppam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	0.65	0.08	..	0.04	2.02	0.81	0.49	0.15	4.98	9.21	..	11	2.19	..
Urban areas total ..	0.54	0.85	..	0.02	1.48	0.62	0.47	0.24	6.99	10.40	..	59	4.02	..
Thanjavur district.														
72 M.T.C. Thanjavur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
73 " Kumbakonam ..	0.01	0.06	..	0.01	0.47	1.54	1.69	0.43	14.90	19.10	17.32	43	7.28	..
74 " Nagapattinam ..	0.12	..	..	..	0.87	0.60	1.16	0.45	10.68	14.04	15.09	35	5.73	..
75 " Mayram ..	0.19	..	..	..	0.97	1.14	1.77	0.50	11.01	15.52	16.05	36	12.45	..
76 " Mannargudi ..	1.15	..	..	..	0.28	0.20	0.56	0.35	11.70	13.70	12.75	11	8.79	..
77 " Tiruvarur ..	1.80	0.03	..	..	1.61	0.32	1.18	0.45	15.35	20.52	20.15	19	7.98	..
Total ..	0.36	0.02	..	..	0.81	0.95	1.32	0.43	12.46	16.35	..	150	6.91	..
Urban areas total ..	0.05	..	..	..	0.43	0.43	0.27	0.22	10.44	11.85	9.42	2	3.94	..
Thiruvallur district.														
78 T.C. Vedaranyam ..	0.01	0.01	..	..	0.47	1.54	1.69	0.43	14.90	19.10	17.32	43	7.28	..
79 " Sirkali ..	0.12	..	..	..	0.87	0.60	1.16	0.45	10.68	14.04	15.09	35	5.73	..
80 " Papanasam ..	0.34	..	..	..	0.97	1.14	1.77	0.50	11.01	15.52	16.05	36	12.45	..
81 " Tiruchebur ..	..	..	..	..	0.28	0.20	0.56	0.35	11.70	13.70	12.75	11	8.79	..
82 " Kuttalam ..	..	..	..	..	1.61	0.32	1.18	0.45	15.35	20.52	20.15	19	7.98	..
83 " Thiruvadamardhur ..	..	..	..	..	0.22	0.11	0.23	0.23	7.95	8.66	9.28	..	..	..
84 " Patukottai ..	0.19	..	..	0.15	0.71	0.15	0.30	0.37	4.31	6.17	5.37	8	5.85	..
85 " Adirampattinam ..	0.30	0.45	..	..	0.82	0.52	0.07	0.07	10.30	11.55	11.55	2	5.75	..
86 " Ayyampettai ..	0.10	..	..	..	0.41	0.21	0.62	0.21	8.66	10.21	9.11	1	2.88	..
87 " Tiruvaiyaru ..	..	0.45	..	..	0.98	..	0.24	0.63	11.25	13.80	8.74	5	29.76	..
88 " Vallam ..	..	..	..	..	0.12	0.12	0.24	0.24	12.17	12.89	15.62	3	20.13	..
89 " Thiruthuraiipoondi ..	0.42	0.07	..	..	0.14	0.07	0.34	0.14	4.97	5.80	7.19	4	14.81	..
90 " Muthupet ..	..	..	..	..	1.36	1.44	0.34	0.25	5.12	5.71	5.60	1	2.13	..
91 " Thirukethupalli ..	..	..	..	..	0.07	..	..	..	5.27	5.34	6.00	..	..	..
92 " Kuthanallur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

93 " ThirumullaivasaI ..	..	..	..	..	0.90	1.03	0.51	..	4.64	8.08	14.20	..	..	..
94 " Valanginam ..	..	..	..	..	5.14	..	0.97	0.14	4.44	10.70	11.42	1	3.09	..
95 " Arantangi ..	..	..	..	..	0.01	..	0.55	0.28	3.30	5.74	5.65	..	..	..
96 " Nannilam ..	..	..	..	..	1.13	0.25	0.50	0.25	15.63	18.00	15.95	1	5.85	..
97 " Kodavasal ..	..	0.24	..	..	1.41	..	0.12	0.12	12.36	14.23	10.69	..	..	..
98 " Orathanad ..	..	..	..	..	..	..	..	..	3.67	3.67	4.87	..	..	..
99 " Annappet ..	..	..	..	0.20	1.72	0.61	0.51	..	4.65	7.68	..	..	..	..
100 " Auduthurai ..	..	..	..	..	0.78	0.11	0.35	..	3.30	3.89	..	..	..	..
101 " Anakudy ..	..	0.12	..	..	0.71	0.12	0.35	..	4.00	5.29	..	..	..	..
102 " Vaitheeswarankoil ..	..	..	..	0.57	2.45	1.70	1.32	0.19	10.38	16.61	..	1	..	..
Total ..	0.20	0.05	..	0.03	0.86	0.31	0.37	0.17	7.06	9.05	..	34	4.08	..
Urban areas total ..	0.29	0.04	..	0.01	0.83	0.68	0.92	0.32	10.18	13.27	..	184	6.13	..

Tiruchirappalli district.

103 M.T.C. Tiruchirappalli ..	..	0.14	..	..	0.62	0.33	1.02	0.10	9.59	11.85	12.62	49	5.46	..
104 " Karur ..	..	..	..	..	1.42	0.19	0.62	0.37	7.25	9.85	12.26	25	11.87	..
105 " Srirangam ..	..	0.02	..	..	0.66	0.48	0.71	0.11	8.97	10.98	10.21	6	3.36	..
106 " Pudukottai ..	..	..	..	..	0.48	1.97	1.94	0.67	9.53	13.68	15.59	45	10.22	..
Total ..	0.11	0.03	..	..	0.71	0.41	1.05	0.21	9.21	11.75	..	125	7.58	..

107 T.C. Golden Rock (RC) ..	..	..	..	..	0.46	0.15	1.28	0.05	9.03	11.02	9.45	..	..	..
108 " Do ..	..	0.05	..	..	1.00	0.56	0.04	0.12	1.71	3.67	2.01	..	..	..
109 " Thathayargampettai ..	..	..	..	..	2.33	0.56	0.56	0.22	3.44	7.11	10.53	..	..	..
110 " Turaiyur ..	..	..	..	..	0.55	0.55	1.40	0.24	7.62	10.37	11.09	1	2.38	..
111 " Lalgudi ..	..	..	..	..	0.98	0.21	1.12	0.49	8.81	13.85	7.81	6	3.09	..
112 " Thottiam ..	..	..	..	..	0.40	1.31	2.63	..	6.67	11.01	8.94	..	..	..
113 " Ariyalur ..	..	..	..	..	0.15	0.30	0.61	0.06	4.09	5.23	7.65	..	..	..
114 " Perambalur ..	..	..	..	0.23	4.49	0.51	2.12	0.08	1.78	8.98	11.07	..	..	..
115 " Palapatti ..	..	..	..	..	1.09	0.50	0.50	0.21	5.63	7.98	11.65	..	..	..
116 " Kuththalai ..	..	..	..	..	0.76	0.21	0.07	0.21	4.31	5.56	5.13	3	11.71	..
117 " Udayarpalayam ..	..	0.66	..	..	4.21	0.58	4.08	0.26	8.03	10.82	19.04	2	7.61	..
118 " Morupatti (Mettupalayam) ..	..	0.61	..	..	0.15	..	..	0.15	9.54	10.45	13.07	2	1.99	..
119 " Musiri ..	..	..	..	..	1.59	0.14	0.72	0.14	5.51	8.19	9.67	..	..	..
120 " Jayankondacholapuram ..	..	0.07	..	..	3.12	0.14	1.42	0.09	7.94	12.62	8.77	3	6.71	..
121 " Manachanalur ..	..	..	..	..	1.83	0.83	0.37	0.09	4.04	7.43	9.19	1	2.29	..
122 " Manappalai ..	..	0.28	..	..	1.59	1.11	0.71	0.40	9.13	12.94	11.34	1	2.30	..
123 " Ponnaravathi ..	..	..	..	..	1.96	0.18	0.71	0.21	8.39	11.25	10.66	..	..	..
124 " Aravakurichi ..	..	..	..	..	1.09	0.10	0.19	0.10	1.05	2.48	3.92	..	..	..
125 " Puzhuppalur ..	..	0.52	..	..	3.38	0.26	..	0.13	5.85	10.13	11.20	2	5.24	..
126 " Kathuputhur ..	..	..	..	..	3.91	0.78	5.78	0.16	5.15	15.78	10.72	2	10.99	..
127 " Poovuloor ..	..	..	..	..	1.17	0.83	0.42	0.50	0.92	3.83	..	1	8.62	..
128 " Kallakudi ..	..	..	..	..	..	..	..	..	6.45	6.45	..	..	..	..
129 " Karambakudi ..	..	0.51	..	..	4.24	..	..	0.17	4.24	9.49	..	..	..	..
130 " Alangudi ..	..	..	..	..	1.51	0.19	..	..	5.85	7.55	..	..	..	..
131 " Arimalam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	0.16	0.05	..	0.02	1.50	0.45	0.92	0.16	5.46	8.72	..	241	2.81	..
Urban areas total ..	0.13	0.04	..	0.01	1.03	0.43	1.00	0.19	7.69	10.51	..	149	5.95	..

Madurai district.

132	M.T.C. Madurai	..	..	0.13	0.01	..	..	1.94	0.28	1.85	0.20	10.54	14.25	16.12	102	4.16	..
133	" Dindigul	..	..	..	0.01	..	..	3.00	0.53	0.60	0.25	1.24	10.64	10.90	9	1.84	..
134	" Rodinayakanur	..	..	0.04	..	..	..	0.58	0.52	0.46	0.02	5.20	6.83	7.95	2	1.80	..
135	" Periyakulam	..	..	0.24	..	..	..	0.13	2.99	3.07	0.18	8.35	14.96	19.14	13	6.49	..
136	" Palni	..	..	..	..	..	..	0.91	0.72	1.80	0.72	9.18	14.86	16.75	2	1.54	..
137	" Cumbum	..	..	..	..	..	..	1.02	0.76	0.23	0.09	5.25	7.03	7.54	2	2.81	..
138	" Allinagaram	..	..	..	..	..	..	0.98	0.98	0.56	0.11	4.13	6.77	6.87	4	4.21	..
Total		..	..	0.10	0.01	..	..	1.76	0.63	1.53	0.22	8.94	13.18	..	135	3.73	..

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number	Districts and towns.	Births.			Deaths.						
		Births.		Total.	Deaths.						
		Males	Females.		Cholera.	Smallpox.	Plague.	Malaria.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.											
Madurai district—cont.											
139	T.C. Cudalur ..	26,200	185	145	330	12.70	..	..	..	..	45
140	" Thevagam ..	11,400	146	154	300	26.32	..	..	..	..	26
141	" Chinnamanur ..	21,100	270	256	526	24.93	8	..	..	..	28
142	" Tirumangalam ..	18,100	427	404	831	45.91	..	..	..	..	15
143	" Uthamapalayam ..	14,700	119	119	238	16.19	..	..	..	..	27
144	" Sholavandan ..	14,400	197	189	386	26.80	..	..	..	..	42
145	" Usilampatti ..	16,400	279	308	587	35.80	1	..	..	..	13
146	" Andipatti ..	9,900	92	77	169	17.07	..	..	..	..	7
147	" Kombai ..	11,500	195	155	350	30.43	..	..	..	..	26
148	" Badlagundu ..	10,600	246	228	474	44.72	3	..	..	..	47
149	" Melur ..	15,100	456	466	928	61.46	1	..	..	..	29
150	" Natham ..	13,500	203	183	386	28.59	..	..	..	..	19
151	" Tiruparankundram ..	22,000	95	100	195	6.86	..	..	..	..	12
152	" Ayakudi ..	17,900	92	86	178	9.94	..	..	..	..	9
153	" Elumalai ..	10,600	73	65	138	13.02	..	..	..	..	14
154	" Nilakottai ..	8,200	116	88	204	21.89	..	..	..	..	17
155	" Madakulam ..	23,800	22	18	40	1.68	..	..	..	..	9
156	" Avaniapuram ..	14,400	60	66	126	8.75	..	..	..	..	27
157	" Ponneri ..	7,800	12	16	28	3.59	..	1	..	..	..
158	" Chinnalapatti ..	19,500	498	444	942	48.31	..	..	..	..	35
159	" Thallakulam ..	7,900	32	24	56	1.09	..	..	..	..	..
160	" Peraiyur ..	6,300	103	101	204	32.57	1	..	..	..	13
161	" Keeranur ..	5,100	79	57	136	26.67	..	..	..	..	8
162	" Kodaikanal ..	13,500	276	251	527	39.03	..	..	..	..	8
Total ..		3,40,000	4,289	3,990	8,279	24.35	14	1	..	..	476
Urban areas total ..		1,07,200	22,217	20,775	42,992	40.10	85	6	..	..	1,768

Ramanathapuram district.

163	M.T.C. Rajapalayam ..	74,700	1,329	1,278	2,607	34.91	6	50
164	" Srivilliputhur ..	49,200	824	816	1,640	34.26	..	70
165	" Virudhunagar ..	57,700	1,577	1,532	3,109	53.88	5	102
166	" Karaikudi ..	45,400	918	916	1,834	40.40	..	62
167	" Devakottai ..	25,500	495	509	1,004	39.38	..	21
168	" Sivakasi ..	33,400	570	584	1,154	34.55	..	69
169	" Aruppukottai ..	50,700	907	938	1,845	36.38	1	145
170	" Ramanathapuram ..	27,800	1,027	946	1,973	70.97	..	47
171	" Paramakudi ..	36,000	764	706	1,470	40.84	..	51
Total ..		400,000	8,411	8,270	16,681	41.67	12	617

172	" Nayanagudi ..	14,400	331	252	583	40.48	..	20
173	" Sivaganga ..	16,100	414	354	768	47.70	9	23
174	" Tirupathur ..	14,500	312	276	588	40.55	..	16
175	" Abiraman ..	6,600	51	68	109	16.51	..	..
176	" Kamuthi ..	10,200	88	74	162	15.88	..	..
177	" Watrap ..	12,000	124	114	238	19.83	..	..
178	" Seithur ..	12,100	112	106	218	18.02	19	1
179	" Rameswaram ..	7,300	153	130	283	38.77	..	16
180	" Sattur ..	16,500	115	105	220	13.33	..	10
181	" Manamadurai ..	11,100	240	230	470	42.34	..	20
182	" Tirupuvanam ..	10,400	104	97	201	19.33	..	8
183	" Tondi ..	6,400	127	146	273	42.64	..	2
184	" Kandanur ..	5,600	149	113	262	46.79	..	5
185	" Pallathur ..	5,600	76	115	191	34.11	..	4
186	" Kilakarai ..	17,100	220	166	386	22.57	4	14
187	" Palayampatti ..	5,800	98	97	190	32.76	..	28
188	" Kottaiyur ..	5,800	44	22	66	11.38	..	3
189	" Singampuneri ..	6,700	96	104	200	29.86	..	4
190	" Chettiarpet ..	9,200	79	80	159	17.28	..	11
191	" Mandapam ..	6,300	101	69	170	26.98	1	5
Total ..		195,200	3,029	2,708	5,737	29.38	24	215
Urban areas total ..		595,200	11,440	10,978	22,418	37.68	36	832

Tirunelveli district.

192	M.T.C. Tuticorin ..	1,32,700	2,130	1,979	4,109	30.97	3	89
193	" Tirunelveli ..	92,800	1,833	1,717	3,550	38.27	..	47
194	" Palayamkottai ..	54,700	1,563	1,482	3,045	55.66	30	28
195	" Melepalayam ..	39,200	396	354	750	19.13	..	49
196	" Shencottah ..	21,600	511	465	976	45.19	..	32
197	" Kollipatti ..	35,700	537	519	1,056	29.58	..	36
198	" Sankarankoil ..	24,800	393	295	688	27.74	..	35
M.T.C. Total ..		4,01,500	7,363	6,811	14,174	35.30	33	296

199	T.C. Tenkasi ..	35,500	863	813	1,676	47.21	..	125
200	" Kadayanallur ..	42,300	509	492	1,001	23.66	..	70
201	" Puliyaugudi ..	31,700	104	102	206	6.50	..	18
202	" Kalladaikurichi ..	20,300	234	201	435	21.43	..	..
203	" Viravanallur ..	16,600	139	114	253	15.24	3	24
204	" Chennamabadevi ..	10,400	66	63	129	12.40	..	..
205	" Ambasamudram ..	23,100	413	353	766	33.16	29	19
206	" Tiruchendur ..	15,800	309	244	553	35.00	..	16
207	" Udangudi ..	15,900	368	361	729	45.85	..	50
208	" Vandeveanallur ..	13,400	62	56	118	8.81	5	63
209	" Kulasekarapattinam ..	10,900	224	252	476	43.67	..	11
210	" Srivaikuntam ..	13,000	132	109	241	18.54	..	..
211	" Nanguneri ..	5,900	182	139	321	54.41	..	21
212	" Thachanallur ..	13,100	84	81	165	12.60	..	5
213	" Ettayapuram ..	10,400	119	100	219	21.06	..	..
214	" Kayalpattanam ..	14,100	178	159	337	23.90	..	21
215	" Vickramasingapuram ..	34,200	335	256	591	17.28	1	40
216	" Sathankulam ..	11,500	115	92	207	18.00	..	..
217	" Pattamadai ..	9,800	110	100	210	21.42	..	4
218	" Alwarthirunagari ..	6,800	79	68	147	21.62	2	17
219	" Thiruvannamalai ..	14,400	359	365	724	50.27	..	28

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Serial number	Districts and towns.	Deaths—cont.													Total deaths from all causes	
		Injuries.														
		Dysentery and diarrhoea.	Respiratory diseases.	Suicides.		Wounds and accidents.	Snake bite and killed by wild beasts.	Hydrophobia.	Total.	All other causes.	Males.	Females.	Total.			
		(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)			
B. TOWNS—cont.																
MUNICIPAL TOWNS AND CENSUS TOWNS—cont.																
Madurai district—cont.																
139	T.C. Gudalur	9	10	..	1	..	..	..	1	57	74	48	122			
140	" Thevaram	7	4	..	..	..	..	..	..	68	42	58	95			
141	" Chinnamanur	16	45	..	..	..	1	..	..	61	107	75	139			
142	" Thirunangalam	36	32	3	1	4	..	..	8	132	44	116	223			
143	" Uthamapalayam	6	9	..	..	..	..	..	1	35	94	34	68			
144	" Sholavandan	11	19	..	..	1	..	..	2	105	88	92	180			
145	" Usilampatti	7	27	4	2	4	2	..	82	120	15	13	31			
146	" Andipatti	..	12	..	..	..	..	..	1	97	66	84	150			
147	" Kombai	17	9	1	1	..	..	..	5	70	78	73	151			
148	" Battagundu	10	16	1	1	..	1	..	4	120	84	87	171			
149	" Melur	4	13	..	..	1	1	..	3	61	60	60	120			
150	" Natham	3	15	5	2	..	1	..	9	71	29	37	98			
151	" Thirupparankundram	9	19	..	1	2	1	..	1	48	60	37	120			
152	" Ayakudi	4	4	..	..	1	..	..	..	9	18	22	40			
153	" Ettimalai	8	9	..	..	..	..	..	2	62	43	47	90			
154	" Nilakottai	3	6	1	..	1	..	..	3	21	34	39	73			
155	" Madakulam	14	28	1	1	..	..	..	1	144	104	91	195			
156	" Avanigadda	10	12	..	1	..	..	..	1	36	23	13	36			
157	" Ponneri	..	26	..	..	..	..	..	..	65	75	57	142			
158	" Chinnalapatti	16	3	1	..	..	..	..	1	37	21	20	41			
159	" Thallakulam	13	..	..	..	..	..	..	..	55	33	40	73			
160	" Peraiyur	..	..	..	1	..	..	..	1	42	29	22	51			
161	" Keeranur	12	40	..	1	2	..	..	3	91	91	63	154			
162	" Kodaikanal	..	..	..	..	..	..	..	..	..	..	..	..			
Total		215	348	18	12	18	9	..	57	1,597	1,400	1,318	2,718			
Urban areas total		674	1,397	36	22	135	17	6	216	8,144	6,388	5,982	12,370			
Ramanathapuram district.																
163	M.T.C. Rajapalayam	147	69	1	..	14	4	..	18	470	380	316	760			
164	" Srivilliputhur	68	49	..	..	1	..	..	2	459	332	316	648			
165	" Virudhunagar	34	38	..	..	4	2	1	7	400	292	294	586			
166	" Karaikudi	18	24	..	..	..	..	..	..	324	206	232	438			
167	" Devakottai	23	26	..	..	2	..	2	4	248	168	154	322			
168	" Sivakasi	4	26	..	..	3	..	..	3	160	131	131	262			
169	" Aruppukottai	46	61	..	1	2	1	..	21	512	385	383	768			
170	" Ramanathapuram	38	31	5	..	15	1	..	3	336	268	205	473			
171	" Paramakudi	31	31	..	..	2	1	..	3	178	156	138	294			
Total		409	355	6	1	43	8	3	61	3,087	2,318	2,233	4,551			
Tiruvallur district.																
172	T.O. Dayanagudi	..	..	..	..	..	..	..	..	..	..	..	..			
173	" Sivagange	1	..	1	..	9	..	..	1	71	61	45	96			
174	" Tirupattur	1	..	..	..	..	1	..	23	280	198	144	332			
175	" Abiraman	2	..	..	..	..	..	..	1	105	53	47	129			
176	" Kamuthi	..	..	..	..	..	..	..	..	33	17	16	33			
177	" Watrep	3	7	..	..	..	..	..	..	42	19	24	43			
178	" Seithur	4	17	..	1	..	..	..	1	44	33	47	80			
179	" Rameswaram	13	10	..	..	..	..	..	..	177	120	59	112			
180	" Sattur	38	2	1	..	3	..	1	1	43	46	43	89			
181	" Manamadurai	7	7	..	..	1	2	..	4	89	64	68	122			
182	" Tirupuvanam	2	3	1	..	..	..	..	3	90	70	45	115			
183	" Tondi	1	1	..	..	1	..	..	1	32	21	25	46			
184	" Kandamur	..	..	..	..	..	..	..	..	34	22	19	41			
185	" Pallathur	..	13	..	..	..	..	..	..	34	21	14	35			
186	" Kilakarai	..	24	..	1	..	..	..	..	43	40	35	73			
187	" Palayampatti	21	4	..	..	1	..	..	1	47	61	60	121			
188	" Kottaiyur	3	4	..	..	..	..	..	..	28	17	22	39			
189	" Singampuneri	..	8	..	1	..	..	..	1	32	23	14	37			
190	" Chettipatti	6	8	..	..	..	..	..	1	53	37	42	79			
191	" Mandabam	..	5	..	..	..	1	..	2	21	17	17	34			
Total		65	149	14	2	16	6	5	43	1,351	1,002	876	1,878			
Urban areas total		474	504	90	3	59	14	8	104	4,436	3,320	3,109	6,439			
Tiruvallur district.																
192	M.T.C. Tuticorin	143	328	14	6	17	1	2	40	966	789	760	1,549			
193	" Thuvareveli	23	54	11	..	1	..	..	1	848	626	498	1,013			
194	" Palayamkottai	12	78	..	4	46	..	4	65	822	667	463	1,030			
195	" Melapalayam	25	38	..	1	6	2	..	10	176	141	127	288			
196	" Shencottah	26	15	..	..	1	..	1	2	209	138	164	292			
197	" Kolipatti	6	17	..	2	7	..	..	9	162	122	89	211			
198	" Sankarankoil	4	17	..	..	..	..	..	..	149	117	97	314			
Total		339	680	56	18	78	3	7	137	3,322	2,399	2,108	4,597			
Urban areas total		..	..	..	..	..	..	..	..	..	..	..	..			
Tiruvallur district.																
199	T.O. Tenzai	..	..	..	..	..	..	..	..	..	..	..	..			
200	" Kadayanalur	..	14	..	..	..	..	..	1	326	229	242	471			
201	" Puliyangudi	..	6	..	..	..	..	..	..	288	180	192	372			
202	" Kalladikurichi	..	144	..	..	..	1	..	..	56	45	37	82			
203	" Viravanur	..	16	..	..	..	..	2	3	193	128	169	286			
204	" Chennamahadevi	10	7	..	1	..	..	..	..	70	34	45	79			
205	" Ambasamudram	..	9	..	..	..	..	..	..	161	109	122	231			
206	" Tiruchendur	..	9	..	..	..	..	..	..	91	64	52	116			
207	" Vasudevanallur	..	9	..	3	..	1	1	3	45	48	64	112			
208	" Kulasekarpattinam	..	5	..	..	..	..	..	..	72	44	42	86			
209	" Srivaikuntam	..	..	..	1	..	..	..	..	138	89	69	158			
210	" Nanguneri	..	1	..	..	..	..	..	..	62	32	31	63			
211	" Thechanalur	..	12	..	..	..	..	..	..	88	55	54	109			
212	" Ettayappuram	..	..	..	..	..	..	..	..	95	58	58	116			
213	" Kayalpattanam	17	25	..	1	3	..	..	3	37	22	18	40			
214	" Vikramasingapuram	11	37	3	1	2	2	..	2	64	66	67	132			
215	" Sathankulam	4	7	1	..	1	..	..	..	172	106	153	259			
216	" Pattimadai	..	..	1	..	..	..	..	..	45	25	32	58			
217	" Alwarthirunagari	..	7	..	..	..	..	..	1	95	43	43	96			
218	" Thiruvallur	..	..	..	..	..	..	..	..	78	43	57	90			
219	" Thiruvallur	..	..	..	..	..	..	..	..	86	71	75	146			

STATEMENT VI.—Births and Deaths from different causes registered in the State of Madras during the year 1904—cont.

Death rate per thousand of estimated mid-year population.

Births and towns.

Serial number.

R. TOWNS.

MUNICIPAL TOWNS AND CENSUS TOWNS.

Madurai district—cont.

	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
	Cholera.	Smallpox.	Plague.	Malaria.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average of published ratio for the previous five years.	Number of maternal deaths.	Rate per thousand births (live and still).	Number of complete births (live and still).
139 T.C. Gudalore	..	..	..	..	1.72	0.84	0.38	0.04	2.18	4.66	4.31	..	..	..
140 " Thevarem	..	..	..	..	2.28	0.61	0.33	..	5.09	8.33	12.36	..	..	..
141 " Chinnamanur	0.38	..	..	..	1.33	0.76	2.13	0.05	2.83	7.54	7.53	1	1.15	..
142 " Uthamangalam	..	..	..	..	0.83	1.99	1.77	0.44	7.29	12.32	11.56	..	..	..
143 " Uthamapalayam	..	..	..	..	1.84	0.41	0.61	0.07	2.38	6.31	10.63	..	..	..
144 " Sholavandan	..	..	..	..	2.92	0.76	1.32	0.14	7.29	12.43	10.63	6	7.93	..
145 " Usilampatti	0.06	..	..	..	0.79	0.43	1.85	0.73	7.32	10.98	6.63	..	..	..
146 " Andipatti	..	..	..	..	0.71	..	1.21	..	1.21	3.13	2.44	..	..	..
147 " Kombai	..	..	..	..	2.26	1.48	0.78	0.09	8.44	13.04	13.47	1	2.84	..
148 " Battagund	0.28	..	..	..	4.43	0.94	1.51	0.47	6.60	14.25	10.56	4	8.08	..
149 " Melur	0.07	..	..	..	1.92	0.25	0.86	0.26	7.95	11.35	6.60	1	1.01	..
150 " Nathan	..	..	..	..	1.41	0.22	1.11	0.22	7.26	7.26	9.66	..	..	..
151 " Tiruparankundam	..	..	..	..	0.65	0.41	0.86	0.41	3.23	5.45	7.75	1	5.56	..
152 " Ayakudi	..	..	..	..	0.50	0.22	0.22	0.06	2.68	3.69	5.58	..	..	..
153 " Elumalai	..	..	..	..	1.52	0.76	0.85	..	0.85	3.77	8.52	..	..	..
154 " Nilakottai	..	..	..	..	2.07	0.37	0.73	0.24	7.56	10.98	5.46	1	2.5	..
155 " Madakulam	..	..	..	..	0.38	0.59	1.18	0.04	0.88	3.07	..	..	..	..
156 " Avanigadda	..	0.07	..	..	1.87	1.69	0.83	0.07	10.00	13.54	..	..	..	..
157 " Ponneri	..	..	..	..	1.79	0.82	1.33	..	4.62	4.62	..	..	..	..
158 " Chinnalepetti	..	..	..	..	2.08	2.06	0.38	0.13	4.68	7.28	..	..	..	..
159 " Thalakulam	0.16	..	..	..	1.67	..	..	..	7.30	11.59	..	1	4.81	..
160 " Peraiyur	..	..	..	..	0.59	0.89	2.96	0.20	8.24	10.00	..	..	..	..
161 " Keeranur	..	..	..	..	..	..	..	0.22	6.74	11.41	19.66	15	1.76	..
162 " Kodakanal	..	..	..	..	..	..	..	..	..	..	..	..	..	..
T. C. Total	0.04	0.01	..	..	1.40	0.63	1.05	0.17	4.70	7.99	..	150	3.36	..
Urban areas Total	0.08	0.01	..	..	1.65	0.63	1.38	0.20	7.60	11.54	..	..	..	..

Ramanathapuram district.

	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
	Cholera.	Smallpox.	Plague.	Malaria.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average of published ratio for the previous five years.	Number of maternal deaths.	Rate per thousand births (live and still).	Number of complete births (live and still).
163 M.T.C. Rajapalayam	0.08	..	..	..	0.67	1.97	0.92	0.24	6.29	10.18	11.46	9	3.29	..
164 " Srivilliputhur	..	..	..	..	1.42	1.38	1.00	0.04	9.33	13.17	14.58	10	6.53	..
165 " Virudhunagar	0.09	..	..	..	1.77	0.59	0.66	0.12	6.93	10.16	10.13	2	0.82	..
166 " Karaikudi	..	0.22	..	..	1.37	0.40	0.53	..	7.14	9.65	10.18	2	1.07	..
167 " Devakottai	..	..	..	..	0.82	0.09	1.02	0.16	9.73	12.63	14.00	3	2.90	..
168 " Sivakasi	..	..	..	..	2.07	0.12	0.78	0.09	4.79	7.84	9.65	9	7.43	..
169 " Aruppukottai	0.02	..	..	..	2.86	0.91	1.20	0.06	10.10	15.14	16.09	5	2.61	..
170 " Ramanathapuram	..	..	..	..	1.69	1.37	1.12	0.76	12.09	17.01	18.49	7	3.46	..
171 " Paramakudi	..	..	..	..	1.42	0.86	0.81	0.08	4.94	8.17	7.97	6	3.86	..
M. T. C. Total	0.03	0.02	..	..	1.54	1.02	0.88	0.15	7.69	11.34	..	53	3.06	..

172 T.C. Nayanagudi	..	..	..	..	1.39	0.07	0.21	0.07	4.93	6.67	6.52	..	..	..
173 " Sivaganga	..	0.43	..	..	1.43	0.06	..	1.37	17.39	21.24	21.33	8	9.48	..
174 " Tirupathur	..	..	..	..	1.10	0.14	0.34	0.07	7.24	8.90	8.97	3	4.98	..
175 " Abiraman	..	..	..	..	0.10	..	..	..	5.00	6.83	7.25	..	..	..
176 " Karuthi	..	..	..	..	0.75	0.25	0.58	..	4.12	4.22	7.25	..	..	..
177 " Watrap	..	..	..	..	1.33	0.33	1.40	0.08	3.64	9.26	7.06	1	4.57	..
178 " Seithur	1.57	0.08	..	..	2.07	1.78	1.37	0.06	24.25	28.77	24.51	1	3.53	..
179 " Rameswaram	..	..	..	..	0.48	0.36	0.36	0.06	2.55	5.39	6.70	..	..	..
180 " Sathur	..	..	..	..	1.80	0.54	0.18	0.06	9.52	10.99	10.93	..	..	..
181 " Manamadurai	..	..	..	..	0.19	0.19	0.67	0.38	8.02	11.06	13.33	..	..	..
182 " Tirupuvanam	..	..	..	..	0.78	0.31	0.47	0.47	5.00	7.19	8.33	..	..	..
183 " Tondi	..	..	..	..	0.71	0.18	0.18	0.18	6.07	7.32	10.93	1	3.69	..
184 " Kandanur	..	..	..	..	0.82	..	..	..	6.25	8.14	8.14	..	..	..
185 " Pallathur	..	..	..	..	0.06	..	0.76	..	2.51	4.39	4.36	2	5.05	..
186 " Kilakarai	0.23	..	..	..	4.83	3.62	4.14	0.17	8.10	20.80	23.42	..	..	..
187 " Palayampatti	..	..	..	..	0.52	0.52	0.69	0.17	4.83	6.72	6.55	..	..	..
188 " Kottaiyur	..	..	..	..	0.60	0.15	0.15	..	4.78	5.52	6.07	..	..	..
189 " Singampunari	..	..	..	..	1.20	0.65	0.87	0.11	5.76	8.59	..	1	6.21	..
190 " Chettiarpetti	..	..	..	..	0.79	..	0.79	0.32	3.33	5.40	..	..	..	..
191 " Mandapam	0.16	..	..	..	..	..	..	..	..	..	..	..	..	..
T. C. Total	0.12	0.06	..	..	1.10	0.33	0.76	0.22	6.92	9.62	..	17	2.88	..
Urban areas total	0.06	0.03	..	..	1.39	0.79	0.84	0.17	7.44	11.96	..	70	3.01	..

Tirunelveli district.

	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
	Cholera.	Smallpox.	Plague.	Malaria.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Total deaths.	Average of published ratio for the previous five years.	Number of maternal deaths.	Rate per thousand births (live and still).	Number of complete births (live and still).
192 M.T.C. Tuticorin	..	..	..	..	0.52	1.08	2.47	0.30	7.28	11.67	16.22	24	5.75	..
193 " Tirunelveli	0.2	..	..	..	0.51	0.25	1.01	0.01	9.14	10.92	14.65	8	2.19	..
194 " Palayamkottai	0.55	..	..	..	0.61	0.22	1.33	1.19	15.03	18.33	22.33	71	21.6	..
195 " Melapalayam	..	..	..	..	1.25	0.84	0.97	..	4.49	7.35	7.94	3	3.95	..
196 " Shencottah	..	..	..	..	1.48	1.20	0.69	0.46	9.68	13.82	16.05	9	8.65	..
197 " Kollipatti	..	..	..	..	1.01	0.17	0.42	0.42	4.26	6.91	6.34	6	6.44	..
198 " Sankarankoil	..	..	..	..	1.41	0.16	0.69	0.36	6.01	8.63	4.46	3	4.10	..
M. T. C. Total	0.08	..	..	..	0.74	0.60	1.44	0.32	8.27	11.45	..	124	8.39	..
Urban areas total	..	..	..	..	..	..	..	..	..	..	..	..	..	..
T. C. Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..

199 T.C. Tenkasi	..	..	..	..	0.03	0.11	0.39	0.03	9.18	13.27	11.44	2	1.12	..
200 " Kadayanallur	..	..	..	..	1.65	0.06	0.33	..	6.81	8.79	6.62	4	3.91	..
201 " Puliangudi	..	..	..	..	0.67	0.06	0.19	..	1.77	2.59	5.70	..	..	..
202 " Kalladaikurichi	..	..	..	..	..	..	7.09	..	6.99	14.09	14.13	1	2.29	..
203 " Viravanallur	..	..	..	..	1.45	0.36	0.96	0.18	11.63	14.76	18.98	4	15.75	..
204 " Cheranmahadevi	..	..	..	..	0.09	0.43	0.30	0.13	7.60	7.60	15.88	..	..	..
205 " Ambasamudram	..	..	..	..	0.82	0.43	0.57	0.19	6.97	10.00	13.70	1	1.28	..
206 " Tiruchendur	..	..	..	..	3.14	0.31	0.57	0.37	2.83	7.04	9.77	1	1.33	..
207 " Vasudevanallur	..	..	..	..	0.22	0.55	0.37	0.07	5.37	6.42	6.38	1	8.47	..
208 " Kulasekarapattinam	..	..	..	..	1.01	..	0.88	0.28	12.66	14.49	12.74	..	..	..
209 " Srivaikuntam	..	..	..	..	3.56	..	..	..	4.77	4.85	6.76	..	..	..
210 " Nanguneri	..	..	..	..	0.38	0.23	0.92	0.29	7.25	8.66	13.75	4	12.12	..
211 " Thachanallur	..	..	..	..	0.21	1.21	1.77	0.14	4.54	9.38	11.14	1	2.96	..
212 " Ettayapuram	..	..	..	..	1.17	0.32	0.79	0.23	5.03	7.57	8.39	5	8.41	..
213 " Kavalpetnam	..	..	..	..	0.35	0.35	0.26	0.17	3.91	5.04	8.39	2	9.61	..
214 " Vikramasingapuram	..	..	..	..	..	..	0.10	0.10	9.69	9.79	12.61	7	33.13	..
215 " Sathankulam	..	..	..	..	..	..	..	..	10.74	14.56	15.09	..	..	..
216 " Pattanam	..	..	..	..	..	..	..	..	..	..	..	..	..	..
217 " Alwarthirunagari	..	..	..	..	..	..	..	..	..	..	..	..	..	..
218 " Thiruvannamalai	..	..	..	..	..	..	..	..	..	..	..	..	..	..
219 " Thiruvannamalai	..	..	..	..	..	..	..	..	..	..	..	..	..	..

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Districts and towns.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths.		Deaths	
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STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1963—cont.

Serial number.	Districts and towns.	Deaths.												Total deaths from all causes.	
		Injuries.						All other causes.							
		Dysentery and diarrhoea.	Respiratory diseases.	Males.	Females.	Wounds and accidents.	Snake bite and killed by wild beasts.	Hydrophobia.	Total.	All other causes.	Males.	Females.	Total.		
(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)				
B. TOWNS.															
MUNICIPAL TOWNS AND CENSUS TOWNS.															
Tirunelveli District.															
220	T. C. Kalugumalai ..	..	..	..	..	..	..	2	125	65	65	130			
221	" Kayathar ..	6	3	1	1	..	..	1	39	38	33	71			
222	" Erul ..	2	6	..	..	..	..	..	60	36	47	83			
223	" Kadambar ..	..	9	..	..	..	..	..	45	23	22	47			
224	" Panagudi ..	8	9	3	1	1	1	5	86	70	49	119			
225	" Sawyerpuram ..	..	14	..	2	..	..	2	36	30	24	54			
226	" Arumuganeri ..	1	4	2	1	1	..	5	77	51	53	104			
227	" Paramakurichi ..	5	6	1	..	..	..	..	44	40	28	68			
228	" Nazzarath ..	3	..	..	..	..	..	..	125	71	63	134			
229	" Eruvadi ..	..	20	..	..	..	..	..	102	67	62	129			
230	" Mudalur ..	2	2	..	..	..	..	..	36	28	14	42			
	T.C. Total ..	97	404	16	12	12	5	4	49	3,183	2,135	2,200	4,335		
	Urban areas Total ..	336	984	42	25	90	8	11	176	6,505	4,534	4,398	8,932		
Salem District.															
231	M.T.C. Salem ..	130	426	2	1	80	1	5	89	1,874	1,399	1,380	2,729		
232	" Rasipuram ..	4	20	1	2	5	1	..	14	207	139	122	261		
233	" Dharmapuri ..	1	11	..	..	2	..	..	2	115	66	90	156		
	M.T.C. Total ..	135	457	3	3	87	2	5	100	2,196	1,604	1,542	3,146		
234	T.C. Edappadi ..	..	19	..	..	1	1	..	2	83	83	..	135		
235	" Komarpalayam ..	..	6	..	..	1	..	..	1	23	42	28	70		
236	" Tiruchengode ..	..	11	1	4	2	1	..	8	78	56	90	146		
237	" Mettur Township ..	..	16	..	8	15	..	..	27	109	103	106	209		
238	" Taramangalam ..	..	..	4	..	..	..	..	1	62	31	32	63		
239	" Athur ..	..	..	..	2	..	..	..	2	89	104	66	170		
240	" Kaveripatnam ..	..	2	..	..	..	..	..	..	40	27	31	58		
241	" Sendamangalam ..	..	13	..	..	..	..	..	..	90	54	69	123		
242	" Harur ..	..	..	..	2	1	..	..	3	49	32	48	80		
243	" Namakkal ..	..	1	2	..	2	..	..	4	117	79	57	136		
244	" Hosur ..	..	5	1	..	4	..	..	1	56	33	42	75		
245	" Jalagandapuram ..	..	1	..	..	..	..	..	4	64	45	30	76		
246	" Krishnagiri ..	..	..	1	..	1	..	1	3	146	78	85	163		
247	" Omalur ..	..	..	..	..	..	..	..	..	7	6	1	7		
248	" Denkanikottai ..	..	..	..	1	3	..	..	4	62	38	44	82		
249	" Mallasanandram ..	..	4	..	..	..	..	..	..	42	43	31	74		
250	" Suramangalam ..	..	2	..	..	..	..	..	..	23	16	14	30		
251	" Jarikondelampett ..	..	1	1	..	..	..	..	1	42	33	33	66		
252	" Vennandur ..	..	4	1	1	..	..	1	1	65	41	38	79		
253	" Pillanallur ..	..	5	..	..	..	..	..	..	3	15	11	26		
254	" Ellampillai ..	..	..	..	..	7	..	..	..	24	17	17	34		

255	" Attayampatti ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	T.C. Total ..	98	101	9	19	31	2	1	62	1,306	996	969	1,955		
	Urban areas Total ..	233	558	12	22	118	4	6	162	3,502	2,600	2,501	5,101		
Coimbatore District.															
256	M.T.C. Coimbatore ..	..	..	..	..	..	..	..	156	3,100	2,280	2,058	4,338		
257	" Erode ..	..	..	..	..	..	..	..	43	973	647	565	1,212		
258	" Tiruppur ..	..	..	..	..	..	..	..	27	520	372	353	765		
259	" Pollachi ..	..	..	..	..	..	..	..	34	654	451	477	928		
260	" Dharmapuri ..	..	..	..	..	..	..	..	13	232	214	183	399		
261	" Udumalpet ..	..	..	..	..	..	..	..	12	298	186	184	370		
262	" Mettupalayam ..	..	..	..	..	..	..	..	13	278	201	182	383		
263	" Gobichettipalayam ..	..	..	..	..	..	..	..	22	225	155	179	334		
	M.T.C. Total ..	615	958	16	7	254	27	16	320	6,340	4,506	4,213	8,719		
264	T.C. Kottur ..	..	..	..	..	..	..	..	..	37	24	57	61		
265	" Karichi ..	..	..	..	..	..	..	..	10	61	63	57	120		
266	" Palledam ..	..	..	..	..	..	..	..	5	17	34	25	59		
267	" Bhavani ..	..	..	..	..	..	..	..	3	148	119	134	253		
268	" Avanasahi ..	..	..	..	..	..	..	..	6	86	48	53	101		
269	" Vellalore ..	..	..	..	..	..	..	..	2	63	49	55	104		
270	" Singanailur ..	..	..	..	..	..	..	..	..	66	88	41	129		
271	" Sattamangalam ..	..	..	..	..	..	..	..	5	107	113	112	225		
272	" Sulur ..	..	..	..	..	..	..	..	..	12	11	21	32		
273	" Kuniamuthur ..	..	..	..	..	..	..	..	..	29	31	26	57		
274	" Peelamedu ..	..	..	..	..	..	..	..	..	51	41	44	85		
275	" Annur ..	..	..	..	..	..	..	..	..	61	34	46	79		
276	" Anamalai ..	..	..	..	..	..	..	..	3	15	21	11	32		
277	" Vettakeralapuram ..	..	..	..	..	..	..	..	4	67	65	66	120		
278	" Uppilipalayam ..	..	..	..	..	..	..	..	1	482	265	281	548		
279	" Valparai ..	..	..	..	..	..	..	..	4	294	312	299	591		
280	" Thottupalayam ..	..	..	..	..	..	..	..	1	34	22	29	51		
281	" Ganapathy ..	..	..	..	..	..	..	..	5	35	47	32	79		
282	" Karamadai ..	..	..	..	..	..	..	..	..	21	12	12	24		
283	" Brahmanpeta Agraharam ..	..	..	..	..	..	..	..	1	7	13	20	33		
284	" Thondamuthur ..	..	..	..	..	..	..	..	..	8	13	9	22		
285	" Velampalayam ..	..	..	..	..	..	..	..	..	..	..	..	..		
	T.C. Total ..	115	204	12	8	25	7	2	54	1,479	1,165	1,177	2,344		
	Urban areas Total ..	730	1,162	28	15	220	34	8	374	7,845	5,671	5,390	11,061		
The Nilgiris District.															
286	M.T.C. Ootacamund ..	..	..	..	..	..	..	..	12	400	361	304	665		
287	" Coonoor ..	..	..	..	..	..	..	..	4	337	230	217	447		
	M.T.C. Total ..	55	269	..	2	13	..	1	16	737	591	321	1,112		
288	T.C. Gudalur ..	..	..	..	..	..	..	..	1	87	58	37	95		
289	" Kotagiri ..	..	..	..	..	..	..	..	2	60	91	63	156		
290	" Jagathala ..	..	..	..	..	..	..	..	..	22	27	13	40		
291	" Konekarai ..	..	..	..	..	..	..	..	2	22	21	23	44		
292	" Devashola ..	..	..	..	..	..	..	..	..	69	42	36	78		
293	" Nelliyalam ..	..	..	..	..	..	..	..	..	70	49	35	84		
294	" Nadiyattam ..	..	..	..	..	..	..	..	..	3	4	1	5		
295	" O. Valley ..	..	..	..	..	..	..	..	1	89	53	52	105		
	T.C. Total ..	48	85	4	1	3	..	..	8	422	345	292	607		
	Urban areas Total ..	103	354	4	3	16	..	1	24	1,159	936	789	1,719		

STATEMENT VI—Births and Deaths from different causes registered in the State of Madras during the year 1964—cont.

Death rate per 1,000 of estimated mid-year population.

Age not been recorded

Rate per 1,000 births

Number of months for which complete births and deaths returns

Number of maternal deaths

Average of published ratio for the previous five years

Total deaths

All other causes

Injuries

Respiratory diseases

Dysentery and diarrhoea

Fever

Malaria

Plague

Smallpox

Cholera

Districts and towns.

B. TOWNS.

MUNICIPAL TOWNS AND CENSUS TOWNS.

Tirunelveli district—cont.

Serial number.	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
220 T.C. Kalugumalai ..	..	..	..	..	..	..	0.38	0.26	16.03	16.67	18.52	3	10.71	4.59
221 " Kayathar ..	..	..	..	..	..	..	1.15	0.19	7.50	13.65	16.45	5	4.69	..
222 " Eral ..	..	..	..	..	..	..	1.32	..	8.83	12.21	17.57	..	..	..
223 " Kadambur ..	..	..	..	..	..	..	0.65	0.36	6.22	6.82	11.17	..	..	..
224 " Panagudi ..	..	..	..	..	..	..	0.12	0.24	4.39	6.59	8.30	3	8.58	..
225 " Sawyerapuram ..	..	..	..	..	..	..	0.26	0.32	5.03	6.80	4.82	..	..	..
226 " Arumaganeri ..	..	..	..	..	..	..	0.39	0.13	5.72	8.83	..	..	..	..
227 " Peramankurichi ..	..	..	..	..	..	..	0.70	..	0.69	10.39	..	..	..	..
228 " Nazzarath ..	..	..	..	..	..	..	1.64	..	8.36	10.57	..	..	..	..
229 " Eruvadi ..	..	..	..	..	..	..	0.35	..	6.31	7.37	..	..	..	..
230 " Mudalur ..	..	..	..	..	..	..	0.86	0.10	6.78	9.24	..	..	..	..
T.C. Total	0.09	0.01	0.01	0.01	0.01	0.01	1.13	0.20	7.47	10.25	..	181	6.58	..
Urban areas Total	0.09	0.01	0.01	0.01	0.01	0.01	1.13	0.20	7.47	10.25	..	181	6.58	..

Salem District.

231 M.T.C. Salem ..	..	..	..	..	..	..	1.61	0.34	7.08	10.31	14.70	87	6.45	..
232 " Rasipuram ..	..	..	..	..	..	..	0.83	0.37	8.59	10.83	10.36	1	0.80	..
233 " Dharmapuri ..	..	..	..	..	..	..	0.38	0.07	3.92	5.32	5.22	1	0.07	0.07
M.T.C. Total	0.09	0.01	0.01	0.01	0.01	0.01	1.44	0.31	6.90	9.89	..	89	..	..
234 T.C. Fdappadi ..	..	..	..	..	..	..	0.77	0.08	3.36	5.47	5.28	..	..	..
235 " Komarpalayam ..	..	..	..	..	..	..	0.20	0.03	0.77	2.36	4.49	..	..	..
236 " Tiruchengode ..	..	..	..	..	..	..	0.50	0.36	3.53	6.61	4.85	..	..	..
237 " Mettur Township ..	..	..	..	..	..	..	0.88	0.97	8.01	7.49	5.27	8	0.81	..
238 " Taramangalam ..	..	..	..	..	..	..	0.13	0.11	6.74	6.85	4.70	..	..	..
239 " Athur ..	..	..	..	..	..	..	0.20	0.0	2.86	5.47	6.59	2	2.11	..
240 " Kaveripatnam ..	..	..	..	..	..	..	0.85	..	5.88	8.04	8.89	..	..	..
241 " Sendamangalam ..	..	..	..	..	..	..	0.31	0.19	5.57	8.00	7.27	2	11.36	..
242 " Namakkal ..	..	..	..	..	..	..	0.21	0.08	4.38	5.86	9.88	..	..	..
243 " Hosur ..	..	..	..	..	..	..	0.11	0.43	6.81	7.98	2.66	..	..	..
244 " Jalagandapuram ..	..	..	..	..	..	..	0.25	0.12	5.79	6.47	9.17	..	..	..
245 " Krishnagiri ..	..	..	..	..	..	..	0.33	0.33	5.17	6.83	7.92	..	..	..
246 " Omalur ..	..	..	..	..	..	..	0.12	..	3.95	6.92	4.92	..	..	..
247 " Denkanikota ..	..	..	..	..	..	..	0.17	0.11	4.72	7.43	..	..	..	..
248 " Mallasandram ..	..	..	..	..	..	..	0.12	0.12	8.03	9.76	..	..	..	..
249 " Suramangalam ..	..	..	..	..	..	..	0.49	0.12	0.42	8.01	..	..	..	..
250 " Jarikondalampatti ..	..	..	..	..	..	..	0.69	..	8.75	8.81	..	..	..	..
251 " Vennandur ..	..	..	..	..	..	..	0.81	..	..	..	..	..	..	..
252 " Pillanallur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
253 " Pillampillai ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
254 " ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

255 T.C. Arayankuppam

T.C. Total	0.07	0.09	..	..	..	..	0.80	0.19	3.91	5.86	..	18	1.58	..
Urban areas Total	0.04	0.10	..	..	..	..	0.86	0.26	5.37	7.62	..	102	4.15	..

Coimbatore District.

256 M.T.C. Coimbatore ..	..	..	..	..	..	..	1.83	0.49	9.82	13.74	17.48	116	6.44	..
257 " Erode ..	..	..	..	..	..	..	0.97	0.54	12.29	15.31	13.26	24	5.62	..
258 " Tiruppur ..	..	..	..	..	..	..	1.07	0.30	5.86	8.49	10.34	5	1.37	..
259 " Pollachi ..	..	..	..	..	..	..	1.47	0.58	11.16	15.83	16.41	21	6.61	..
260 " Dharmapuri ..	..	..	..	..	..	..	0.44	0.48	10.70	14.62	13.28	..	..	..
261 " Udumalpet ..	..	..	..	..	..	..	0.27	0.40	9.03	12.33	13.19	4	2.49	..
262 " Mettupalayam ..	..	..	..	..	..	..	0.73	0.33	7.04	9.70	9.56	3	1.74	..
263 " Gobichettipalayam ..	..	..	..	..	..	..	1.48	0.81	8.33	12.37	10.64	15	11.23	..
M.T.C. Total	0.02	0.03	..	..	..	..	1.44	0.48	9.52	13.09	..	187	..	..
264 T.C. Kottur ..	..	..	..	..	..	..	0.41	0.16	1.70	2.81	6.70	..	..	..
265 " Kurichi ..	..	..	..	..	..	..	0.19	0.32	1.97	3.87	4.76	..	..	..
266 " Palladam ..	..	..	..	..	..	..	0.20	0.50	1.70	5.90	5.79	1	1.55	..
267 " Bhavani ..	..	..	..	..	..	..	0.88	0.18	8.66	14.80	11.85	4	7.03	..
268 " Avaneashi ..	..	..	..	..	..	..	0.29	0.58	8.27	9.71	9.34	..	..	..
269 " Vellalore ..	..	..	..	..	..	..	1.16	0.14	4.66	7.54	8.32	..	..	..
270 " Singanailur ..	..	..	..	..	..	..	0.27	0.24	2.51	4.90	6.59	2	4.82	..
271 " Sattiamangalam ..	..	..	..	..	..	..	0.10	0.67	1.15	3.08	4.02	..	..	..
272 " Sulur ..	..	..	..	..	..	..	0.20	0.16	2.81	3.17	2.37	..	..	..
273 " Kuniamuthur ..	..	..	..	..	..	..	0.33	0.88	5.60	9.34	4.53	..	..	..
274 " Peelamedu ..	..	..	..	..	..	..	0.89	0.18	5.40	7.08	9.19	1	5.81	..
275 " Annur ..	..	..	..	..	..	..	0.07	0.20	1.01	2.15	3.61	..	..	..
276 " Anamalai ..	..	..	..	..	..	..	0.26	0.06	2.60	4.65	..	..	..	..
277 " Vettarapuram ..	..	..	..	..	..	..	0.06	0.06	4.08	8.03	..	..	..	..
278 " Uppilpalayam ..	..	..	..	..	..	..	0.25	0.34	2.13	3.19	..	..	..	..
279 " Valparai ..	..	..	..	..	..	..	0.21	0.34	2.40	5.41	..	..	..	..
280 " Thottipalayam ..	..	..	..	..	..	..	1.85	0.19	1.30	3.43	..	..	..	..
281 " Ganapathi ..	..	..	..	..	..	..	0.46	0.09	0.74	2.04	..	..	..	..
282 " Karamadi ..	..	..	..	..	..	..	0.28	0.13	3.66	5.76	..	..	..	..
283 " Brahmanaphria Agraharam ..	..	..	..	..	..	..	0.68	0.35	7.30	10.31	..	11	1.43	..
284 " Thondamuthur ..	..	..	..	..	..	..	0.06	0.09	0.35	10.31	..	198	4.68	..
285 " Velampalayam ..	..	..	..	..	..	..	0.74	0.07	6.06	7.14	..	..	..	..
T.C. Total	0.03	0.11	..	..	..	..	1.05	0.09	4.98	7.17	..	2	0.92	..
Urban areas Total	0.02	0.06	..	..	..	..	0.82	0.13	6.32	9.38	..	10	1.54	..

The Nilgiris District.

286 M.T.C. Ootacamund ..	..	..	..	..	..	..	0.70	0.23	7.53	12.52	13.07	4	1.64	..
287 " Coonoor ..	..	..	..	..	..	..	0.40	0.09	7.41	9.93	14.12	4	2.13	..
M.T.C. Total	..	..	..	..	..	..	0.56	0.16	7.47	11.28	..	8	0.20	..
288 T.C. Gudalur ..	..	..	..	..	..	..	0.36	0.12	10.48	11.45	..	..	..	..
289 " Kotagiri ..	..	..	..	..	..	..	2.82	0.12	3.68	9.57	9.01	..	..	..
290 " Jegathala ..	..	..	..	..	..	..	0.26	0.12	2.90	5.26	..	..	..	..
291 " Konakara ..	..	..	..	..	..	..	0.19	0.58	4.23	8.46	..	..	..	..
292 " Devashola ..	..	..	..	..	..	..	0.43	0.17	5.95	6.72	..	..	..	..
293 " Nelliayalam ..	..	..	..	..	..	..	0.54	0.09	6.25	7.50	..	..	..	..
294 " Naduvattam ..	..	..	..	..	..	..	0.10	0.07	0.31	0.51	..	..	..	..
295 " O. Valley ..	..	..	..	..	..	..	0.61	0.07	6.06	7.14	..	..	..	..
T.C. Total	..	..	..	..	..	..	0.57	0.09	4.98	7.17	..	2	0.92	..
Urban areas Total	..	..	..	..	..	..	0.56	0.13	6.32	9.38	..	10	1.54	..

BEAUFORT VI.—Births and Deaths from different causes registered in the State of Madras during the year 1964.

Birth number.	(1)	Districts and towns.	(2)	Births.			Deaths.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				(4) Males.	(5) Females.	(6) Total.	(7) Birth rate per 1,000 estimated mid-year population.	(8) Cholera.	(9) Smallpox.	(10) Plague.	(11) Malaria.	(12) Measles.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Kanyakumari District.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
296	M.T.C.	Nagercoil	..	115,100	2,704	2,291	4,995	43.46	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

Serial number	Diarrhoea and typh.	Deaths.												Total deaths from all causes.											
		Injuries.					Total.																		
		Respiratory diseases.	Suicides.		Wounds and accidents.	Snakes bite and killed by wild beasts.	Hydrophobia.	Total.	All other causes.	Male.	Female.	Total.													
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Kanyakumari district.																									
296	M.T.C.	39	96	2	1	14	2	2	21	845	570	511	1,081												
297	..	..	..	..	..	1	..	..	1	81	61	51	112												
298	..	17	4	1	..	1	1	..	2	98	76	60	136												
299	..	10	7	2	..	4	..	..	6	95	84	90	174												
	M.T.C. Total	66	107	5	1	20	3	2	31	1,116	791	712	1,503												
	Grand Total for urban areas	8,081	16,674	329	195	1,433	167	103	2,427	74,466	58,561	55,904	1,13,465												
	Grand Total rural areas	15,245	17,689	812	784	1,385	808	193	2,932	1,70,206	1,31,431	1,32,328	2,62,759												
	Total for the State	23,326	34,363	1,141	979	3,019	975	296	6,409	2,50,670	1,89,992	1,87,232	3,77,224												

District and cants.		Death rate per 1,000 of estimated mid-year population.													Rate per 1,000 births (live and still).	Number of month for which complete births and deaths returns have not been received.
Serial number		(25) Cholera.	(26) Smallpox.	(27) Plague.	(28) Malaria.	(29) Fever.	(30) Dysentery and diar- rhoea.	(31) Respiratory dis- eases.	(32) Injuries.	(33) All other causes.	(34) Total deaths.	(35) Average of published rates for the previous five years.	(36) Number of maternal deaths.			
286	M.T.C. Nagercoil	..	..	..	..	0.70	0.34	0.83	0.18	7.34	9.39	9.95	18	3.52		
297	" Colachel ..	..	..	..	..	1.83	..	..	0.06	4.94	6.83	10.35	..	..		
298	" Kuzhithurai	..	..	..	..	1.16	1.16	0.27	0.20	6.46	9.25	9.35	..	..		
299	" Padmanabhapuram	..	..	..	..	3.76	0.67	0.47	0.40	6.37	11.68	11.79	..	..		
	M.T.C. Total	..	..	..	..	1.14	0.41	0.66	0.19	6.93	9.33	..	18	2.53		
	Grand Total for urban areas	0.11	0.10	*	0.01	1.05	0.67	1.78	0.26	8.00	12.19	..	1,482	..		
	Grand Total for rural areas	0.09	0.09	..	0.03	1.78	0.60	0.69	0.16	6.89	10.32	..	1,681	..		
	Total for the State	0.10	0.09	*	0.02	1.58	0.67	0.99	0.13	0.72	10.81	..	2,163	3.51		

STATEMENT VI-A (Optional)—Deaths registered from certain causes in the municipal towns in the State of Madras during the year 1964.

Municipal towns.	Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala Azar.		Influenza.	
	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.	Deaths.	Rate per mille.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras—												
Madras	5	*	56	0.03	12	0.01	..	..	1	*	17	0.01
Chingleput district—												
Kanchipuram	..	..	10	0.10	..	..	..	..	..	..	..	..
Tiruvallur	..	..	1	0.06	..	..	..	..	..	..	..	..
Chingleput	..	..	7	0.06	..	..	..	..	..	..	..	..
Tiruvottiyur	..	..	..	..	1	0.03	..	..	..	..	..	..
Tambaram	1	0.03	2	0.06	..	..	..	..	..	..	..	..
Alandur	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot district—												
Vellore	..	..	15	0.13	..	..	..	..	..	..	..	..
Tiruvannamalai	..	..	3	0.06	..	..	..	..	..	..	..	..
Gudiyatham	..	..	10	0.19	..	..	..	..	..	..	..	..
Vaniyambadi	..	..	4	0.09	..	..	..	..	..	..	..	..
Tirupattur	..	..	4	0.12	..	..	..	..	..	..	..	..
Walajpet	..	..	..	..	..	..	..	..	..	..	..	..
Arni	..	..	..	..	..	..	..	..	..	..	..	..
Arkonam	..	..	..	0.03	..	..	..	..	..	..	..	..
Ambar	..	..	3	..	..	..	..	..	..	..	..	..
Arcoot	..	..	..	..	..	..	..	..	..	..	..	..
Ranipet	..	..	2	0.03	..	..	..	..	..	..	..	..
South Arcot district—												
Cuddalore	..	..	7	0.03	..	..	..	..	..	..	..	..
Chidambaram	..	..	1	0.02	..	..	..	..	..	..	..	..
Villupuram	..	..	1	0.03	..	..	..	..	..	..	..	..
Tindivanam	..	..	1	0.03	..	..	..	..	..	..	..	..
Thanjavur district—												
Thanjavur	1	0.01	9	0.03	1	0.01	..	..	..	..	5	0.03
Kumbakonam	..	..	4	0.04	..	..	..	..	..	..	..	..
Mayuram	..	..	3	0.09	..	..	..	..	..	..	..	..
Mannargudi	..	..	5	0.08	..	..	..	..	..	..	..	..
Nagapattinam	..	..	..	..	..	..	..	..	..	..	..	..
Tiruvallur	..	..	4	0.13	..	..	..	..	..	..	..	..
Tiruvallur district—												
Tiruvallur	..	..	21	0.03	..	..	..	..	..	..	..	..
Karur	..	..	1	0.03	..	..	..	..	..	..	1	0.03
Strangan	..	..	7	0.16	..	..	..	..	..	..	..	..
Pradabhai	..	..	8	0.16	..	..	..	..	..	..	..	..
Madurai district—												
Madurai	..	..	27	0.06	..	..	..	..	..	..	..	..
Dindigul	..	..	18	0.03	..	..	..	..	..	..	..	..
Bodinayakanur	..	..	1	0.03	..	..	..	..	..	..	..	..
Pariyakulam	..	..	..	..	..	..	..	..	..	..	..	..
Palni	..	..	3	0.09	..	..	..	..	..	..	..	..
Ombur	..	..	..	..	..	..	..	..	..	..	..	..
Alinagar	..	..	..	..	..	..	..	..	..	..	..	..
Ramanathapuram district—												
Rajapalayam	..	..	2	0.04	..	..	..	..	..	..	..	..
Sivilliputhur	..	..	1	0.02	..	..	..	..	..	..	..	..
Virudhunagar	..	..	8	0.14	..	..	..	..	..	..	..	..
Sivakasi	..	..	1	0.03	..	..	..	..	..	..	..	..
Devakottai	..	..	2	0.08	..	..	..	..	..	..	..	..
Aruppukottai	..	..	2	0.04	2	0.07	..	..	..	..	..	..
Ramanathapuram	..	..	4	0.14	4	0.11	..	..	..	..	..	..
Paramakudi	..	..	4	0.11	..	..	..	..	..	..	..	..
Karalkudi	..	..	1	0.02	..	..	..	..	..	..	..	..
Tiruvandiveli district—												
Tuticorin	..	..	11	0.01	..	..	..	..	..	..	..	..
Tirunelveli	..	..	11	0.20	..	..	..	..	..	..	..	..
Palayamkottai	..	..	1	0.03	..	..	..	..	..	..	..	..
Melapalayam	..	..	..	..	..	..	..	..	..	..	..	..
Shencottah	..	..	2	0.06	..	..	..	..	..	..	..	..
Kolipatti	..	..	2	0.03	..	..	..	..	..	..	..	..
Sankarankoil	..	..	..	..	..	..	..	..	..	..	..	..
Salem district—												
Salem	..	..	26	0.11	..	..	..	..	..	..	..	..
Respuram	1	0.04	2	0.03	..	..	..	..	..	..	..	..
Dharmapuri	..	..	3	0.07	..	..	..	..	..	..	..	..
Coimbatore district—												
Coimbatore	..	..	36	0.11	..	..	..	..	..	..	..	..
Erode	..	..	..	0.08	..	..	..	..	..	..	..	..
Tiruppur	..	..	..	..	..	..	..	..	..	..	..	..
Pollachi	..	..	2	0.07	..	..	..	..	..	..	..	..
Dharapuram	..	..	2	0.07	..	..	..	..	..	..	..	..
Udumalpet	..	..	10	0.25	..	..	..	..	..	..	..	..
Metpalayam	..	..	..	..	..	..	..	..	..	0.04	..	..
Gobichettipalayam	..	..	..	..	..	..	..	..	1	..	..	..
The Nilgiris district—												
Ootacamund	..	..	8	0.15	..	..	..	..	..	..	..	..
Oonoor	1	..	8	..	..	..	..	..	..	..	..	..
Kanyakumari district—												
Nagercoil	..	..	16	0.16	..	..	..	..	..	..	..	..
Colachel	..	..	1	0.06	..	..	..	..	..	..	..	..
Kashithurai	..	..	..	..	..	..	..	..	..	..	..	..
Padmanabhapuram	..	..	3	0.30	..	..	..	..	..	..	..	..
Total	10	*	419	0.07	16	*	..	..	3	*	..	..

Less than 0.01.

* Less than 0.01.

STATEMENT VI.A--(Optional) Deaths registered from certain causes in the municipal towns in the State of Madras during the year 1964--cont

Municipal towns.	Dysentery.		Diarrhoea.		Pneumonia.	Pulmonary Tuberculosis.	Diphtheria.	Cerebrospinal fever.	Deaths from child birth.				
	Deaths.		Deaths.		Deaths.		Deaths.						
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Rate per mille.													
Madras--													
Madras	2,011	1,09	1,368	0.74	4,208	2.29	806	0.44	85	0.03			124
Chingleput district--													
Kanchipuram	42	0.44	61	0.64	140	1.47	54	0.57	3	0.02	5	0.5	48
Tiruvellore	7	0.33	13	0.60	2	0.10	7	0.35				0.05	3
Chingleput	9	0.33	23	0.03	27	1.30	49	1.81	2	0.07	7	0.26	27
Thuvottiyur	28	0.86	64	1.50			16	0.38					2
Tambaram	5	0.13	4	0.10	80	0.78	5	0.13					3
Alandur	15	0.42	12	0.33	5	0.14	6	0.17	1	0.03			
North Arcot district--													
Vellore	67	0.49	83	0.71	145	1.25	97	0.83	12	0.10			49
Tiruvannamalai	32	0.60	41	0.58	45	0.93	80	0.75	1	0.02	2	0.04	18
Gudiyattam	21	0.40	58	1.12	40	0.94	29	0.56	4	0.08	4	0.08	18
Vaniyambadi	25	0.58	38	0.88	36	0.83	5	0.12	7	0.06	7	0.02	4
Tirupathur	11	0.34	4	0.12	47	1.48	7	0.22	3	0.07			9
Welsajpet	4	0.30	6	0.45	1	0.07			1	0.07			
Ambar	13	0.39	29	0.86			16	0.48					6
Arni	12	0.36	2	0.06	3	0.09	3	0.09			2	0.06	6
Arkonam	24	0.61	17	0.43	17	0.43	18	0.46	1	0.03	2	0.03	3
Arcot	1	0.04	11	0.42	6	0.23	7	0.27					5
Ranipet	1	0.04	21	0.85	9	0.36			6	0.24			
South Arcot district--													
Cuddalore	16	0.19	20	0.24	28	0.34	27	0.33	22	0.02	6	0.07	4
Chidambaram	11	0.26	2	0.05	2	0.05	9	0.21					14
Vilupuram	16	0.35	10	0.22	8	0.17	8	0.07					23
Tindivanam	7	0.20	8	0.22									1
Pannayur district--													
Thanjavar	31	0.27	145	1.27	56	0.49	73	0.64	21	0.18	20	0.17	43
Kumbakonam	16	0.17	40	0.43	31	0.33	59	0.63	6	0.06	1	0.01	35
Mayuram	16	0.11	5	0.09	10	0.19	9	0.17	2	0.04			11
Mannargudi	32	0.92			16	0.48	14	0.40	4	0.11			19
Nagapattinam	16	0.27	53	0.87	32	0.54	31	0.52	5	0.08	8	0.13	36
Tiruvarur	7	0.23	19	0.61	2	0.06	14	0.45	1		1	0.03	6
Tiruchirappalli district--													
Tiruchirappalli	47	0.18	40	0.15	99	0.38	125	0.48	28	0.11			49
Karur	2	0.04	8	0.15	9	0.17	14	0.26	11	0.21	1	0.02	35
Srirangam	13	0.30	8	0.18	16	0.27	10	0.23					6
Pudukottai	8	0.06	48	0.91	15	0.29	30	0.57	11	0.21	4	0.08	45
Madurai district--													
Madurai	66	0.13	97	0.16	490	1.12	328	0.61	13	0.08	8	0.02	105
Dindigul	40	0.41	12	0.12	14	0.14	23	0.24					9
Bodinayakanur	25	0.52			6	0.13	16	0.32					2
Periyakulam	60	1.58	84	1.42	28	0.74	39	0.95	6	0.12	3	0.08	13
Palni	71	1.71	23	0.53	16	0.38	38	0.91					3
Cumbum	32	0.64	4	0.12	3	0.09	2	0.06					2
Alinagar	18	0.68	8	0.20	2	0.08							4
Ramanathapuram district--													
Rajapalayam	71	0.95	76	1.02	21	0.28	45	0.64	4	0.05			16
Sivilliputhur	29	0.49	39	0.79	4	0.02	44	0.89					3
Virudhunagar	19	0.33	15	0.26	4	0.07	23	0.40	5	0.09			2
Sivakasi	3	0.09	1	0.02	2	0.06	24	0.72	1	0.03	1	0.03	9
Devakottai	9	0.35	14	0.56	2	0.08	5	0.20					3
Aruppukottai	34	0.67	12	0.24	12	0.24	45	0.89					5
Ramanathapuram	4	0.14	34	1.22	3	0.11	18	0.65	1	0.04	1	0.04	7
Paramakudi	10	0.23	21	0.58	1	0.02	14	0.39					6
Karakudi	11	0.02	7	0.15	1	0.02	12	0.26	1	0.02			3
Tirunelveli district--													
Tuticorin	73	0.55	70	0.52	64	0.48	86	0.65	6	0.05			24
Tirunelveli	3	0.02	20	0.22	42	0.46	51	0.55					8
Palayamkottai	4	0.07	8	0.15	28	0.51	45	0.82	15	0.27	6	0.09	71
Melapalayam	1	0.02	24	0.61			35	0.89					3
Shencottah	11	0.51	18	0.70	3	0.14	8	0.14					9
Kolpatti	6	0.17					3	0.12	3	0.08	1	0.03	6
Sankarankoil	4	0.16			2	0.08	3	0.12					3
Salem district--													
Salem	98	0.24	67	0.25	196	0.76	189	0.52	13	0.05			87
Rasipuram	4	0.17			7	0.20	7	0.29	1	0.04			1
Tharasepuri	1	0.03			1	0.03	8	0.31					1
Coimbatore district--													
Coimbatore	209	0.66	173	0.54	144	0.45	146	0.45	46	0.15	3	0.01	115
Erode	17	0.21	24	0.30	31	0.39	30	0.32	25	0.22			24
Tiruppur	31	0.35	28	0.28	35	0.39	28	0.32	3	0.02	1	0.01	5
Pollachi	43	0.73	57	0.97	41	0.70	27	0.46	2	0.03			21
Dharmapuri	4	0.15	8	0.29	13	0.44	10	0.37	4	0.15	3	0.07	4
Udumalpet	6	0.20	2	0.07	2	0.07	8	0.27	4	0.13			4
Mettupalayam			5	0.13	7	0.18	5	0.27	4	0.13			3
Gobichettipalayam			3	0.07	3	0.11	16	0.56	3	0.07			15
The Nilgiris district--													
Ootacamund	8	0.15	29	0.55	118	2.32	29	0.55	6	0.11			4
Orenoor	15		3		33		9		10				4
Kanyakumari district--													
Nagercoil	13	0.10	27	0.28	20	0.17	28	0.24	4	0.03	6	0.05	18
Colachel		0.20	14	0.95	5	0.30							
Kushithurai		0.47	3	0.20									
Padmanabhapuram	7		8										
Total	3,556	0.56	3,222	0.51	6,804	1.03	2,868	0.45	351	0.06	97	0.02	1,279

STATEMENT VII—Deaths from cholera registered in the districts in the State of Madras during each month of the year 1964.

Serial number and districts.	Number of villages or groups of villages and towns from each of which monthly birth and death return is received.		Number of circles of registration (taluks and municipalities).		January	February	March	April	May	June	July	August
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1 Madras ..	..	..	1	3	..	..	..	..	..	..	..	..
2 Chingleput ..	..	..	14	33	..	..	..	..	..	..	..	..
3 North Arcot ..	..	..	22	132	25	4	..	..	..	..	..	..
4 South Arcot ..	..	..	12	989	273	30	..	..	..	1	..	..
5 Thanjavur ..	..	..	18	430	157	79	3	13	..	..	..	..
6 Tiruchirappalli ..	..	..	14	1,227	171	73	19	73	..	..	..	..
7 Madurai ..	..	..	15	868	33	7	..	..	2	..	..	..
8 Ramanathapuram ..	..	..	18	1,216	34	14	..	..	..	..	..	..
9 Tirunelveli ..	..	..	16	859	46	3	16	..	..	..	..	..
10 Salem ..	..	..	16	1,359	60	8	..	..	..	..	..	..
11 Coimbatore ..	..	..	17	894	10	1	..	..	2	1	..	..
12 The Nilgiris ..	..	..	5	147	..	..	..	..	..	..	..	..
13 Kanyakumari ..	..	..	8	80	..	..	..	..	..	..	..	..
Total ..	..	..	175	12,551	991	103	17	16	4	1	..	..

	September.	October.	November.	December.	Total.		Ratio of death rate per 1,000 of estimated mid-year population.		Average of the rate published for the previous five years.	
	(12)	(13)	(14)	(15)	Males.	Females.	Males.	Females.	Total.	(25)
1 Madras ..	..	..	..	..	..	..	..	..	..	..
2 Chingleput ..	3	13	98	42	80	73	0.08	0.08	0.08	0.01
3 North Arcot ..	..	..	21	37	62	38	0.05	0.03	0.04	0.03
4 South Arcot ..	7	11	42	53	151	126	0.09	0.08	0.00	0.03
5 Thanjavur ..	..	2	1	10	673	613	0.42	0.39	0.41	0.08
6 Tiruchirappalli ..	3	..	1	2	362	324	0.22	0.19	0.21	0.06
7 Madurai ..	..	..	..	5	128	139	0.08	0.08	0.08	0.04
8 Ramanathapuram ..	..	..	..	3	76	84	0.05	0.05	0.05	0.01
9 Tirunelveli ..	3	..	..	1	48	63	0.04	0.05	0.04	0.01
10 Salem ..	..	..	..	..	76	89	0.06	0.06	0.04	0.01
11 Coimbatore ..	..	..	2	14	38	42	0.02	0.02	0.02	0.01
12 The Nilgiris ..	..	..	..	..	77	90	0.04	0.05	0.05	0.01
13 Kanyakumari ..	..	..	..	..	..	..	..	..	..	..
Total ..	15	35	160	167	1,881	1,791	0.10	0.10	0.10	0.03

More than 991.

STATEMENT VIII—Deaths from smallpox registered in the districts in the State of Madras during each month of the year 1964.

Serial number and districts.	Number of circles of registration (taluks and municipalities).		Number of villages or groups of villages and towns from each of which a monthly birth and death return is received.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1 Madras ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Chingleput ..	1	1	30	73	87	41	40	43	73	64	36	39	..	..
3 North Arcot ..	14	1,151	12	27	23	23	25	29	41	25	25	21	..	..
4 South Arcot ..	22	1,554	89	39	6	11	20	19	13	33	38	21	..	..
5 Thanjavur ..	12	1,597	131	65	29	35	14	12	12	23	19	23	..	..
6 Tiruchirappalli ..	18	1,578	59	45	43	30	13	23	22	31	33	20	..	..
7 Madurai ..	14	1,277	12	27	20	14	19	15	22	9	19	16	..	..
8 Ramanathapuram ..	15	868	26	8	7	10	10	9	9	14	9	9	..	..
9 Tirunelveli ..	18	1,216	4	14	6	18	6	3	5	6	8	5	..	..
10 Salem ..	16	894	52	21	11	10	10	5	18	4	8	15	..	..
11 Coimbatore ..	15	1,359	40	51	37	33	33	35	54	33	9	15	..	..
12 The Nilgiris ..	17	894	24	44	21	11	22	18	34	14	19	4	..	..
13 Kanyakumari ..	5	147	1	1	1	1	..	6	..	..	..	..	..	..
Total ..	8	80	480	415	356	244	213	215	313	261	223	170	..	..

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	Number of deaths as per ages.		Total.		Ratio of death rate per 1,000 of estimated mid-year population.		Average of the rate published for the previous five years.	
	Under one year.	1-10 years.	Males.	Females.	Males.	Females.	Total.	(25)
1 Madras ..	..	..	..	..	..	..	..	..
2 Chingleput ..	24	23	268	305	22	23	0.28	0.31
3 North Arcot ..	22	12	142	142	0.11	0.13	0.11	0.12
4 South Arcot ..	57	12	167	166	0.10	0.10	0.10	0.10
5 Thanjavur ..	29	11	213	199	0.13	0.12	0.12	0.13
6 Tiruchirappalli ..	17	19	157	165	0.09	0.12	0.11	0.11
7 Madurai ..	11	3	105	130	0.06	0.08	0.07	0.07
8 Ramanathapuram ..	17	15	75	84	0.05	0.05	0.05	0.05
9 Tirunelveli ..	..	2	38	42	0.03	0.03	0.03	0.03
10 Salem ..	1	7	80	78	0.10	0.10	0.10	0.10
11 Coimbatore ..	21	22	190	190	0.06	0.06	0.06	0.06
12 The Nilgiris ..	8	1	105	115	0.03	0.03	0.03	0.03
13 Kanyakumari ..	..	..	4	6	..	..	..	..
Total ..	207	127	1,548	1,645	0.09	0.09	0.09	0.09

STATEMENT IX--Deaths from fever registered in the districts in the State of Madras during each month of the year 1964.

Serial number and districts.	Number of circles of registration (taluks and municipalities).	Number of villages & groups of villages and towns from each of which a monthly birth and death return is received.	January.	February.	March.	April.	May.	June.	July.	August.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Madras ..	..	1	60	92	111	146	30	33	25	34
2 Chingleput ..	..	14	425	390	326	241	248	293	277	315
3 North Arcot ..	..	22	966	843	648	551	661	623	628	620
4 South Arcot ..	..	12	1,597	450	389	333	456	379	399	400
5 Thanjavur ..	..	18	1,568	316	203	146	195	199	199	226
6 Tiruchireppalli ..	..	14	1,227	205	390	398	401	431	471	477
7 Madurai ..	..	15	868	481	428	332	381	368	408	487
8 Ramanathapuram ..	..	18	1,216	415	326	311	279	336	311	346
9 Tirunelveli ..	..	16	543	462	384	231	246	231	294	324
10 Salem ..	..	15	1,359	623	537	357	649	565	631	631
11 Coimbatore ..	..	17	403	366	278	315	333	315	348	332
12 The Nilgiris ..	..	5	147	33	31	51	44	56	36	34
13 Kanyakumari ..	..	8	215	234	176	185	183	212	192	178
Total for the State ..	175	12,551	6,104	6,203	4,235	3,965	4,140	4,041	4,222	4,403

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	Ratio of deaths per 1,000 of estimated mid-year population.				Average of the ratio published for the previous years.	
	Septem-ber.	October.	Novem-ber.	Decem-ber.	Males.	Females.
1 Madras ..	(12)	(13)	(14)	(15)	(16)	(17)
2 Chingleput ..	55	95	46	114	421	848
3 North Arcot ..	309	325	389	361	1,957	3,939
4 South Arcot ..	735	681	717	747	4,221	8,427
5 Thanjavur ..	348	352	495	418	5,515	5,166
6 Tiruchirappalli ..	207	204	296	266	1,372	2,756
7 Madurai ..	439	413	501	477	2,671	5,576
8 Ramanathapuram ..	465	425	459	681	1,724	5,536
9 Tirunelveli ..	323	330	371	459	2,152	4,206
10 Salem ..	328	334	406	510	2,187	4,425
11 Coimbatore ..	584	480	524	602	3,514	7,156
12 The Nilgiris ..	347	336	413	407	2,026	4,200
13 Kanyakumari ..	21	34	41	42	256	400
Total for the State ..	137	152	177	218	1,127	2,530
	4,298	4,211	4,836	5,352	27,053	55,015
					1,54	1,61
					1,58	1,73

STATEMENT IX-A—Deaths from malaria registered in the districts in the State of Madras during each month of the year 1964.

Serial number and districts.		Number of villages or groups of villages and towns from each of a/d a monthly birth and death is return is received.		January.	February.	March.	April.	May.	June.	July.	August.
		Number of circles of registration (include and (excludes)).		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Madras ..	..	..	..	1	1	..	..	..	..	..
2	Chingleput ..	..	..	..	14	1,181	..	..	..	..	..
3	North Arcot ..	..	..	..	22	1,544	..	..	..	..	..
4	South Arcot ..	..	..	..	12	1,597	..	..	..	..	..
5	Thanjavur ..	..	..	..	18	1,548	..	..	..	..	..
6	Tiruchirappalli ..	..	..	..	14	1,227	..	..	..	..	..
7	Madurai ..	..	..	..	15	803	..	..	..	..	..
8	Ramanathapuram ..	..	..	..	18	1,216	..	..	..	..	..
9	Tirunelveli ..	..	..	..	16	859	..	..	..	..	..
10	Salem ..	..	..	..	15	1,359	..	..	..	..	..
11	Coimbatore ..	..	..	..	17	894	..	..	..	..	..
12	The Nilgiris ..	..	..	..	5	147	..	..	..	..	..
13	Kanyakumari ..	..	..	..	8	60	..	..	..	..	..
Total for the State ..		175	..	175	12,551	..	..	..	..	..	..

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	Total.				Ratio of deaths per 1,000 of estimated mid-year population.				Average of the ratio of the ratio for the five years.		
	Septem-ber.	October.	Novem-ber.	Decem-ber.	Males.	Females.	Total.				
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1 Madras ..	..	..	3	1	4	1	5	*	0.02	*	0.03
2 Chingleput ..	4	3	5	2	25	22	47	0.02	0.02	0.02	0.03
3 North Arcot ..	..	6	8	19	67	61	128	0.04	0.04	0.04	0.01
4 South Arcot ..	12	9	9	12	54	84	134	0.03	0.03	0.04	0.01
5 Thanjavur ..	..	1	7	1	32	33	65	0.02	0.02	0.02	0.01
6 Trichirappalli ..	7	5	1	6	20	22	52	0.01	0.02	0.02	0.02
7 Madurai ..	..	..	4	1	20	22	42	0.01	0.01	0.01	0.04
8 Ramanathapuram ..	4	3	7	1	27	36	63	0.02	0.03	0.02	0.03
9 Tirunelveli ..	5	..	4	5	41	27	68	0.03	0.02	0.02	0.01
10 Salem ..	11	5	11	6	7	53	132	0.04	0.03	0.03	0.03
11 Coimbatore ..	4	10	5	2	29	19	48	0.02	0.01	0.01	0.03
12 The Nilgiris ..	..	..	..	1	4	2	6	0.02	0.01	0.01	0.03
13 Kanyakumari ..	..	..	..	..	1	..	1	*	*	*	*
Total for the State ..	57	43	64	57	403	392	795	0.02	0.02	0.02	0.03

• Less than 0.01

TABLE XXXVII—Deaths from respiratory diseases registered in the districts in the State of Madras during each month of the year 1934.

		Septem- ber.	October.	Novem- ber.	Decem- ber.	Total.	Males.	Females.	Total.	Ratio of death per 1,000 of estimated mid-year population.	Average of the ratio published for the previous five years. (22)
1 Madras ..	..	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
2 Chingleput ..	..	486	375	322	238	1,694	1,685	3,379	1,75	1,95	1,84
3 North Arcot ..	..	213	173	154	173	1,067	1,037	2,104	0,92	0,93	0,92
4 South Arcot ..	..	309	310	252	275	1,714	1,768	3,480	1,05	1,10	1,08
5 Thanjavur ..	..	177	135	193	185	1,259	1,345	2,604	0,87	0,87	0,83
6 Tiruchirappalli ..	..	127	86	142	102	962	902	1,864	0,58	0,59	0,59
7 Madurai ..	..	140	156	108	116	707	822	1,529	0,43	0,50	0,43
8 Ramanathapuram ..	..	165	114	152	170	1,018	978	1,996	0,61	0,59	0,60
9 Tirunelveli ..	..	99	103	85	118	624	622	1,246	0,42	0,40	0,41
10 Salem ..	..	114	122	120	122	642	755	1,397	0,53	0,53	0,50
11 Coimbatore ..	..	89	64	61	73	483	523	1,006	0,24	0,27	0,25
12 The Nilgiris ..	..	169	123	141	139	798	954	1,752	0,42	0,53	0,47
13 Kanyakumari ..	..	18	13	12	11	114	115	229	0,50	0,54	0,54
14 ..	..	94	75	76	68	409	441	850	0,77	0,85	0,81
Total for the State ..	..	2,200	1,849	1,928	1,790	11,391	11,937	23,326	0,65	0,69	0,67

	Septem- ber.	October.	Novem- ber.	Decem- ber.	Total.		Ratio of deaths per 1,000 of estimated mid-year population.		Average of the ratio published for the previous five years.		
					Males.	Females.	Males.	Females.		Total.	
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1 Madras ..	734	889	946	967	4,307	3,965	8,272	445	456	451	4.33
2 Chingleput ..	162	144	191	157	1,118	850	1,968	0.99	0.76	0.88	1.10
3 North Arcot ..	273	279	293	339	1,862	1,491	3,353	1.15	0.93	1.04	1.23
4 South Arcot ..	146	123	207	235	1,160	982	2,142	0.73	0.63	0.68	0.81
5 Thanjavur ..	178	145	222	193	1,177	932	2,109	0.71	0.56	0.63	0.56
6 Tiruchirappalli ..	173	172	138	217	1,256	1,050	2,306	0.77	0.64	0.70	0.71
7 Madurai ..	285	239	253	334	1,746	1,621	3,367	1.05	0.92	0.98	1.18
8 Ramanathapuram ..	166	125	159	169	1,081	821	1,902	0.79	0.63	0.71	0.80
9 Tirunelveli ..	156	158	202	194	1,169	1,016	2,185	0.85	0.71	0.78	1.13
10 Salem ..	164	160	153	181	1,032	923	1,955	0.52	0.47	0.50	0.70
11 Coimbatore ..	320	256	273	295	1,820	1,576	3,396	0.97	0.87	0.92	1.09
12 The Nilgiris ..	61	41	50	84	518	250	768	1.38	1.18	1.23	1.40
13 Kanyakumari ..	101	88	98	109	574	436	1,010	1.08	0.84	0.96	0.96
Total for the State ..	3,908	2,809	3,240	3,461	18,550	50,813	84,363	1.06	0.91	0.99	1.11

STATEMENT XII.—Deaths from plague registered in the districts in the State of Madras during each month of the year 1931

Districts,	(1)	Number of villages or circles and towns from registration and towns from (Municipalities).		January.	February.	March.	April.	May.	June.	July.	August.
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Madras ..	..	1	1	..	..	..	..	..	..	..	..
2 Chingleput ..	..	14	1,18	..	..	..	..	..	..	..	..
3 North Arcot ..	..	22	1,554	..	..	..	..	..	..	..	..
4 South Arcot ..	..	12	1,577	..	..	..	..	..	..	..	..
5 Thanjavur ..	..	18	1,508	..	..	..	..	..	..	..	..
6 Tiruchirappalli ..	..	14	1,227	..	..	..	..	..	..	..	..
7 Madurai ..	..	15	868	..	..	..	..	..	..	..	..
8 Ramanathapuram ..	..	18	1,216	..	..	..	..	..	..	..	..
9 Tirunelveli ..	..	16	859	..	..	..	..	..	..	..	..
10 Salem ..	..	15	1,359	1	..	..	..	..	..	..	..
11 Coimbatore ..	..	17	894	..	..	..	..	..	..	..	..
12 The Nilgiris ..	..	5	147	..	..	..	..	..	..	..	..
13 Kanyakumari ..	..	8	80	..	..	..	..	..	..	..	..
Total ..	..	175	12,551	1	..	..	..	..	..	..	..

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	Septem-ber.	October.	Novem-ber.	Decem-ber.	Total.		Average of ratio published for the previous five years.
					Males.	Females.	
1 Madras ..	(12)	(13)	(14)	(15)	(16)	(17)	(21)
2 Chingleput ..	..	..	..	..	..	..	..
3 North Arcot ..	..	..	..	..	..	..	..
4 South Arcot ..	..	..	..	..	..	..	..
5 Thanjavur ..	..	..	..	..	..	..	..
6 Tiruchirappalli ..	..	..	..	..	..	..	..
7 Madurai ..	..	..	..	..	..	..	..
8 Ramanathapuram ..	..	..	..	..	..	..	..
9 Tirunelveli ..	..	..	..	..	..	..	..
10 Salem ..	..	..	..	..	..	..	..
11 Coimbatore ..	..	..	..	..	..	..	..
12 The Nilgiris ..	..	..	..	..	..	..	..
13 Kanyakumari ..	..	..	..	..	..	..	..
Total ..	..	..	..	..	..	..	..

Death rate per 1,000 of estimated mid-year population.

Total.

Death rate per 1,000 of estimated mid-year population.

Average of ratio published for the previous five years.

* Less than 0.01

STATEMENT XIII

STATEMENT XIII—Statement showing the particulars of vaccinations in the Madras State for the year 1904.

Primary vaccinations.														
Serial number and name of district (exclusive of municipal towns).	Mid-year estimated population for 1904.	Total number of persons vaccinated.					Total number of operations	Successful.				Un- successful.	Un- known.	
		Males.		Females.				Total successful of all ages.	1-5 years.	5-10 years.	10 years and above.			
		(3)	(4)	(5)	(6)	(7)								(8)
(1)		(2)											(12)	(13)
1 Cingaleput	..	2,016,000	203,081	189,996	393,077	74,217	26,240	26,795	3,390	107	50,538	3,609	4,016	
2 North Arcot	..	2,767,000	210,594	195,807	412,791	93,021	43,085	23,500	1,742	304	68,632	4,236	20,153	
3 South Arcot	..	2,931,000	751,288	709,703	1,460,991	124,103	56,118	26,952	4,986	81	88,137	10,167	25,779	
4 Thanjavur	..	2,947,000	650,042	618,130	1,308,172	123,598	36,070	36,070	6,891	234	82,316	12,070	29,212	
5 Tiruchirappalli	..	2,862,000	721,858	710,072	1,431,930	110,721	37,722	39,780	9,576	1,175	85,253	7,376	25,093	
6 Madurai	..	2,580,000	538,025	559,380	1,097,405	100,256	36,086	21,800	3,655	721	62,292	7,551	30,412	
7 Ramanathapuram	..	2,135,000	605,683	654,778	1,260,461	107,005	31,258	30,336	5,580	144	67,318	6,723	33,564	
8 Tirunelveli	..	2,404,000	513,139	565,827	1,078,966	115,019	25,068	20,526	6,368	1,409	53,431	9,144	62,444	
9 Salem	..	3,630,000	879,300	913,405	1,792,765	170,976	38,405	33,158	9,417	1,091	82,171	11,412	77,393	
10 Coimbatore	..	3,027,000	694,425	681,335	1,375,760	107,515	35,166	33,252	8,552	691	77,961	6,018	23,535	
11 The Nilgiris	..	343,000	26,430	22,227	48,657	8,902	3,565	3,185	915	227	7,892	337	673	
12 Kanyakumari	..	803,000	53,593	52,694	106,287	31,701	11,231	8,524	600	..	20,355	3,177	8,109	
Total for the districts	..	28,541,000	5,853,818	5,913,444	11,767,262	1,177,634	383,620	303,930	62,102	6,244	755,296	81,878	340,480	
Total for the municipal towns.	..	6,337,000	1,056,607	1,050,672	2,106,679	234,805	142,013	57,603	5,999	452	206,077	4,913	23,635	
Poonamallee Health Unit	..	..	9,009	10,108	19,177	3,283	1,975	751	27	..	2,753	83	447	
Railways	..	..	16,839	10,490	27,329	8,089	1,811	1,171	42	..	3,024	31	344	
By Medical Subordinates and Port Health Officers.	..	..	2,935	128	3,063	16	1	9	3	2	15	1	..	
Total	..	34,878,000	6,930,223	6,964,302	13,923,530	1,418,627	528,620	363,464	68,173	6,698	967,165	86,906	364,666	

* Difference due to rounding.

* Difference due to rounding.

Primary vaccination—cont.

	Number of cases in which the results were known [column (6) — (13)].	Percentage of successful cases in which the results were known [column (11) ÷ (14)].	Successful.												Total number of operations.	Total number of successful cases in which results were known [column (16) — (20)].	Percentage of successful cases in which results were known [column (21) ÷ (20)].	Total number of successful operations [column (11) + (17)].	Primary vaccinations.	Re-vaccinations.
			Unsuccessful.																	
			(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)							
1 Cingalepus ..	60,207	93.91	318,507	54,974	142,242	121,091	157,216	27.18	111,512	74,170	318,207									
2 North Arcot ..	72,808	94.19	320,712	57,506	147,504	116,142	302,610	28.11	150,458	92,039	320,735									
3 South Arcot ..	99,304	89.60	1,338,539	218,700	564,516	554,658	783,086	27.92	300,897	122,815	1,338,078									
4 Thanjavur ..	94,286	87.22	1,191,502	227,218	469,939	494,046	697,156	32.59	369,334	121,484	1,180,688									
5 Tiruchirappalli ..	95,029	92.59	1,317,731	340,258	478,638	459,035	818,056	41.06	428,511	118,244	1,413,885									
6 Madurai ..	69,843	89.19	569,358	167,002	387,312	444,444	554,914	30.20	229,894	98,131	9,90,274									
7 Ramanathapuram ..	74,041	90.20	1,156,529	242,818	419,327	454,144	602,185	30.67	310,170	105,807	1,154,599									
8 Tirunelveli ..	62,575	85.39	965,503	117,583	292,431	555,259	410,214	28.72	171,214	113,403	965,508									
9 Salem ..	83,563	87.80	1,621,789	228,711	536,183	816,795	704,094	29.89	310,882	170,976	1,621,789									
10 Coimbatore ..	83,977	92.84	1,268,284	289,196	510,771	462,317	805,907	35.88	367,157	107,476	1,868,288									
11 The Nilgiris ..	8,229	95.00	89,755	14,518	14,514	10,723	29,182	0.01	22,410	8,902	39,755									
12 Kanyakumari ..	23,532	90.50	79,051	10,601	38,517	29,953	49,118	21.58	30,566	27,536	79,051									
Total for the districts ..	837,174	90.22	10,618,100	1,970,285	4,008,503	4,639,312	5,978,788	32.95	2,725,581	1,100,003	10,608,356									
Total for municipal towns.	210,980	97.67	1,870,343	375,110	847,512	647,721	1,222,022	30.68	581,177	238,464	1,873,215									
Poonamallee Health Unit ..	2,836	97.07	15,911	2,616	7,298	6,087	9,524	26.63	5,369	3,266	18,211									
Railways ..	3,055	93.99	24,244	4,221	10,690	3,927	20,317	50.78	7,245	3,085	24,244									
By Medical Subordinates and Port Health Officers.	16	93.75	3,067	2,561	500	..	3,067	83.50	2,576	16	3,067									
Total ..	1,054,061	91.70	12,531,663	2,354,793	4,879,825	5,297,047	7,234,618	32.55	3,351,948	1,400,731	12,532,786									

STATEMENT XIII—Particulars of vaccinations in the State of Madras for the year 1964—cont.

Serial number and name of municipality known.	Mid-year estimated population for 1964.	Total number of persons vaccinated.			Primary vaccinations.							Unsuccessful known.	Unsuccessful.
		Males	Females	Total	Successful.								
					0-1 year.	1-5 years.	5-10 years.	10 years and above.	Total successful.	Total of all ages.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1 Madras	1,834,000	153,814	156,594	310,708	53,708	87,042	15,472	667	22	53,603	6	941	
2 Kancheepuram	95,300	45,732	42,550	88,282	6,050	5,964	37	28	..	6,059	..	13	
3 Tiruvallur	20,100	1,205	794	2,089	641	212	808	8	..	528	..	15	
4 Chingleput	27,100	1,920	712	2,632	635	395	217	4	..	610	4	377	
5 Tiruvotiyur	42,600	3,122	3,324	7,557	2,118	745	822	34	..	1,601	140	49	
6 Tambaram	38,500	5,838	5,163	11,031	1,444	709	576	..	..	1,375	..	304	
7 Alandur	35,900	15,139	11,794	27,933	2,439	856	1,180	15	..	2,081	34	253	
8 Vellore	116,300	6,008	6,439	12,447	4,222	3,238	723	6	..	3,960	3	65	
9 Tiruvannamalai	48,300	9,546	6,426	15,972	1,648	780	503	65	..	1,648	..	15	
10 Gudiyatham	52,000	5,296	3,108	8,404	2,217	1,958	130	6	..	2,091	98	65	
11 Vaniyambadi	43,200	3,236	2,925	6,161	1,538	1,212	297	18	..	1,527	16	15	
12 Tiruppur	32,100	1,824	2,436	4,260	1,273	972	298	8	..	1,273	..	..	
13 Walajahpet	13,400	855	843	1,698	402	219	139	..	..	349	29	24	
14 Arni	33,600	2,493	2,453	4,946	1,200	702	262	13	..	977	194	93	
15 Arkonam	33,200	2,709	2,922	5,631	1,159	447	650	37	..	1,134	10	15	
16 Ambur	39,500	2,756	2,457	5,213	1,633	1,037	352	64	..	1,453	24	150	
17 Arcot	26,300	1,860	1,613	3,473	1,075	366	185	29	..	809	9	257	
18 Ranipet	24,300	3,893	2,798	6,691	1,139	968	39	..	..	1,007	39	93	
19 Cuddalore	82,500	24,238	18,450	42,718	4,377	1,064	1,521	868	..	3,453	31	893	
20 Chidambaram	42,700	19,441	19,022	38,463	1,874	1,285	319	45	2	1,661	..	213	
21 Villupuram	46,100	3,026	3,274	6,300	1,126	563	455	11	..	1,029	51	46	
22 Tindivanam	35,900	6,613	6,761	13,374	1,383	1,202	81	..	..	1,233	2	98	
23 Thanjavur	114,600	36,057	30,292	75,349	4,214	1,592	1,400	224	12	3,228	24	992	
24 Kumbakonam	92,900	33,044	37,253	70,297	3,929	2,191	1,262	185	3	3,641	..	238	
25 Mayuram	54,600	8,744	3,295	7,039	1,763	1,348	314	18	..	1,630	..	83	
26 Mannargudi	34,800	2,518	2,211	4,729	1,403	866	272	15	..	1,253	65	86	
27 Nagappattinam	59,500	3,781	4,313	8,094	1,233	860	269	164	..	1,233	..	76	
28 Tiruvarur	31,100	1,406	1,316	2,722	958	535	336	11	..	82	79	1,570	
29 Tiruchirappalli	260,200	111,038	108,079	219,117	12,145	4,308	6,300	882	6	10,498	79	1,570	
30 Karur	53,400	2,332	2,064	4,416	914	397	450	51	16	914	..	..	
31 Srirangam	43,700	17,535	18,769	36,304	2,874	209	1,476	888	14	2,087	46	747	
32 Pudukkottai	82,500	3,792	3,728	7,520	2,518	2,010	301	90	..	2,401	102	15	
33 Madurai	445,800	48,817	41,477	90,294	20,818	14,397	1,737	45	..	16,179	1,434	3,206	
34 Dindigul	97,800	40,800	42,055	82,855	6,531	3,256	1,952	28	204	5,500	..	31	
35 Bodinayakanur	47,900	1,532	1,936	3,468	1,373	1,292	40	..	..	1,242	43	88	
36 Periyakulam	28,100	2,099	1,644	3,743	1,253	1,149	101	..	..	1,250	..	83	
37 Palani	41,600	3,213	8,015	6,228	1,066	543	870	..	..	913	149	19	

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
38 Cumbum	34,400	634	426	1,060	297	58	19	..	..	77	13	208
39 Allinagar	18,600	955	906	1,861	850	657	155	2	..	814	37	145
40 Rajapalayam	74,700	12,384	10,585	22,969	2,671	1,883	612	31	..	2,526	..	1
41 Srivilliputhur	48,900	4,122	6,112	10,234	1,837	1,941	188	..	..	1,834	2	1
42 Virudhunagar	57,700	8,073	2,987	6,060	1,698	1,260	260	11	..	1,537	62	149
43 Karaikudi	45,400	19,440	19,410	38,850	1,983	528	249	55	24	856	27	1,100
44 Sivakasi	33,400	1,632	1,539	3,171	1,213	947	230	15	..	1,201	12	..
45 Devakottai	25,500	11,684	12,260	23,944	1,274	489	445	92	19	1,045	110	119
46 Aruppukottai	50,800	2,393	2,176	4,569	1,732	1,059	55	8	..	1,752	..	..
47 Ramanathapuram	27,800	12,721	14,917	27,638	1,358	832	218	32	..	1,102	177	679
48 Pammakudi	36,000	16,960	18,178	35,138	2,638	347	1,031	58	2	1,411	114	1,083
49 Tuticoria	132,700	49,781	55,705	105,486	7,497	4,359	1,855	112	13	6,309	548	680
50 Tirunelveli	92,800	12,750	13,439	26,189	3,003	2,197	619	106	..	2,322	39	104
51 Palayankottai	54,700	2,773	1,779	4,552	1,450	1,022	..	..	..	1,922	151	277
52 Melapalayam	39,200	1,557	1,539	3,096	1,487	903	342	17	..	1,262	31	194
53 Shencottah	21,600	1,198	1,010	2,208	610	107	472	..	..	579	..	31
54 Sankarankoil	24,800	9,712	9,905	19,617	1,472	408	298	44	..	730	142	580
55 Kallipatti	35,700	10,180	10,652	20,732	2,315	400	400	126	15	941	243	1,171
56 Salem	264,700	112,915	114,014	227,929	11,703	4,717	2,350	265	15	7,347	422	8,934
57 Rasipuram	24,000	9,147	9,112	18,259	1,272	539	483	205	0	1,253	17	2
58 Dharmapuri	29,300	2,335	2,233	4,568	..	..	..	..	..	..	..	..
59 Coimbatore	315,500	31,054	26,814	57,868	8,564	6,798	1,381	..	..	7,177	58	1,329
60 Erode	77,200	28,502	35,573	64,075	4,211	2,420	1,540	100	15	4,084	31	66
61 Tiruppur	88,000	10,198	8,468	18,666	3,679	3,247	105	1	..	3,333	..	326
62 Pollachi	58,600	4,324	3,812	8,135	2,116	1,643	441	26	..	2,110	5	1
63 Dharmapuri	27,300	13,641	13,093	27,574	1,304	571	338	45	4	958	64	232
64 Udumalpet	30,000	4,154	3,584	7,738	866	504	265	47	..	810	9	41
65 Mettupalayam	39,500	1,895	2,483	4,378	1,178	832	189	89	..	1,110	19	49
66 Gobichettipalayam	27,000	11,610	10,507	22,207	1,347	722	424	75	..	1,221	..	126
67 Ootacamund	53,100	8,344	7,503	15,847	1,417	1,076	298	43	..	1,417	..	..
68 Coonoor	45,500	4,228	3,298	7,526	1,148	478	211	21	..	710	6	432
69 Nagercoil	115,200	4,744	6,508	11,252	3,628	1,804	1,403	43	..	3,400	77	51
70 Colachel	16,400	609	686	1,295	358	326	32	..	..	358	..	..
71 Kuzhithurai	14,700	1,244	1,055	2,299	223	61	47	..	..	108	32	83
72 Padmanabhapuram	14,900	1,052	1,188	2,240	298	121	169	..	..	290	8	..
Total	6,001,200	1,056,607	1,050,072	2,106,679	234,605	142,013	57,603	6,999	452	296,067	4,912	23,825

total number of persons

Re-vaccinations.

1

36 Periyakulam	1,260	100-00	2,490	1,127	1,148	218	2,276	49-53	2,377	1,253	2,490
37 Pahn	927	98-49	6,162	708	2,612	1,782	3,380	22-72	1,681	1,086	5,162
38 Cumbum	89	86-52	763	120	159	484	279	43-01	197	297	-03
39 Alnagar	851	96-65	1,092	646	624	23	1,009	50-98	1,359	859	1,192
40 Rajapalayam	2,620	100-00	20,298	4,140	12,828	3,330	16,968	24-34	6,660	2,671	20,298
41 Srivilliputhur	1,836	99-89	8,399	2,082	2,493	3,354	4,545	43-14	3,88	1,836	8,199
42 Virudhunagar	1,589	86-73	4,362	910	1,296	2,156	2,206	41-25	2,447	1,698	4,362
43 Karaikudi	883	96-92	36,867	3,508	11,361	21,998	14,869	23-59	4,364	1,83	36,867
44 Sivakasi	1,213	99-01	1,990	698	1,292	1,990	1,990	35-74	1,899	1,181	1,990
45 Devakottai	1,155	90-05	22,670	5,322	12,076	5,272	17,398	30-59	6,367	1,274	22,670
46 Aruppukottai	1,762	100-00	2,817	1,001	1,510	306	2,511	39-86	2,753	1,752	2,817
47 Ramanathapuram	1,279	86-16	25,780	2,732	7,366	16,682	10,098	27-15	9,894	1,858	25,780
48 Paramakudi	1,565	92-66	32,514	5,814	10,660	16,040	16,474	35-29	2,255	2,824	32,514
49 Tuticorin	6, 17	92-08	98,289	15,627	38,659	44,003	54,286	28-79	7,197	93,889	98,289
50 Tirunelveli	2,958	98-78	7,004	1,809	3,615	17,723	5,424	33-35	4,731	3,042	23,147
51 Palayamkottai	1,173	87-13	3,102	293	1,936	1,413	1,689	17-35	1,315	1,450	3,102
52 Melapalayam	1,293	97-62	1,609	896	811	402	1,207	32-89	1,653	1,437	1,609
53 Shencottah	579	100-0	1,598	823	827	448	1,150	28-37	902	610	1,598
54 Sankarankoil	892	75-61	18,145	2,210	9,239	6,636	11,449	19-31	2,901	1,472	18,145
55 Koilpatti	1,144	82-25	18,417	1,227	4,112	13,078	5,339	23-01	2,168	2,315	18,417
56 Salem	7,769	94-57	216,126	18,557	92,911	104,653	111,408	19-05	29,904	11,703	210,126
57 Rasipuram	1,270	98-66	16,987	6,912	9,887	188	16,799	41-15	8,165	1,272	16,987
58 Dharmapuri	7,235	99-06	49,904	10,089	23,369	16,446	33,458	30-13	17,266	8,564	49,904
59 Coimbatore	4,115	99-04	59,884	4,761	51,601	3,592	56,362	8-45	8,845	4,211	59,884
60 Erode	3,333	100-00	14,987	6,611	3,904	4,472	10,515	62-83	9,904	3,679	14,987
61 Tiruppur	2,115	99-76	6,023	1,808	4,015	200	6,823	31-49	3,918	2,113	6,023
62 Pollachi	1,022	93-74	26,370	5,135	13,495	7,640	18,630	27-56	6,993	1,314	26,370
63 Dharmapuri	825	98-32	6,372	1,120	3,832	1,92	4,952	22-57	1,936	866	6,372
64 Udumalpet	1,129	99-20	8,200	721	2,381	98	3,102	23-24	1,831	1,178	8,200
65 Mettupalayam	1,231	100-00	20,860	2,620	17,030	1,210	19,650	13-33	3,841	1,347	20,860
66 Gobichettipalayam	1,417	100-00	14,430	3,234	9,245	1,951	12,479	23-92	4,651	1,417	14,430
67 Ootacamund	716	99-15	6,378	1,018	2,714	2,646	3,732	27-28	1,728	1,148	6,378
68 Coonoor	3,477	97-78	8,737	2,861	4,498	1,378	7,359	38-91	6,261	3,451	7,801
69 Nagercoil	358	100-00	937	390	340	207	730	6-34	748	358	937
70 Colachel	140	77-14	2,076	269	499	1,308	768	35-03	377	223	2,076
71 Kuthithurai	298	97-31	1,942	754	1,097	181	1,761	45-82	1,044	298	1,942
72 Padmanabhapuram	210,980	97-67	1,870,343	376,110	847,512	647,721	1,222,622	30-68	591,177	233,404	1,873,213
Total											

Total:

1,873.215

ANNEXURE A.

Statement showing the number of monthly birth and death returns due from each districts and number not received for the year 1964.

Serial number and districts.	Number of returns due for 1964.	Number of returns not received for 1964.	Percentage of returns not received to total number due.
(1)	(2)	(3)	(4)
1 Chingleput	14,125	589	4.2
2 North Arcot	18,516	139	0.8
3 South Arcot	19,116	115	0.6
4 Thanjavur	18,756	469	2.5
5 Tiruchirappalli	14,676	177	1.2
6 Madurai	10,338	170	1.7
7 Ramanathapuram	14,598	823	5.6
8 Tirunelveli	10,164	80	0.8
9 Salem	16,275	485	3.0
10 Coimbatore	10,632	80	0.8
11 The Nilgiris	1,742	174	10.0
12 Kanyakumari	912	-	-
Total	149,940	3,307	2.2

ANNEXURE B.

Statement showing the live-births by months, sex and area in Madras State recorded during the year 1964.

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	20,550	18,961	39,511	12,507	11,563	23,810	32,687	30,464	63,351
2 February	19,280	17,461	36,741	11,950	11,031	22,981	31,310	28,792	59,802
3 March	21,567	19,543	41,270	12,981	12,065	25,046	35,748	32,508	68,256
4 April	22,889	20,659	43,548	14,567	13,532	28,099	37,456	34,191	71,647
5 May	23,612	21,856	45,468	15,149	14,346	29,495	38,061	36,196	74,257
6 June	25,170	22,789	47,959	16,272	14,471	30,743	40,442	37,500	77,942
7 July	25,797	23,805	49,602	16,508	15,418	31,926	42,305	39,313	81,618
8 August	26,769	23,813	50,582	16,645	15,728	32,373	43,434	40,434	83,868
9 September	23,937	22,389	46,326	13,583	12,776	26,359	37,520	35,159	72,679
10 October	22,756	21,235	43,991	14,947	13,773	28,720	37,506	35,008	72,514
11 November	24,055	22,577	46,632	16,646	15,361	32,007	40,701	37,818	78,519
12 December	22,991	21,370	44,361	21,749	20,510	42,259	44,740	41,900	86,640
Total	278,936	256,572	535,508	181,274	169,468	350,742	460,210	428,040	888,250

* 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 1964.

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	15,420	15,589	31,009	5,605	5,359	10,964	21,025	20,948	41,973
2 February	12,042	12,031	24,073	4,872	4,724	9,596	16,894	16,065	32,959
3 March	10,019	10,050	20,069	4,356	4,113	8,469	14,375	14,133	28,508
4 April	8,934	9,093	18,027	4,135	3,905	8,040	13,069	12,698	25,767
5 May	9,366	9,562	18,928	4,319	4,072	8,391	13,085	12,634	25,719
6 June	9,410	9,591	19,001	4,698	4,455	9,153	13,508	13,546	27,054
7 July	10,175	10,315	20,490	4,604	4,204	8,808	14,779	14,619	29,398
8 August	10,920	10,919	21,839	4,770	4,516	9,286	16,080	15,434	31,514
9 September	10,710	10,892	21,602	4,816	4,838	9,654	16,434	16,725	33,159
10 October	9,822	10,281	20,103	4,779	4,921	9,700	14,651	14,773	29,424
11 November	12,001	12,797	24,798	5,420	4,932	10,352	17,421	16,789	34,210
12 December	12,562	12,238	24,800	6,552	5,930	12,482	19,114	18,166	37,280
Total	131,431	132,328	263,759	58,661	54,904	113,465	189,992	187,232	377,224

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

ANNEXURE D.

Still births recorded in districts exclusive of municipal towns and in districts inclusive of municipal towns in 1964.

Serial number and name of district.	District exclusive of municipal towns.			Municipal towns.			District 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	..	..	..	776	758	1,534	776	758	1,534
Chingleput	166	167	333	255	223	478	421	396	817
3 North Arcot	105	65	170	649	472	1,121	754	637	1,391
4 South Arcot	184	182	366	140	124	270	830	306	630
5 Thanjavur	238	203	441	662	583	1,245	900	786	1,686
6 Tiruchirappalli	210	180	390	450	394	844	660	574	1,234
7 Madurai	202	148	350	797	643	1,440	999	791	1,790
8 Ramanathapuram	198	164	362	367	295	662	563	459	1,024
9 Tirunelveli	245	205	450	325	284	609	570	489	1,059
10 Salem	167	137	304	454	366	820	621	503	1,124
11 Coimbatore	135	103	238	687	779	1,666	1,023	882	1,904
12 The Nilgiris	102	98	200	70	46	116	172	144	316
13 Kanyakumari	171	136	307	88	75	163	259	211	470
Total	2,123	1,788	3,911	5,926	5,048	10,974	8,949	6,836	14,885

ANNEXURE E.

Infant deaths and death rates in districts exclusive of municipal towns and districts inclusive of municipal towns in 1964.

Serial number and name of district.	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	7,803	106.1	..	..	7,803	106.1
2 Chingleput	620	69.0	4,088	92.1	4,703	88.9
3 North Arcot	1,677	74.7	5,434	82.1	7,111	80.3
4 South Arcot	269	28.6	4,366	73.0	4,635	66.9
5 Thanjavur	1,079	52.8	4,098	77.1	5,177	70.8
6 Tiruchirappalli	709	47.2	4,418	70.0	5,157	65.3
7 Madurai	2,111	60.8	3,820	62.2	5,931	61.7
8 Ramanathapuram	896	53.7	2,767	62.5	3,663	60.1
9 Tirunelveli	939	60.3	5,046	80.9	5,985	78.2
10 Salem	696	45.7	4,140	60.4	4,836	57.7
11 Coimbatore	2,023	59.7	3,826	72.8	5,851	67.7
12 The Nilgiris	265	62.9	566	73.4	831	69.7
13 Kanyakumari	182	26.1	1,678	62.4	1,860	55.0
Total	19,304	69.8	44,247	72.6	63,551	72.3

ANNEXURE F.

Infant deaths by age groups in the municipal towns in the State of Madras recorded during 1964.

Serial number and name of municipal towns.	Under one month.		One to six months.		Six to twelve months.		Total under one year.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Madras	1,616	1,330	1,274	1,131	1,198	1,254	4,088	3,715	7,803
2 Kancheepuram	43	47	48	45	33	38	129	130	259
3 Tiruvallur	16	9	13	9	8	6	37	24	61
4 Chingleput	51	31	16	11	18	12	85	54	139
5 Tiruvottiyur	15	14	8	22	20	18	43	54	97
6 Tambaram	5	2	3	5	5	4	13	11	24
7 Alandur	5	1	8	9	6	11	19	21	40
8 Vellore	172	135	89	80	67	88	328	303	631
9 Tiruvannamalai	39	31	13	14	24	14	76	59	135
10 Gudiyatham	64	51	32	41	38	32	134	124	258
11 Vaniyambadi	31	23	21	16	23	28	75	67	142
12 Tirupathur	27	23	16	20	17	12	60	55	115
13 Walajapet	4	5	6	8	3	6	13	19	32
14 Arni	27	16	19	15	12	11	48	42	100
15 Arkonam	9	4	4	6	9	10	22	20	42
16 Ambur	32	22	19	14	17	21	68	57	125
17 Arcot	2	9	3	1	5	1	10	11	21
18 Ranipet	9	24	13	10	12	8	34	42	76
19 Cuddalore	15	9	5	14	20	15	40	38	78
20 Chidambaram	23	18	9	12	10	9	42	39	81
21 Villupuram	13	12	5	5	6	11	24	28	52
22 Tindivanam	12	14	4	11	10	7	26	32	58
23 Thanjavur	67	140	30	43	40	34	137	217	354
24 Kumbakonam	62	66	31	28	30	33	123	127	250
25 Mayuram	28	25	12	12	14	11	54	43	102
26 Mannargudi	52	22	13	10	18	10	83	42	125
27 Nagapattinam	44	44	24	14	30	20	98	78	176
28 Tiruvarur	29	15	7	1	10	10	46	26	72
29 Tiruchirappalli	187	132	34	29	36	39	257	201	458
30 Karur	15	19	10	1	3	8	28	28	56
31 Srirangam	34	20	1	4	6	3	41	27	68
32 Pudukkottai	64	48	8	12	14	11	86	71	157
33 Madurai	511	367	190	198	158	148	859	713	1,572
34 Dindigul	55	43	19	22	15	17	89	82	171
35 Bodinayakanur	14	12	18	14	16	8	48	34	82
36 Periyakulam	43	33	9	4	12	7	64	44	108
37 Palni	34	32	10	8	9	6	53	46	99
38 Cumbum	18	11	7	9	5	1	30	21	51
39 Allinagaram	6	7	6	3	2	4	14	14	28
40 Rajapalayam	37	32	21	21	18	17	76	70	146
41 Srivilliputtur	39	43	18	16	32	15	89	74	163
42 Virudhunagar	25	24	10	6	9	15	44	45	89
43 Karaikudi	18	18	14	13	9	13	41	44	85
44 Sivakasi	13	19	3	4	6	6	22	29	51

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ANNEXURE F.

Infant deaths by age groups in the municipal towns in the State of Madras recorded during 1964—cont.

Serial number and name of municipalities.	Under one month.		One to six months.		Six to twelve months.		Total under one year.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
45 Devakottai	18	11	6	7	10	13	34	31	65
46 Aruppukottai	40	42	12	15	17	14	69	71	140
47 Ramanathapuram	36	37	4	12	10	5	50	54	104
48 Paramakudi	13	5	12	8	7	8	32	21	53
49 Tuticorin	95	79	46	36	41	37	182	152	334
50 Tirunelveli	76	53	31	24	44	26	151	103	254
51 Palayamcottai	63	56	14	9	12	16	89	81	170
52 Melapalayam	9	8	8	6	14	12	31	26	57
53 Shencottah	21	22	1	5	4	3	26	30	56
54 Koilpatti	8	7	4	5	2	..	14	12	26
55 Sankarankoil	12	14	7	6	2	1	21	21	42
56 Salem	197	153	69	72	44	70	310	295	605
57 Rasipuram	16	19	9	9	11	6	36	34	70
58 Dharmapuri	6	10	2	1	1	..	10	11	21
59 Coimbatore	373	263	133	137	79	93	585	493	1,078
60 Erode	85	68	29	15	28	25	142	108	250
61 Tiruppur	56	66	12	9	15	15	83	90	173
62 Pollachi	77	62	28	31	25	23	130	116	246
63 Dharapuram	27	20	7	8	8	13	42	41	83
64 Udumalpet	33	25	4	6	8	8	45	39	84
65 Mettupalayam	23	21	7	8	3	6	33	35	68
66 Gobichettipalayam	8	21	6	4	4	3	18	28	46
67 Ootacamund	64	40	21	15	14	12	99	67	166
68 Coonoor	34	34	7	10	9	5	50	49	99
69 Nagercoil	39	22	15	17	16	14	70	53	123
70 Golache	1	2	4	2	..	2	5	6	11
71 Kuzhithurai	6	6	1	4	1	5	8	15	23
72 Padmanabhapuram	4	5	8	4	2	2	14	11	25
Total ..	5,065	4,174	2,631	2,456	2,489	2,489	10,185	9,119	19,305

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 1964.

Serial number and district.	Municipal towns.		Districts exclusive of municipal towns.		Districts inclusive of municipal towns.	
	Number.	Rate per 1,000 (live and still-births).	Number.	Rate per 1,000 (live and still-births).	Number.	Rate per 1,000 (live and still-births).
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Madras	134	1.78	..	..	134	1.78
2 Chingleput	83	8.77	84	1.88	167	3.08
3 North Arcot	125	5.30	209	3.15	334	3.71
4 South Arcot	48	4.96	238	3.95	286	4.03
5 Tanjavur	150	6.91	191	3.60	341	4.56
6 Tiruchirappalli	125	7.53	310	4.68	435	5.44
7 Madurai	135	3.73	114	1.85	249	2.54
8 Ramanathapuram	53	3.06	95	2.13	148	3.39
9 Tirunelveli	124	8.39	227	3.61	351	4.52
10 Salem	89	5.54	168	2.44	257	3.03
11 Coimbatore	187	5.25	148	2.80	335	3.79
12 The Nilgiris	8	1.85	12	1.52	20	1.63
13 Kanyakumari	18	2.53	88	3.24	106	3.09
Total ..	1,279	4.45	1,864	3.07	3,143	3.51

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 of Madras in 1964.

11 municipal towns selected—Arippukottai, Bodinayakanur, Chidambaram, Coimbatore, Cuddalore, Dindigul, Erode, Gudiyatham, Kancheepuram, Karaikkal, Karur, Kumbakonam, Madras, Madurai, Mayuram, Nagapattinam, Odagamund, Palni, Palayankottai, Periyakulam, Pollachi, Pudukkottai, Raghupattanam, Salem, Srirangam, Srivilliputhur, Thanjavur, Tiruchirappalli, Tiruppur, Tiruvannamalai, Tulicoru, Vanganabadi, Vellore, Villupuram and Virudhunagar.

Serial number and age group.	Infectious diseases.										Fever.				
	Cholera.	Plague.	Small-pox.	Measles.	Chicken-pox.	Typhoid or Enteric fever.	Diphtheria.	Others.	Malaria.	Influenza.	Relapsing fever.	Kala-Azar.	Rheumatic fever.	Other fevers.	
(1)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(18)
1 Under 24 hours	..	..	..	..	..	..	1	3	..	..	..	..	..	15	..
2 Twenty-four hours and under one week	..	..	..	..	..	..	..	..	..	..	..	..	..	55	..
3 One week and under one month	1	..	11	..	..	..	1	4	..	..	..	..	..	90	..
4 One month and under three months	..	..	8	..	..	..	2	1	..	..	..	..	..	84	..
5 Three months and under six months	..	..	30	..	..	..	7	6	..	..	..	..	..	149	..
6 Six months and under one year	5	..	71	4	..	2	21	11	1	..	..	..	..	282	..
Total under one year	8	..	130	4	..	2	32	25	1	..	..	..	..	673	..
1 1 to 5 years	75	..	222	4	4	21	230	28	3	6	..	1	3	1,148	..
2 5 to 10 years	94	..	119	2	4	24	32	22	..	4	..	..	6	357	..
3 10 to 15 years	37	..	21	2	1	43	4	9	1	3	..	1	3	197	..
4 15 to 20 years	26	..	35	..	4	63	1	7	..	2	..	1	2	164	..
5 20 to 30 years	72	..	90	..	1	96	2	22	..	2	..	..	9	246	..
6 30 to 40 years	40	..	27	..	..	44	..	22	1	3	..	1	23	248	..
7 40 to 50 years	40	..	27	..	..	23	..	18	1	3	..	..	31	275	..
8 50 to 60 years	42	..	17	..	2	8	..	21	..	2	..	..	21	338	..
9 60 years and above	32	..	10	1	..	10	..	15	1	1	..	..	5	236	..
Total of all ages	498	..	728	13	16	334	301	190	9	26	..	4	105	3,878	..
Rate per 1,000 of estimated mid-year population.	0.13	..	0.20	*	*	0.07	0.06	0.02	*	0.01	*	*	0.01	10.88	..

* Less than 0.01.

Serial number and age group.	Respiratory diseases.					Alimentary system.			Disease of the liver.		Circulatory system.			Genito urinary diseases excluding venereal diseases.	
	Tuberculosis of lungs.	Pneumonia.	Others.	Dysentery.	Diarrhoea.	Others.	Cirrhosis.	Others.	Heart disease.	Arterio Sclerosis.	Others.	Brigida Disease.	Others.		
(1)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
1 Under 24 hours	..	3	52	6	4	1	1	..	1	..	..	..	..	1	..
2 Twenty-four hours and under one week	..	89	215	3	15	10	4	9	2	..	1	..	..	3	..
3 One week and under one month	..	160	158	25	88	16	3	4	1	..	6	..	..	3	..
4 One month and under three months	..	86	64	34	73	25	5	3	4	..	7	..	..	1	..
5 Three months and under six months	5	688	364	235	379	52	14	24	4	..	8	..	..	2	..
6 Six months and under one year	18	784	378	367	638	64	34	47	11	..	26	..	..	1	..
Total under one year	27	1,810	1,231	670	1,192	168	61	87	23	..	59	1	..	11	..
1 1 to 5 years	140	2,407	1,644	1,544	748	240	159	106	21	3	90	12	..	37	..
2 5 to 10 years	45	508	217	254	145	64	43	31	33	1	55	10	..	23	..
3 10 to 15 years	41	174	94	54	45	37	23	14	45	..	58	4	..	11	..
4 15 to 20 years	144	94	88	36	39	41	13	23	53	1	56	3	..	10	..
5 20 to 30 years	547	200	245	72	101	148	51	43	27	1	209	19	..	36	..
6 30 to 40 years	581	182	282	103	115	197	89	67	373	..	282	33	..	159	..
7 40 to 50 years	466	332	349	154	118	162	86	65	431	3	357	56	..	66	..
8 50 to 60 years	340	280	394	163	139	166	96	67	549	5	447	64	..	120	..
9 60 years and above	180	247	285	182	161	147	36	31	447	9	461	54	..	54	..
Total of all ages	2,511	6,234	4,829	2,232	2,803	1,370	656	534	2,244	23	2,074	256	..	557	..
Total per 1,000 for estimated mid-year population	0.51	1.09	1.00	0.76	0.57	0.37	0.13	0.10	0.45	*	0.38	0.05	..	0.09	..

* Less than 0.01.

Estimated mid-year population for 1963.

3,98,000

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 of Madras in 1964—cont.

Municipal towns selected—Aruppukkottai, Bodinayakanur, Chidambaram, Coimbatore, Diadigul Erode, Gudiyatham, Kancheepuram, Karaikkudi, Karur, Kunjankonam, Madurai, Mayuram, Nagapattinam, Ootacamund, Pabai, Palayamkottai, Perinjikulam, Pudukkottai, Rajapalayam, Salem, Srirangam, Srivilliputhur, Thanjavur, Tiruchirappalli, Tiruppur, Tiruvananthai, Tuticorin, Vaniyambadi, Vellore, Villupuram and Virudhunagar—cont.

Serial number and age group.	Venereal diseases.					Diseases of the nervous system.					Accidents of pregnancy and child birth.					Deficiency diseases.				
	Syphilis (30)	Gonorrhoea (31)	Others (32)	Convulsions (33)	Cerebral haemorrhage (apoplexy) (34)	Tetanus (35)	Epilepsy (36)	Others (37)	Puerperal Septic. (38)	Abortion (39)	Other accidents and diseases of pregnancy and parturition (40)	Beri-Beri (41)	Rickets (42)	Others (43)						
1 Under 24 hours	3	..	..	26	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 Twenty-four hours and under one week.	..	..	..	259	4	39	2	15	..	..	..	..	..	..	..	..	..	..	..	..
3 One week and under one month ..	..	..	..	279	..	45	1	17	..	..	..	..	..	..	..	..	..	..	..	..
4 One month and under three months ..	..	..	..	280	1	4	..	11	..	..	..	..	..	..	..	..	..	..	..	..
5 Three months and under six months ..	..	..	..	380	..	16	..	55	..	..	..	..	..	..	..	..	..	..	..	..
Six months and under one year ..	..	..	..	557	..	14	1	41	..	..	..	..	..	..	..	..	..	..	..	..
Total under one year ..	3	..	..	1,791	6	120	4	143	..	..	..	1	33	131	..	..	..	..	..	..
1 1 to 5 years	1	..	..	1,176	3	75	11	177	..	..	..	2	33	86	..	..	..	..	..	..
2 5 to 10 years	..	..	..	117	4	84	2	66	..	..	..	2	8	22	..	..	..	..	..	..
3 10 to 15 years	..	..	..	15	4	48	8	47	2	1	3	..	..	19	..	..	..	..	..	..
4 15 to 20 years	..	..	2	12	3	54	2	44	24	12	130	..	..	13	..	..	..	..	..	..
5 20 to 30 years	3	1	..	8	19	134	16	106	65	56	432	..	1	48	..	..	..	..	..	..
6 30 to 40 years	4	..	1	9	22	165	8	132	37	42	261	1	..	81	..	..	..	..	..	..
7 4 to 50 years	..	1	3	18	30	83	14	148	3	4	44	..	..	70	..	..	..	..	..	..
8 50 to 60 years	1	3	..	7	44	61	11	208	..	..	15	..	..	109	..	..	..	..	..	..
9 60 years and above	..	..	1	5	46	31	6	282	..	..	..	..	..	58	..	..	..	..	..	..
Total of all ages	12	5	7	3,158	181	855	82	1,353	131	115	885	6	75	637	..	..	..	..	..	..
Total per 1,000 for estimated mid-year population.	*	*	0.01	0.61	0.07	0.16	0.02	0.28	0.04	0.02	0.15	*	0.02	0.15	..	..	..	..	..	..

* Less than 0.01.

Malignant diseases.

Serial number and age group.	Malignant diseases.										Estimated mid-year population for 1964.									
	Alimentary tract (44)	Genito urinary (45)	Breast (46)	Other regions (47)	Angiosarcoma (48)	Diabetes (49)	Leprosy (50)	Alcoholism (51)	Congenital debility and malformation, premature birth (52)	Rabies (53)	Wounds and accidents (54)	Snake-bite, scorpion-sting, etc. (55)	Killed by wild beasts (56)	Others (57)						
Under 24 hours	1	..	..	..	..	..	..	..	1,096	..	2	..	..	..	..	..	..	..	..	..
Twenty-four hours and under one week	..	..	..	..	..	1	..	..	2,427	..	3	..	..	..	..	..	..	..	..	..
3 One week and under one month ..	..	..	..	1	..	..	..	..	893	..	2	..	..	..	..	..	..	..	..	..
4 One month and under three months ..	..	..	..	4	..	..	..	..	299	..	3	..	..	..	..	..	..	..	..	..
5 Three months and under six months ..	..	..	..	2	..	..	..	..	289	..	11	..	..	..	..	..	..	..	..	..
6 Six months and under one year ..	2	..	..	3	..	1	..	..	137	..	5	3	..	..	..	..	..	..	..	..
Total under one year ..	3	..	..	10	..	2	..	..	5,051	..	26	3	..	..	..	..	..	..	..	..
1 1 to 5 years	6	1	..	7	..	..	..	..	112	4	100	3	..	..	..	..	..	..	..	..
2 5 to 10 years	1	3	..	11	..	2	..	..	3	4	75	4	..	..	..	..	..	..	..	..
3 10 to 15 years	..	..	..	6	..	1	1	..	..	13	132	12	..	..	..	..	..	..	..	..
4 15 to 20 years	..	1	..	7	..	33	33	1	..	8	100	7	..	..	..	..	..	..	..	..
5 20 to 30 years	..	2	1	26	..	8	6	3	..	9	229	15	..	..	..	..	..	..	..	..
6 30 to 40 years	6	13	2	51	1	17	12	2	..	10	163	22	2	..	..	..	..	..	..	..
7 40 to 50 years	13	16	1	68	..	51	24	..	..	10	125	4	..	..	..	..	..	..	..	..
8 50 to 60 years	7	17	4	64	..	106	7	..	..	5	74	7	..	..	..	..	..	..	..	..
9 60 years and above	6	7	2	41	..	64	3	2	..	3	99	5	..	..	..	..	..	..	..	..
Total of all ages	41	60	10	281	1	274	56	8	5,166	63	1,128	83	2	268	..	..	..	..	..	..
Total per 1,000 for estimated mid-year population.	0.01	0.01	*	0.07	*	0.06	0.01	..	1.22	0.02	0.19	0.11	..	0.09	..	..	..	..	..	..

* Less than 0.01.

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 of Madras in 1964—cont.

Municipal towns selected—Aruppukottai, Bodinayakanur, Chidambaram, Coimbatore, Dindigul, Erode, Gudiyatham, Kancheepuram, Karaikudi, Karur, Kumbakonam, Madras, Madurai, Mayuram, Nagapattinam, Ootacamund, Palni, Pakyankottai, Periyakulam, Pudukkottai, Rajapalayam, Salem, Srirangam, Srivilliputhur, Thanjavur, Tiruchirappalli, Tiruppur, Tiruvannamalai, Tuticorin, Vaniyambadi, Vellore, Villupuram and Virudhunagar—cont.

Serial number and age group	Estimated mid-year population for 1964.	Poisons.	Old age.	All other Causes.	Total deaths from all causes.	Remarks.	Males.	Females.	Total.
		(58)	(59)	(60)	(61)		(62)		
1 Under 24 hours	..	..	..	..	1,541	Births	..	..	..
2 Twenty-four hours and under one week.	..	..	..	..	4,306	Birth-rate	..	..	..
3 One week and under one month	..	..	..	..	2,209	Deaths	..	..	..
4 One month and under three months	..	..	..	..	1,146	..	..	..	..
5 Three months and under six months	..	..	..	..	3,370	Death-rate	..	..	..
6 Six months and under one year	..	..	..	..	4,419	Still-births	..	..	..
Total under one year	..	1	..	159	16,991	Still-birth rate per 1,000 live and still births.	38.90	35.71	37.35
1 1 to 5 years	..	12	..	155	13,111	..	..	..	..
2 5 to 10 years	..	12	..	143	3,155	..	..	..	..
3 10 to 15 years	..	16	..	26	1,591	..	..	..	..
4 15 to 20 years	..	83	..	53	1,854	..	..	..	..
5 20 to 30 years	..	167	..	12	5,247	..	..	..	..
6 30 to 40 years	..	64	..	16	5,550	..	..	..	..
7 40 to 50 years	..	23	..	12	5,247	..	..	..	..
8 50 to 60 years	..	12	..	4	6,119	..	..	..	..
9 60 years and above	..	11	..	1	18,745	..	..	..	..
Total of all ages	..	391	12,578	40	77,290	..	..	..	..
Total per 1,000 for estimated mid-year population.	..	0.05	2.83	2.84	15.39	..	..	..	..

ANNEXURE I.

Birth and death rates corrected for non-receipt of birth and death returns.

Serial number and districts.	(1)	Birth rate.		Death rate.	
		1964	1963.	1964.	1963.
		(2)	(3)	(4)	(5)
1 Chingleput	..	24.2	23.5	11.6	11.3
2 North Arcot	..	27.6	28.1	12.3	12.4
3 South Arcot	..	22.1	21.9	11.4	10.7
4 Thanjavur	..	22.3	23.7	11.3	12.7
5 Tiruchirappalli	..	24.3	25.2	11.6	13.0
6 Madurai	..	29.3	28.3	10.3	11.3
7 Ramanathapuram	..	24.9	24.9	9.4	10.0
8 Tirunelveli	..	27.4	26.9	12.0	13.9
9 Salem	..	21.7	22.8	8.2	8.7
10 Coimbatore	..	23.5	22.8	9.3	9.5
11 The Nilgiris	..	28.4	25.4	7.9	7.6
12 Kanyakumari	..	32.1	27.3	9.4	9.4
Total	..	25.8	25.7	11.0	11.5

ANNEXURE J.

Maternity and Child Welfare staff—1964.

Serial number and name of the institution.	Women Medical Officers.				Resident Matrons.				Health Visitors.			
	(2)				(3)				(4)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1 Government	3	..	..	3	3	..	..	3	160	7	..	167
2 Panchayat union councils.	..	..	..	..	..	..	..	2	..	..	..	..
3 Municipalities	47	..	..	47	20	1	..	21	56	..	..	56
4 Corporation of Madras ..	32	1	..	33	18	..	..	16	88	..	..	88
5 Voluntary organisations ..	..	..	..	..	..	..	..	..	..	..	..	..
Total	82	1	..	83	41	1	..	42	304	7	..	311

	Maternity Assistants.				Ayahs.				Compounders.			
	(5)				(6)				(7)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
1 Government	231	7	..	238	113	..	..	113	..	..	..	..
2 Panchayat union councils.	1,857	451	6	2,302	1,362	225	4	1,583	12	24	..	36
3 Municipalities	482	22	..	504	360	9	..	369	13	13	..	16
4 Corporation of Madras ..	290	..	..	290	90	8	..	98	31	31	..	31
5 Voluntary organisations ..	..	..	..	..	..	..	..	..	..	..	..	..
Total	2,860	480	6	3,334	1,925	242	4	2,163	56	27	..	83

NOTE.—1 Number of posts till the end of 1963.
2 Number of posts sanctioned during 1964.
3 Number of posts abolished during 1964.
4 Number of posts at the end of 1964.

ANNEXURE L.

Statement showing the Maternity and Child Welfare Centres and Homes maintained by voluntary organisation.

Serial number and name of the district.	Government.		Local bodies.		Voluntary Organisations.		Women Medical Officers.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Chingleput	16	..	194	19	..	..	..	1
2 Poonamallee	8	..	..	..	..	..	2	..
3 South Arcot	20	..	146	19	..	..	..	3
4 North Arcot	22	..	238	14	..	..	..	2
5 Thanjavur	26	..	235	17	..	..	..	4
6 Tiruchirappalli	23	..	214	20	..	..	..	4
7 Madurai	24	..	216	23	..	..	..	11
8 Ramanathapuram	25	..	203	27	..	..	..	6
9 Tirunelveli	21	..	202	26	..	..	..	3
10 Salem	19	..	287	18	..	..	..	2
11 The Nilgiris	13	..	42	8	..	..	..	2
12 Coimbatore	24	..	236	36	..	..	..	8
13 Kanyakumari	6	..	76	11	..	..	..	..
14 Madras (Corporation)	..	..	..	46	..	..	1	33
Total	247	..	2,277	284	..	..	3	89

Serial number and name of the district.	Health Visitors.		Maternity Assistants.		Ayahs.	
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.
(10)	(11)	(12)	(13)	(14)	(15)	(16)
1 Chingleput	12	2	210	25	105	22
2 Poonamallee	4	..	18	..	18	..
3 South Arcot	12	1	164	24	156	21
4 North Arcot	14	2	256	37	159	37
5 Thanjavur	18	4	259	37	201	30
6 Tiruchirappalli	15	9	255	48	175	36
7 Madurai	16	10	238	102	113	49
8 Ramanathapuram	17	5	225	39	174	44
9 Tirunelveli	13	3	216	42	161	23
10 Salem	11	7	304	33	213	24
11 The Nilgiris	5	..	53	15	52	16
12 Coimbatore	24	10	260	58	113	62
13 Kanyakumari	6	3	82	14	56	5
14 Madras (Corporation)	..	88	..	290	..	98
Total	167	146	2,560	794	1,696	467

ANNEXURE K.

Statement showing the Maternal and Child Health Services, 1964.

(1)	Government.	Municipalities.	Panchayat union councils.
(2)	(3)	(4)	(5)
1 Brought under Care—			
(i) Total number of mothers whether she had pre-natal care or not before confinement.	2,00,626	2,34,208	6,63,766
(ii) Number of pre-natal cases	1,89,019	1,85,445	4,98,359
(iii) Number of labour cases	64,164	1,16,262	1,98,425
(iv) Number of infants	1,39,985	1,25,828	2,92,277
(v) Number of pre-school children	99,250	56,250	1,60,771
2 Home Visit By—			
(i) Medical Officers (Maternity and Child Health)—			
(a) Pre-natal	1,998	10,217	388
(b) Post-natal	1,877	10,170	234
(c) Infants	2,824	39,259	358
(d) Pre-school	3,394	1,529	303
(ii) Health Visitors—			
(a) Pre-natal	1,64,097	81,094	20,250
(b) Post-natal	1,16,147	32,088	21,879
(c) Infants	1,25,443	1,12,635	28,619
(d) Pre-school	1,11,583	25,187	33,589
(iii) Maternity Assistants—			
(a) Pre-natal	4,44,968	7,17,527	1,72,331
(b) Post-natal	3,25,781	3,53,480	8,68,837
(c) Infants	2,52,773	4,58,575	2,34,984
(d) Pre-school	96,131	15,065	2,86,582
3 Clinics—			
(a) Number held	25,540	11,847	61,704
(b) Pre-natal	22,933	2,55,537	44,773
(c) Post-natal	18,022	65,657	38,570
(d) Infants	19,129	59,754	22,976
(e) Pre-school	22,862	94,515	18,172
4 Other activities—			
(i) Number of Mother's classes held	22,751	23,799	68,103
(ii) Attendance	1,91,957	2,05,120	7,98,690
5 Milk distribution—			
(i) Pre-natal mothers	1,17,876	1,25,277	1,25,416
(ii) Post-natal mothers	58,465	3,56,753	1,28,045
(iii) Infants	1,47,841	2,19,977	2,68,650
(iv) Pre-school (1-5 years)	3,07,311	3,09,554	2,62,339
(v) School (5-14 years)	68,250	2,00,203	67,667
6 Magic Lanterns Lectures—			
(i) Number	313	1,059	434
(ii) Attendance	2,264	9,959	10,169
7 School visited for health education—			
(i) Number of schools visited	5,225	410	7,690
(ii) Number of health talks given	9,069	1,153	21,018
(iii) Attendance	3,09,837	1,00,903	5,30,680

ANNEXURE N.

Particulars regarding family diet surveys conducted during the year 1964.

Serial number and place of survey.	Period of survey.	Income group (Monthly).	Number of families.	Composition of families.				Total consumption unit per week.	Average consumption unit per family per day.	Main occupation.
				Adults.		Children.				
				Males.	Females.	Males.	Females.			
(1)	(2)	Rs. (3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Tiruppur Chingleput.	March 1964	50-100 ..	15	25	24	11	5	395.09	3.76	Handloom Weavers.
1 Kancheepuram Chingleput.	Do.	Below 50 .. 50-100 .. 100 and above ..	9 16 5	8 30 21	13 29 11	3 13 3	7 11 8	243.60 494.13 257.60	3.87 4.41 7.36	Miscellaneous workers Do. Do.
2 Kilkothagiri Nilgiris.	Do.	Below 50 .. 50-100 ..	4 11	6 17	4 15	2 5	2 3	82.25 240.10	2.94 3.12	Agricultural. Do.
4 Tambaram	Do.	50-100 .. 100 and above ..	12 18	24 37	21 39	9 21	8 11	371.00 642.81	4.41 5.10	Miscellaneous workers. Do.
5 Ammayarkuppam. Chingleput.	Do.	50-100 ..	14	27	27	5	6	426.20	4.55	Handloom Weavers
6 Tindivanam South Arcot.	April 1964	Below 50 .. 50-100 .. 100 and above ..	2 15 13	4 23 27	5 21 28	2 13 15	2 15 13	79.80 403.90 483.28	5.70 3.85 5.31	Miscellaneous workers. Do. Do.
7 Maiparai	Do.	Below 50 .. 50-100 .. 100 and above ..	1 8 6	1 13 11	2 16 18	2 4 10	2 9 10	35.70 240.40 275.90	5.10 4.40 6.57	Agriculturists. Do. Do.
8 Palni Madurai.	Do.	Below 50 .. 50-100 .. 100 and above ..	6 15 9	11 35 17	7 21 19	3 15 16	2 5 12	147.00 466.90 349.65	3.50 4.45 5.55	Mostly coolies. Do. Do.
9 Dovakottai Ramanathapuram.	Do.	50-100 .. 100 and above ..	12 3	22 6	21 6	13 2	11 4	388.50 111.75	4.02 5.32	Miscellaneous workers Do.
10 Nayakkanpalayam Coimbatore.	May 1964	Below 50 .. 50-100 .. 100 and above ..	3 18 9	5 38 25	3 37 23	3 17 7	1 15 9	58.10 628.18 383.83	2.77 4.96 6.09	Agricultural Labourers Do. Do.
11 Kodaikanal	June 1964	Below 50 .. 50-100 .. 100 and above ..	7 9 14	10 14 39	9 12 32	10 19 22	2 9 16	173.53 277.53 629.65	3.54 4.40 5.42	Mostly coolies. Do. Do.
12 Aloncholai Kanyakumari.	Do.	Below 50 .. 50-100 .. 100 and above ..	1 24 5	2 44 15	1 40 8	.. 13 ..	.. 14 3	20.30 669.13 172.20	2.60 3.98 4.92	Mostly Rubber Plan- tation workers. Do.
13 Tiruchendur	September 1964	Below 50 .. 50-100 .. 100 and above ..	1 7 7	1 11 15	2 12 17	2 7 ..	2 6 2	203.30 205.80 225.40	2.90 4.20 4.50	Miscellaneous workers Do. Do.
14 Erkkancheri Tirunelveli.	September 1964	Below 50 .. 50-100 ..	7 35	12 89	15 79	3 31	5 39	216.93 1,434.20	4.43 5.85	Mostly Labourers Do.
15 Gobichettipalayam Coimbatore.	Do.	Below 50 .. 50-100 .. 100 and above ..	6 22 2	8 33 3	6 32 3	4 28 7	3 17 4	121.03 623.00 81.90	2.88 4.05 5.85	Mostly coolies. Do. Do.
16 Tirupatore Ramanathapuram.	October 1964	Below 50 .. 50-100 .. 100 and above ..	3 16 11	4 23 22	8 26 28	4 15 10	1 24 10	97.23 483.70 416.50	4.63 4.32 5.41	Miscellaneous workers ^s Do. Do.
17 Pattukottai Thanjavur.	Do.	Below 50 .. 50-100 .. 100 and above ..	1 1 13	1 3 25	1 2 25	.. 12 ..	.. 6 7	13.30 34.30 423.43	1.90 4.90 4.65	Do. Do. Do.
18 Guddalur	November 1964	Below 50 .. 50-100 .. 100 and above ..	4 23 3	4 43 9	5 33 7	8 1 6	.. 12 3	60.90 612.50 128.80	20.18 3.81 6.13	Mostly coolies. Do. Do.
19 Kothamangalam Coimbatore.	November 1964	50-100 .. 100 and above ..	5 8	10 20	8 21	6 4	4 15	164.50 358.75	4.70 6.41	Miscellaneous workers. Do.
20 Maruthuvakkudi Thanjavur.	December 1964	50-100 .. 100 and above ..	6 9	10 23	13 17	7 8	6 13	196.35 354.50	4.68 5.63	Mostly Agricultural. Do.
21 Marukkumeenam - patti, Tirunelveli.	December 1964	50-100 .. 100 and above ..	6 9	10 23	13 17	7 8	6 13	196.35 354.50	4.68 5.63	Do. Do.
22 Nallathevampatti.	December 1964	50-100 .. 100 and above ..	11 4	17 8	19 10	5 4	5 3	260.13 140.70	3.63 5.02	Mostly cultivators. Do.
A = Less than Rs. 50. B = Rs. 50 to Rs. 100. C = Rs. 100 and above.										

ANNEXURE O-1.

Average daily intake of foodstuffs in ounces per consumption unit by families belonging to the income group "below Rs. 50 per mensem".

Place of survey.

Kanche- puram; Chingleput; Tindivanam; South Arcot; Kodaikanal; Madurai; Alancholai; Kanya- kumari; Gopichetti- palayam; Coimbatore; Gudalore; Nilgiris; Palani and Madurai.	Kilkottagiri; Nilgiris; Maiparai; Tirunelveli.	Nayakkun- palayam; Coimbatore.	Tiruchendur; Tirunelveli; Tirupatore; Ramanath i- puram; Pattukottai; Thanjavur; Mudukka- meenapatti; Tirunelveli.
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Period of survey.

March, April, June, September and November 1964.	March, 1964.	April, May 1964.	September, October and December 1964.
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Occupational group.

Mostly coolies.	All Agriculturists.	Mostly Agricultural coolies.	Miscellaneous workers.
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(1)	(2)	(3)	(4)	(5)
Total consumption unit per week	846.16	117.95	58.10	153.23
Rice-Parboiled milled	308.32	302.85	..	189.79
Rice-raw handpounded	4.03	..	..	..
Ragi	21.60	..	44.90	..
Ragi flour	14.52	..	..	46.63
Bajra	..	169.49	..	..
Bajra flour	..	..	..	68.46
Cholam	..	..	395.90	28.10
Wheat flour	3.67	..	..	..
Total cereals	352.14	472.34	440.80	332.93
Redgram dhal	6.96	10.01	11.80	4.22
Bengalgram dhal	0.13	3.60	..	0.56
Greengram dhal	0.08	0.08	..	0.79
Bengalgram rasted	0.13	..	..	3.91
Blackgram dhal	0.07	..	..	0.56
Hersegram	0.18	..	..	..
Total pulses	7.28	13.69	11.80	10.04
Leafy vegetables	4.79	12.92	15.50	4.54
Roots and tubers	33.08	23.38	25.50	25.57
Other vegetables	33.53	30.68	8.20	15.19
Total vegetables	71.40	66.99	49.20	45.30
Milk Cows	0.68	..	..	..
Buffalo's Milk	..	..	..	1.70
Milk products	..	..	..	15.54
Total milk and milk products	0.68	..	..	17.24
Fats and oils	5.57	3.78	3.20	4.52
Meat/fish/eggs	14.22	9.76	..	5.95
Fruits	0.63	..	3.10	1.25
Sugar and jaggery	0.89	..	..	..
Nuts	0.27	..	..	1.56
Condiments	14.48	12.84	10.99	12.93
Others	..	7.18	..	..

C. U.—Consumption Unit.

ANNEXURES.

Average daily intake of foodstuffs in grams per consumption unit by families belonging to the income group " Rs. 50—100 per mensem " :

96Occupational group.

	78-79	24-31	8-46	517 87	430-50
Wheat flour ..	12-86	..	30-12	..	..
Ragi flour ..	0-95	..	..	..	..
Bajra flour ..	496-69	428-94	356-96	532-24	430-50
Total cereals	1-22	0-39	0-28	1-74	0-31
Blackgram dhall	9-43	19-61	8-24	8-45	15-01
Redgram dhall	0-28	1-57	0-48	0-49	9-12
Bengalgram dhall	1-15	1-18	0-32	0-34	1-54
Bengalgram roasted	0-25	..	0-03	0-16	0-87
Greengram dhall	..	..	..	7-03	..
Greengram whole	0-82	..	0-80	..	..
Horsegram dhall	..	..	0-02	..	..
Cowgram ..	..	..	..	0-11	..
Field beans dry	0-03	..	..	0-57	..
Total pulses	13-18	22-75	10-17	19-19	14-61
Leafy vegetables	6-44	3-38	1-06	7-44	7-12
Roots and tubers	30-81	27-32	52-93	35-07	28-96
Other vegetables	26-88	33-27	49-33	21-01	33-25
Total vegetables	64-13	63-61	103-32	63-52	69-33
Milk Cow's	5-71	49-40	0-60	2-31	10-74
Milk Buffalo's	3-71	5-10	..	0-96	5-05
Milk products	13-68	..	2-06	18-50	..
Total milk and milk products	23-10	54-50	2-66	20-81	15-79
Fats and oils	5-95	18-59	4-93	4-69	3-92
Meat/fish/eggs	8-74	46-00	16-19	9-71	8-75
Fruits	1-68	13-13	5-04	1-63	1-69
Sugar and jaggery	4-05	38-49	0-19	3-12	3-48
Nuts ..	1-92	13-85	1-78	1-21	0-65
Condiments ..	12-70	33-12	16-66	20-80	11-32
Others	5-67	34-81	0-45	9-44	1-49

ANNEXURE O-3.

Average daily intake of foodstuffs in grams per consumption unit by families belonging to the income group of Rs. 100 and above per mensem.

Place of survey.

Place of survey.	Period of survey.	Place of survey.	Period of survey.
Kancheepuram, Chingleput, Tambaram, Chingleput, Tindivanam, South Arcot, Dindigul, Ramanathapuram, Tiruchendur, Tirunelveli, Tiruppur, Ramanathapuram, Pattukottai, Thangavur, Kollamangalam, Coimbatore, Madakkamcham- patti, Tirunelveli.	March, April, June, September, October, November and December 1964.	Nagapattinam, Coimbatore, Machilipatnam, Kanyakumari, Cuddalore, Nellore, Gobichettipalayam, Coimbatore, Tehri, Madurai, Kodakkal, Madurai.	May 1964.

Place of survey.	Period of survey.	Place of survey.	Period of survey.
Marathuvadi, Thanjavur, Nallathangudi, Mannar, Ampur, Tirunelveli.	June, September, October and November 1964.	Erudalur, Chingleput.	September 1964.

(1) Total consumption unit per week	Miscellaneous workers.	Mostly Agricul- tural coolies.	Mostly coolies.	Mostly labourers.	Mostly Agriculturists.
	(2)	(3)	(4)	(5)	(6)
3,036.62	328.64	347.25	1,362.20	1,434.20	771.10
13.09	13.09	..	329.44	423.16	372.46
0.75	0.75	..	20.12	3.22	..
15.55	15.55	28.94	1.93	..	..
2.01	2.01	2.70	4.08	3.66	..
21.95	21.95	..	..	2.14	5.32
0.75	0.75	..	..	..	109.24
2.04	2.04	112.12	0.49	3.22	..
6.92	6.92	..	..	..	..
6.80	6.80	..	..	1.41	..
..	..	..	..	..	..
3.57	3.57	..	11.23	..	4.36
..	..	..	..	..	10.86
1.23	1.23	7.97	3.47	22.87	1.46
..	..	..	..	0.45	..
..	..	..	..	..	..
403.30	403.30	497.98	370.81	416.13	603.70

Blackgram dhal	3.99	0.68	1.05	57.79	1.58
Redgram dhal	9.30	13.25	10.30	34.00	13.49
Bengalgram dhal	0.86	0.96	0.78	0.31	0.24
Bengalgram whole	0.06	..	..	..	10.44
Bengalgram (roasted)	1.69	6.20	6.64	1.88	0.82
Greengram dhal	0.85	..	0.10	0.14	0.86
Cowgram	2.34	..	..	..	..
Field beans dry	0.18	..	..	..	0.04
Greengram (whole)	..	..	..	..	3.50
Total pulses	19.77	21.69	12.87	12.62	31.57
Leafy vegetables	6.14	8.84	1.88	8.51	12.57
Roots and tubers	32.20	118.59	31.35	56.87	37.67
Other vegetables	25.04	32.62	37.17	38.92	38.63
Total vegetables	63.38	159.95	70.49	104.30	88.87
Milk Cow's	23.97	34.11	9.60	40.77	8.29
Milk Buffalo's	9.96	16.54	14.84	5.79	..
Milk products	23.64	12.63	7.01	5.26	31.48
Goat's milk	..	..	..	..	1.13
Total milk and milk products	57.57	63.28	31.46	51.82	40.90
Fats and oils	5.89	6.23	5.20	17.23	6.33
Meat/fish/eggs	15.09	17.78	13.74	56.88	13.35
Fruits	8.49	8.45	6.18	25.06	3.22
Sugar and jaggery	11.74	14.00	2.41	48.85	3.90
Nuts	3.37	4.76	1.42	9.49	2.86
Condiments	15.88	14.08	18.33	34.51	21.30
Others	3.57	..	3.46	22.70	..

387.9-13A

the daily intake of nutrients per consumption unit by families belonging to the income group "below Rs. 50 per mensem".

are usually intake of nutrients per consumption unit by families belonging to the income group "below Rs. 50 per mensem".

U. S. — International Unit.

Average daily intake of nutrients per consumption unit by families belonging to the income group "Rs. 50-100 per mensem".

Place of survey.

I.U. — International Unit.

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
Phosphorus (mgms.)	980.35	1,185.27	776.73	1,435.27	1,119.07	
Iron (mgms.)	29.54	35.97	21.66	42.19	41.25	
Vitamin A (I.U.)	866.17	1,077.28	492.13	1,097.65	1,099.24	
Carotene (International Vitamin A Unit).	29.91	5.84	9.22	162.88	32.04	
Vitamin B1 (mgms.)	1.22	1.84	1.08	1.81	1.51	
Vitamin C (mgms.)	21.48	22.19	18.36	23.87	12.65	
Nicotinic Acid (mgms.)	16.62	17.32	15.22	23.52	20.19	
Riboflavin (mgms.)	0.68	0.95	0.78	1.14	0.76	
Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
Phosphorus (mgms.)	980.35	1,185.27	776.73	1,435.27	1,119.07	
Iron (mgms.)	29.54	35.97	21.66	42.19	41.25	
Vitamin A (I.U.)	866.17	1,077.28	492.13	1,097.65	1,099.24	
Carotene (International Vitamin A Unit).	29.91	5.84	9.22	162.88	32.04	
Vitamin B1 (mgms.)	1.22	1.84	1.08	1.81	1.51	
Vitamin C (mgms.)	21.48	22.19	18.36	23.87	12.65	
Nicotinic Acid (mgms.)	16.62	17.32	15.22	23.52	20.19	
Riboflavin (mgms.)	0.68	0.95	0.78	1.14	0.76	
Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
Phosphorus (mgms.)	980.35	1,185.27	776.73	1,435.27	1,119.07	
Iron (mgms.)	29.54	35.97	21.66	42.19	41.25	
Vitamin A (I.U.)	866.17	1,077.28	492.13	1,097.65	1,099.24	
Carotene (International Vitamin A Unit).	29.91	5.84	9.22	162.88	32.04	
Vitamin B1 (mgms.)	1.22	1.84	1.08	1.81	1.51	
Vitamin C (mgms.)	21.48	22.19	18.36	23.87	12.65	
Nicotinic Acid (mgms.)	16.62	17.32	15.22	23.52	20.19	
Riboflavin (mgms.)	0.68	0.95	0.78	1.14	0.76	
Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
Phosphorus (mgms.)	980.35	1,185.27	776.73	1,435.27	1,119.07	
Iron (mgms.)	29.54	35.97	21.66	42.19	41.25	
Vitamin A (I.U.)	866.17	1,077.28	492.13	1,097.65	1,099.24	
Carotene (International Vitamin A Unit).	29.91	5.84	9.22	162.88	32.04	
Vitamin B1 (mgms.)	1.22	1.84	1.08	1.81	1.51	
Vitamin C (mgms.)	21.48	22.19	18.36	23.87	12.65	
Nicotinic Acid (mgms.)	16.62	17.32	15.22	23.52	20.19	
Riboflavin (mgms.)	0.68	0.95	0.78	1.14	0.76	
Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
Phosphorus (mgms.)	980.35	1,185.27	776.73	1,435.27	1,119.07	
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Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
	Miscellaneous workers.		Mostly agricultural coolies.	Mostly co. lics.	Mostly labourers.	Mostly agriculturalists.
(1)	(2)	(3)	(4)	(5)	(6)	
Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
Animal protein (gms.)	5.00	10.00	4.59	9.97	3.87	
Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
Total protein (gms.)	42.08	55.53	34.92	69.29	52.62	
Fat (gms.)	16.04	19.67	12.76	33.31	18.80	
Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	
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Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

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	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
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Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

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	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
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Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
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Total calories	1,755.08	2,190.54	1,569.21	2,607.61	2,090.00	

	Period of survey.					
	March, April, June, September, October, November, December, 1964.		May 1964.	June, September, October, November, 1964.	September, 1964.	April and December, 1964.
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Total consumption unit per week	3,033.62	383.83	1,362.20	1,434.20	771.10	
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Vegetable protein (gms.)	37.08	45.53	30.33	59.32	48.75	
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Carbohydrate (gms.)	358.97	429.23	328.15	496.79	427.04	
Calcium (mgms.)	407.70	730.37	311.80	549.29	339.02	

I.U.—International Unit.

ANNEXURE Q-1.

Average daily intake of foodstuffs per consumption unit by the inmates of different institutions during the year 1964.

[illegible]

ANNEXURE Q-1—cont.

Average daily intake of foodstuffs per consumption unit by the inmates of different institutions during the year 1964.

Place of survey.	District.	Chingleput.				South Arcot.				Coimbatore.				Nilgiris.			
		Government Boys Hostel, Kancheepuram.	Government Boys Hostel, Tirupur.	Ballamalai Srinivasan Boys Hostel, Tambaram.	Government Girls Hostel, Tindivanam.	Government Boys Hostel, Tindivanam.	Palni, Government Girls Hostel, Stanley Hospital, Madras.	D. S. Ramam Boys Hostel, Gobichettipalayam.	D. S. Ramam Sarojini Devi Girls Hostel, Gobi- Chettipalayam.	Government Boys Hostel, Tiruchendur.	A. T. M. Rajaji Hostel, Tiruballore.	R. S. B. Thome, Pattukkottai.	Government Harijan Boys Hostel, Gudalur.				
Periods of survey	(1)	11th to 13th, March, 1964.	11th to 13th, March, 1964.	28th to 30th, March, 1964.	28th to 10th, April, 1964.	28th to 10th, April, 1964.	23rd to 25th, April, 1964.	27th June to 2nd July, 1964.	8th to 10th, September, 1964.	9th to 11th, September, 1964.	8th to 10th, October, 1964.	21st to 23rd, October, 1964.	10th to 12th, November, 1964.				
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)				
	Leafy vegetables	16-00	8-57	14-00	57-55	8-00	24-00	0-50	21-62	3-42	0-12	7-77	2-89	..			
	Roots and tubers	46-00	6-29	47-00	35-02	18-00	11-00	84-96	68-26	32-30	66-95	50-49	76-86	73-35			
	Other vegetables	31-00	17-57	24-00	35-42	37-00	27-00	86-52	26-05	15-52	3-74	3-96	8-02	78-75			
Total vegetables	93-00	32-43	85-00	127-98	63-00	62-00	171-98	115-97	51-24	70-81	62-22	87-77	107-10				
Fats and oils	..	4-00	5-36	11-00	3-52	2-00	6-00	32-87	15-79	6-85	4-04	4-95	3-48				
Meat/Fish/Eggs	..	..	..	..	..	..	..	45-41	..	..	..	..	..				
Milk cow's	..	..	..	..	..	..	..	..	..	..	..	..	30-02				
Milk buffalo's	..	..	..	..	..	..	..	202-59	287-75	205-75	..	..	..				
Milk products	..	38-00	..	56-00	48-69	27-00	34-00	224-65	287-75	205-75	21-35	79-13	36-29				
Fruits	..	..	10-29	0-99	6-04	7-00	4-00	59-25	..	14-29	..	..	9-99				
Nuts	..	..	..	..	6-24	..	..	9-08	..	6-85	8-33	..	4-09				
Sugar and jaggery	..	..	..	..	..	..	..	36-13	..	..	..	..	..				
Condiments	..	10-00	22-92	28-00	14-20	10-00	33-00	20-98	12-60	11-69	13-12	13-81	8-31				
Others	..	..	..	..	..	..	..	11-42	..	..	..	..	..				

ANNEXURE Q-2.

Average daily intake of nutrients per consumption unit per days by the inmates of institutions surveyed during the year 1964.

[illegible]

I.U. — International Unit.

C.U. — Consumption Unit.

ANNEXURE B-1.

Results of nutrition surveys conducted during the year 1964.

Place of Survey -Balamandir Elementary School, Thyagaraya Nagar, Madras-17.

Experimental Group.												

ANNEXURE B.

Nutrient analysis of New College Diet served for an individual per day.

Serial number and name of the item.	Dry weight.	Protein.	Fat.	Carbo-hydrates.	Fibre.	Minerals.	Calcium.	Phos-phorus.	Iron.	Calories.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	M. GRAMS.	
1 Breakfast	116	16.0	12.0	68.0	3.8	5.5	0.1	0.2	29.0	534
2 Lunch	240	37.0	102.0	178.0	8.5	20.0	0.2	0.4	36.0	1,778
3 Dinner	225	28.0	62.3	120.0	4.0	5.4	0.28	0.35	38.0	1,150
Total	581	81.0	186.0	366.0	11.3	31.3	0.58	0.9	103.0	3,462
Nutrient analysis of Hotel Meals.										
1 Udipi Home, Egmore, Meal for one person.	254	33.6	79.0	217.0	5.6	19.9	0.4	0.4	49.0	1,712
2 Geetha Cafe, Mambalam, Meal for one person.	237	34.3	75.4	154.0	4.0	18.0	0.2	0.4	29.0	1,437
3 Lalitha Lunch Home, Teynampet, Meal for one person.	210	24.5	4.6	155.0	7.7	16.1	0.3	0.3	54.0	767
4 Light of India Hotel (Non-Vegetarian), Meal for one person.	253	29.3	16.7	180.0	5.3	20.0	0.5	0.3	37.0	933

ANNEXURE T.

Analysis of Ragi Recipes for the year 1964.

Number and name of the preparation.	Dry weight.	Protein.	Fat.	Carbo-hydrate.	Minerals.	Calcium.	Phos-phorus.	Iron.	Fibre.	Calories.
(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(10)	(11)	(12)
	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	M. GRAMS.	
1 Ragi Bonda (Ulundu)	1 Plate (45 grams)	39	3.7	8.1	15.4	1.3	0.05	0.05	3.0	150
2 Ragi Uthappam	1 (one) (80 grams)	23	3.1	1.6	19.0	3.2	0.04	0.03	3.0	103
3 Ragi Kara Kozhukkattai	1 Plate (63 grams)	29.2	5.6	3.9	10.3	3.4	0.1	0.1	3.0	98
4 Ragi Onigodi	1 Plate (35 grams)	22	3.6	4.6	23.9	1.2	0.03	0.05	4.4	142
5 Ragi Cutlet	1 (one)	12	0.6	1.9	9.5	0.7	0.02	0.02	2.0	50
6 Other foodstuffs--										
1. Poli	1 (one) (36 grams)	15	3.6	3.6	11.5	0.3	0.006	0.02	1.0	79
2. Pepper Seeds	100 grams	94	29.5	67.5	13.0	7.3	1.6	0.6	12.0	743

Value per 100 grams.

ANNEXURE U.

Animal Experiment with Protein rich food.

Composition of Beal Diet.	GRAMS.	Composition of New food stuff.	PORTIONS.
Boiled rice	3.9	Bengalgram roasted	3
Redgram dhal	5.5	Cowgram	1
Brinjals	3.9	Handpounded rice	1
Greens	3.0	Brown sugar	24
Groundnut oil	0.5	Cost of one ounce	5 P.
Salt	1.9	One ounce of food contains 3.1 grams of Protein.	
Total	100.9		

Method of preparation.

First, the food articles were cleaned. Then the Cowgram and the handpounded rice were roasted and mixed with the roasted bengalgram and powdered finely in the mill finally, Brown Sugar was added.

Nutrient analysis of Tuberculosis diet for an individual.

Serial number and name of the item.	Dry weight.	Protein.	Fat.	Carbo-hydrate.	Minerals.	Calcium.	Phos-phorus.	Iron.	Calories.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	GRAMS.	M. GRAMS.	
1 Breakfast	118	18.3	40.0	54.0	6.0	0.4	1.1	12.0	648
2 Lunch	161	24.0	40.0	88.0	8.8	0.3	0.4	30.0	808
3 Night Meals	220	29.2	69.0	128.0	14.0	0.3	0.7	17.0	1,289
Total	500	81.4	149.0	270.0	28.8	1.0	2.3	60.0	2,745

ANNEXURE V.

Statement showing the samples received from the districts and analysed by the Government Analyst's Laboratory

Serial number and nature of samples. (1)	Number of samples received. (2)	Number of samples analysed. (3)	Number found adulterated. (4)	Percentage of adulteration. (5)
1 Milk	8,553	8,574	3,299	39.6
2 Butter	110	129	72	55.8
3 Ghee	263	271	62	22.9
4 Coffee	740	787	60	7.6
5 Tea	279	331	31	9.4
6 Turmeric	558	772	217	28.1
7 Dhall	1,095	1,126	177	15.7
8 Flours	719	735	3	0.4
9 Gingelly oil	2,358	2,337	193	8.3
10 Groundnut oil	607	635	64	10.0
11 Coconut oil	1,161	1,252	38	3.0
12 Honey	74	74	8	10.8
13 Sweets	150	163	101	62.0
14 Asfoetida	87	93	16	17.2
15 Aerated water	230	239	193	80.8
16 Miscellaneous	443	297	59	19.9
	<u>17,433</u>	<u>17,795</u>	<u>4,593</u>	<u>26.8</u>

ANNEXURE W.

The strength of the officers in the Public Health Department as on 31st December 1964 is as follows :-

Category.	Posts.
Director of Public Health	1
State Malaria Officer	1
Officer-in-charge, Orientation Training Centre, Poonamallee	1
Assistant Directors of Public Health including Professors of Social and Preventive Medicine Thanjavur, Madurai, Madras and Chingleput	12
Special Supervisory Unit Officers (in the grade of Assistant Director of Public Health Department in National Malaria Eradication Programme)	3
Health Officers	126*
* These include one post of Health Officer to assist the State Malaria Officer, Madras; 15 posts of Supervisory Unit Officers; six posts of leave reserve; 11 posts of Assistant District Health Officers and 18 posts of the Municipal Health Officers kept in abeyance, one post of Nutrition Officer; one post of Health Educator Technical Officer; one post of Supervising Public Health Officer, B.C.G. Vaccination Campaign; one post of Assistant-in-charge, Orientation Training Centre, Poonamallee; 14 posts of Assistant Professors of Social and Preventive Medicine; one post of Health Officer in Madurai Medical College, Madurai; one post of Health Officer, Health Unit, Poonamallee and one post of Health Officer, Ramswaram Iyandayat; one post of Epidemiologist; one post of Health Educator (Indra), Poonamallee and two posts of Health Educators, Thanjavur and Madurai; one post of Health Officer, Yaws Eradication Programme, Coimbatore; three posts of Assistant Municipal Health Officers and one post of Health Officer, Parambikulam-Aliyar Project, Pollachi.	
Miscellaneous posts—	
Chief Entomologists	2
Senior Entomologists	5
Unit Officers in the grade of Senior Entomologists	20 (out of which four posts were held by Selection Grade Health Inspectors).
Statistical Assistant Director (Statistical)	1
Statisticians	3
Malaria Engineer	1
Public Health Assistant Engineer, Health Unit, Poonamallee	1 (kept in abeyance).
Assistant Engineer, Public Health Orientation Training Centre, Poonamallee	1
Public Health Sanitary Engineer, Research-cum-Action Project, Poonamallee	1
Medical Officer (Maternity and Child Health), Health Unit, Poonamallee	1
Publicity Officers, B.C.G. (Non-Medical)	1
Research Analyst	1

Category.

Posts.

Research Aids	1
Manager	1
Gazetted Assistants (Non-Technical)	2
Regional Transport Officer	1
Senior Accounts Officer	1
Medical Officer (Maternity and Child Health), Orientation Training Centre, Poonamallee	1
Medical Officer (Maternity and Child Health), Government Training School	1
Medical Officer, Integrated Child Welfare Demonstration Project	1
Public Health Assistant Engineers, Thanjavur and Madurai	2
Chief Water Analyst	1
Assistant Water Analysts	6
Medical Biologist	1
Government Analyst, King Institute	1
Deputy Government Analyst	1
Senior Assistants to Government Analyst	12

ANNEXURE Y.

Strength of Public Health staff working in the Corporation of Madras, Municipalities, Townships and Panchayat Union in Madras State for the year 1964.

	Corporation of Madras.	Municipalities.	Townships.	Panchayat Unions.	Total.
(1)	(2)	(3)	(4)	(5)	(6)
1 Lady Superintendent in-charge of Maternity and Child Welfare	1	1	..	..	2
2 Medical Officers, Maternity and Child Welfare	38	42	..	14	94
3 Health Visitors	33	55	..	1	144
4 Resident Matrons	..	14	..	2	16
5 Maternity Assistants	290	494	8	2,055	2,847
6 Compounders	..	18	..	14	32
7 Ayahs	98	358	8	985	1,449
8 Sanitary Officers	..	18	..	..	18
9 Sanitary Inspector (Ordinary Grade)	56	325	7	5	393
10 Sanitary Inspector (Selection Grade)	10	17	..	..	27
11 Health Assistant (for Vaccination)	80	178	2	580	840
12 Health Assistant (for Birth and Death Registration)	31	90	..	3	124
13 Field Assistant	..	67	2	2	72
14 Nursing Orderlies	147	21	1	28	197
Grand Total	839	1,698	28	2,690	4,255

Vide revised particulars in R. No. 17094/ES/66, dated 7th February 1966.

ANNEXURE Z.

**PROCEEDINGS OF THE MEETING OF THE STATE PUBLIC HEALTH BOARD
HELD ON 2ND APRIL 1964 AT THE COMMITTEE ROOM OF THE
SECRETARIAT, FORT ST. GEORGE, MADRAS-9 AT 11 A.M.**

The following Ministers, Officers and non-official members and special invitees attended the meeting of the State Public Health Board held in the Committee Room of the Secretariat, Madras on the 2nd April 1964 :—

1. Srimathi Jothi Venkatachalam, Minister for Health, President.
2. Sri S. M. A. Majed, Minister for Municipal Administration.
3. Sri V. Balasundaram, I.A.S., Secretary to Government, Education and Public Health Department.
4. Sri S. Krishnaswamy Pillai, I.A.S., Chief Electoral Officer.
5. Sri M. M. Mani, Sanitary Engineer to Government.
6. Vidwan Sri T. Muthukannappan, M.L.C.
7. Sri M. S. Selvarajan, M.L.A.
8. Dr. Damodaram, M.B.B.S., Assistant Director of Medical Services, Madras.
9. Sri K. Sankunni Menon, B.A., Deputy Secretary to Government, Education and Public Health Department.
10. Sri C. Lakshmanan, B.A., Assistant Secretary to Government, Education and Public Health Department.
11. Dr. Gopalakrishnan, Assistant Health Officer, Corporation of Madras.
12. Dr. H. M. Sharma, M.B.B.S., B.Sc., MPH (Harvard), Secretary to Director of Public Health.

2. A letter of apology regretting her inability to attend the meeting of the Public Health Board was received from Messrs. Chubwala Jadhav, M.L.C.

3. At the outset, the Minister for Health welcoming the members said the State Public Health Board had been functioning for the last 20 years and that since then very many changes had taken place. She expressed her desire that the members assembled would offer their considered suggestions for improving the Public Health of the State and that their expert opinion would be given due consideration at the hands of the Government. Continuing the Minister said that the Government had been taking all measures to provide medical and public health facilities to the people of the State and that in order to have better co-ordination on various health problems in rural areas, the Government had ordered the transfer of control of the Primary Health Centres from the Medical to the Public Health Department. The Minister further said that the Government have been doing their best to improve the Public Health of the State taking into consideration the availability of funds.

4. The Director of Public Health then explained in a detailed note the action taken on the various recommendations of the Board at its last meeting. It was desired by the Secretary to Government and the Minister for Health that the Health Officer or, in his absence, the Commissioner, Corporation of Madras and the Chief Water Analyst might be invited to attend the meeting in future as special invitees.

5. The Minister for Public Health desired to know whether the minutes circulated to the members already could be taken as confirmed. Sri T. Muthukannappan, M.L.C. desired that the action taken on the resolutions of the last meeting might be reviewed briefly. He observed that almost all the resolutions were not fully acted upon and that he found that matters were pending disposal of action either at the level of the Government or at departmental level. He desired that action in all these matters might be expedited.

6. With regard to the item [item 1 (3)] that Health Inspectors in the Panchayat Union Councils should not be entrusted with the work of collection of licence fees, the Chief Electoral Officer said that the question of reviewing the work of collection

of licence fees, etc., was to be done by the Director of Public Health. The Board desired that the working may be reviewed without farther delay and quick action taken to settle the problem and that a note on the question be submitted at the next meeting of the Board.

7. With regard to the prohibition of the sale of ice cream, etc., in front of educational institutions item 1 (1) it was stated that the question of licensing the manufacture of ice cream and other ice products, etc., under the Local Bodies Act was engaging the attention of Government. Sri T. Muthukannappan pointed out that sale of ice cream, etc., is still continuing in front of educational institutions and that action might be expedited to prohibit the sale. The Minister for Health and the Minister for Municipal Administration desired that relevant sections of the Act should be examined to bring them under the licensing provisions, if necessary, by effecting necessary amendments. The Board desired that the matter should be expedited.

8. Regarding the resolution passed at the last meeting of the Board for providing a building to serve as hostel for Sanitary Inspector Students on a rental basis [item 1 (14)] the Director of Public Health pointed out that if the Sanitary Inspector students were provided with a separate hostel, they might have to pay Rs. 5 or Rs. 60 hostel charges, and that as they were not paid any stipends they might not be able to meet the hostel charges. The Director of Public Health further said that the whole course consisted of 9 months in the college and 3 months in the field and that the feasibility of running a hostel should therefore be examined in detail. Vidwan Sri T. Muthukannappan then desired that the question of paying a stipend to each student might be considered for which he was informed that a large number of applications were being received each year for admission to the course and that therefore it did not warrant the payment of stipend. The Board considered that the proposal for a hostel for Sanitary Inspectors students was "not necessary".

9. Regarding the appointment of Health Inspectors in Panchayat Union Councils on a par with the Sanitary Officers [item 1 (15)] it was agreed at the last meeting that the question of further increasing the posts of Selection Grade Health Inspectors might be examined. It was explained by the Director of Public Health that the question was under the consideration of Government. The Board desired that the decision on the subject be expedited by Government.

10. With regard to the eradication of Cholera and Small-pox item III, the Board had resolved at its last meeting that special provision should be made for water-supply in deltaic areas. Sri M. S. Selvarajan observed that several villages have been omitted from the National Water Supply Scheme. He suggested that the supply of protected water by the construction of an overhead tank for each village in the cholera endemic areas might be considered instead of having big water-supply schemes. He also suggested that the small water supply schemes should be taken up for execution by the Highways Department. Referring to the erstwhile National Water Supply and Sanitation Programme Sri Selvarajan said that those villages selected under this programme could not be taken up for execution of small water supply schemes. After some discussion, the Board resolved that the Central Government might be approached to sanction the implementation of the National Water Supply Scheme to small towns with a population of less than 5,000 in the endemic areas of the State.

11. With regard to the prevention and use of decayed fruits for manufacture of pickles, etc., item V the Director of Public Health explained that necessary instructions had been given to all Health Officers to inspect the pickle manufacturing places and to take suitable action against those who were found to prepare pickles from rotten fruits. The Assistant Health Officer, Dr. Gopalakrishnan, who was present said that all pickle manufacturing units in the City were being periodically inspected and watched closely by the Health staff of the Corporation. Vidwan Sri T. Muthukannappan pointed out that there were still a number of places where such manufacture was going on in the Madras City and that the Corporation authorities should take effective action. The Board desired that all the pickles manufacturing units should be inspected again and a report submitted to the Government by the Health Officer of the Corporation within 15 days. The Minister desired that this may be done quickly.

12. With regard to the re-enactment of the Food Adulteration Act to make it more effective and to provincialise the services of the staff engaged in administering this Act, item VI, the Director of Public Health in her note circulated to the members pointed

out that the Prevention of Food Adulteration Act was a Central Act and as such the Central Government alone could re-enact the Act or amend its sections suitably and that there had been so far no indication from the Government of India as to its re-enactment. The Minister for Health and the Secretary to Government, Education and Public Health Department pointed out that the resolution passed at the Health Officers Conference of September 1963 was being examined in detail separately. The Board desired that the matter may be expedited.

13. The action taken on the resolution passed at the last meeting of the Board on the scheme of training of Auxiliary Health Workers, item IX, was also reviewed. It was stated by the Director of Public Health that detail particulars were being collected from the neighbouring States. The Minister for Health pointed out that this scheme of training was not necessary and that the same might be dropped.

14. With regard to the prevention of the nuisance caused by the fumes coming from the fertiliser factory at Ennore, item X, the Director of Public Health said that a Committee had been constituted and that the matter was under investigation by the Committee. The Director of Public Health further said that the factory was inspected by the Committee only on the previous day and that the report would be finalised shortly. She also assured that the report of this Committee would be sent to the Government soon. The Minister for Health and Municipal Administration desired that the report of this Committee might be expedited and the same placed before the Board at the next meeting.

15. With regard to the prevention of smoke nuisance from the Dharangadhara Chemical Works, Arumuganeri and other factories in Tiruvelveli District item XIII, the Director of Public Health informed the members that the Environmental Sanitation and Health Education Committee constituted by the Government visited several industries including the Dharangadhara Chemical works and that its report was awaited. The Board desired that a copy of the report of the committee be sent to Government expeditiously.

16. With regard to the following items, the Board desired that Government might issue very early orders:—

(i) Provision of Health Education and Publicity Units at regional level and at district level.

(ii) Appointment of a High Power Committee to go into the future set up of the Public Health Department.

(iii) Posting of Senior Health Inspectors in Secretariat, Government House, etc., to look after sanitation, and

(iv) Provincialisation of 1st Grade Sanitary Inspectors working in Town Panchayats.

17. At the last meeting of the Board, the Health Officer, Corporation of Madras stated that the Corporation had taken up the Arunachalapuram area for anti-filaria operations and that arrangements were being made to shift the local market from its location. Vidwan Sri Muthukannappan informed the members of the Board that the market had not been shifted till date. The Board desired that the market might be shifted as soon as possible, from its existing place in the Arunachalapuram area. The minutes of the last meeting were then confirmed.

Subject No. II.

Control and opening of Maternity and Child Welfare Centres in Panchayat Union areas.

18. (i) This subject was proposed by the Director of Public Health.

The Director of Public Health had explained in the note that as the administrative control over the Maternity and Child Welfare Centres was vested with the panchayat unions, the District Health Officers could not make effective supervision, that technical control alone was not sufficient and that the panchayat unions should consult the District Health Officers on all aspects of child welfare viz. opening of Maternity and Child Welfare Centres obtaining grant, etc. In the discussion that followed, the general question of relationship of the public health personnel with that of the panchayat union

was discussed at length. The Minister for Municipal Administration said that the District Health Officer by remaining at the District Headquarters cannot pay adequate supervision and that therefore the panchayat union council should have absolute control over the Public Health personnel.

18. (ii) The Director of Public Health explained that the panchayat unions were not readily co-operating with the Public Health Department by extending all facilities and that this attitude was responsible for the heavy incidence of cholera in the past. The Board resolved that the Chief Electoral Officer and the Director of Public Health might examine all aspects of this matter and suggest a suitable proposal to Government.

Subject No. III (i).

Provision of rent-free quarters for Primary Health Centres Personnel.

19. This subject was proposed by the Director of Public Health. It was stated that with a view to creating conditions favourable for the Medical Officer and other staff of the Primary Health Centres to remain in the villages they might be given rent-free quarters wherever buildings have been erected. The Director of Public Health hoped that if this concession was granted the Medical Officers and other staff might be expected to willingly serve in the Primary Health Centres in areas which lack even ordinary amenities available in the urban areas. The Director of Public Health pointed out that the Mudaliar Committee had also recommended such a step. After some discussion, the Board desired that if other categories of personnel in the blocks were given rent-free quarters, then such concession might be extended to Primary Health Centre personnel also.

Subject No. III (ii).

Transport of the Primary Health Centre to be made available the field staff during morning hours and whenever there is such demand.

20. This subject was proposed by Vidwan Sri T. Muthukannappan.

The members said that the transport at the primary health centres should be made available to the field staff during morning hours and at times when there is much demand for them. It was pointed out by the Director of Public Health in her note that no hard and fast rule could be laid down in this behalf as the Medical Officers of the primary health centres would be guided by the District Health Officers in the matter. The member Sri Muthukannappan took objection to the use of the word "guided" but said that the term "guided" may be replaced by the word "controlled" as the District Health Officers were the controlling officers for the Medical Officers. The Director of Public Health said that vehicles of the primary health centres were under the administrative control of the District Health Officers at the district level, that they were being made use of by the Medical Officers as well as other staff both in the mornings and in the evenings and that during times of epidemic the vehicles were left with the Health Inspectors.

The Board agreed that the position explained by the Director of Public Health was satisfactory and that no resolution was necessary on the subject.

Subject No. IV.

Upgrading the post-graduate Course in Public Health.

21. (i) The subject was proposed by the Director of Medical Services, Madras. It was explained by the Director of Medical Services (in the Note) that the Expert Team appointed by the Government of India to go into the question examining and finalising the facilities available for training in Public Health in the country visited the training centre leading to the degree of B.S.Sc. at Madras, that the team pointed out that the facilities available were not adequate and that because of the existence of this training course in B.S.Sc., no candidate has been sponsored for the course conducted at the All-India Institute of Hygiene and Public Health, Calcutta for years past. The Director of Medical Services suggested that in the interest of developing a good standard of post-graduate education in the Public Health field and training adequate number of medical men to meet the demand of our state and our country, it was quite necessary that this subject might be discussed at length to take a decision in the matter by the State Public Health Board.

21. (ii) The Director of Public Health pointed out that the Central Council of Health which met in Madras in November 1963 constituted a Committee consisting of certain Directors of Health Services of States for reviewing the existing facilities available for post-graduates in Andhra, Kerala and Madras and also to go into the question of setting up of a Regional Institute of Public Health in the southern region on the lines of the All-India Institute at Calcutta and that the report of this Committee was awaited.

21. (iii) The Director of Public Health further observed that the training given at the Madras Medical College for the post-graduate degree in Public Health (B.S.Sc.) was far superior to the one given at the All-India Institute at Calcutta (for D.P.H. Course) and that the only defect was that there was not enough staff for teaching purposes. The Director of Public Health suggested that it was desirable to upgrade the course into M.D. (in Social and Preventive Medicine) which may be on a par with that of the course in the Calcutta Institute. The Minister for Health and Municipal Administration desired to know what happened to the question of establishment of a Southern Regional Institute in Madras. The Director of Public Health replied that the report of the Committee was awaited. The Minister for Health said that it was desirable to have the Regional Institute at Madras.

21. (iv) The Board resolved that the State Government might take up the question with the Centre and write a letter at Government level to the Union Government pressing for the establishment of the Regional Institute at Madras itself, to serve the southern region.

Subject No. V.

Training of Sanitary Inspectors in the Thanjavur Medical College.

22. This subject was proposed by the Director of Medical Services, Madras.

In the note already circulated, the Director of Medical Services has observed that there is a great demand for the Sanitary Inspectors and therefore it has been proposed to start the Sanitary Inspectors Course at the Thanjavur Medical College also admitting every year about 50 candidates. The Minister for Health observed that if there was congestion in the Madras Medical College it might be reduced there and the admissions tagged on to some other medical college like the Kilpauk Medical College, instead of having them admitted in the Thanjavur Medical College. The Director of Public Health observed that for this purpose the teaching staff would have to be augmented in the Kilpauk Medical College and that it would be sufficient if at least an additional Assistant Professor of Social and Preventive Medicine is sanctioned. It was also agreed that about 30 students of the Sanitary Inspectors Course might be admitted to begin with in the Kilpauk Medical College and to request for sanction of one more Assistant Professor of Social and Preventive Medicine for this college. The Board resolved that a Sanitary Inspectors Course for training 30 students might be started at the Kilpauk Medical College and sanction of Government for an additional post of Assistant Professor of Social and Preventive Medicine might be sought for.

Subject No. VI (i).

Posting of Health Inspectors in training schools and Colleges and in all hostels both run by the Government and private agencies for teaching of Health subjects in training schools and colleges and for health education work in hostels, maintenance of sanitation carrying out immunisation programmes, provision of better nutritious food and care of the inmates.

23. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health observed that this subject concerns both the Public Health and Education Departments and that before any decision is taken, the Education Department might have to be consulted. The Board desired this question need not be discussed at the Board level and that this might be dealt with at the Departmental level.

Subject No. VI (ii).

Posting of Health Inspectors for leprosy work in place of para-medical workers or social workers.

24. (i) This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health in the note already circulated to the members had observed that para medical workers and social workers were trained by voluntary agencies for

leprosy work such as the Hind Kusht Nivaran Sangh and that if it is desired that these workers have to be replaced by Health Inspectors, the Director of Medical Services would have to be consulted.

24. (ii) Vidwan Sri T. Muthukannappan said that the para medical workers attending to leprosy work were paid more than Health Inspectors and that the Health Inspectors should be given the same pay as that of the para medical workers. The Secretary to Government said that only very recently the Pay Commission has revised the pay scales of all Government servants and that the Finance Department would not agree for any revision at the present moment. The Minister for Health said that it is desirable to revise the pay scale of the Health Inspectors with a minimum pay of Rs. 125.

24. (iii) The Board after some discussion resolved that there was no need for replacing the para medical workers or social workers by Health Inspectors and that the question of revising of the scale of pay of Health Inspectors with a minimum Rs. 125 might be examined by the Director of Public Health.

SUBJECT NO. VI (3)—POSTING OF HEALTH INSPECTORS IN THE PLACE OF DOCTORS AS CONTEMPLATED IN THE GOVERNMENT OF INDIA SCHEME AS DISTRICT FAMILY PLANNING OFFICERS.

25. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health in the note circulated already has emphasised that in the re-organised family planning scheme which has been accepted by the State Government, a Medical Graduate alone is contemplated as District Family Planning Officer. The Minister for Health and the Secretary to Government, Education and Public Health Department were of the opinion that for the reasons given in the note of the Director of Public Health, the Health Inspectors cannot take the place of the District Family Planning Officers as they are not qualified to hold the posts. The proposal was dropped.

SUBJECT VI (4)—POSTING OF HEALTH INSPECTORS IN MUNICIPALITIES INSTEAD OF HEALTH OFFICERS IN DISTRICTS AS SUPERINTENDENTS OF HEALTH IN EVERY DEVELOPMENT DISTRICT AND IN ALL SCHEMES INSTEAD OF MEDICAL MEN.

26. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health has said in the note circulated that this suggestion cannot be accepted at all as the Health Inspector is not basically qualified and trained enough to be a Health Officer. The Board expressed the view that the subject may be dropped. The Minister for Municipal Administration said that all the administrative questions might be examined and suitably dealt with by the Director of Public Health herself departmentally. This was agreed to in to by the Board.

Subject Nos. (VI) (5), (VI) (6), (VI) (7), (VI) (8) and (VI) (9) were considered as administrative questions and the Director of Public Health was requested to examine them at the Departmental level.

SUBJECT NO. VII (1)—REVIEW OF THE GUINEA-WORM ERADICATION PROGRAMME.

The report was taken as read.

SUBJECT NO. VII (2)—TAKING OVER OF HEALTH PROPAGANDA BOARD AND THE MUSEUM RUN BY THE PRIVATE AGENCIES TO WHICH GOVERNMENT GRANT IS GIVEN EVERY YEAR.

27. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health in her note has already explained that the Public Health Department was not aware of any Propaganda Board or Museum, etc., run by private agencies in the State with grant from the Government. The Director of Public Health further emphasised that it is not however desirable to take over any such propaganda boards, health museums, etc., by Government as these agencies could be expected to supplement the work of official agencies in the field of Public Health. The matter was dropped.

SUBJECT NO. VII (3)—STARTING OF SEPARATE SCHOOL FOR TRAINING OF HEALTH PERSONNEL WITH NECESSARY TEACHING AND FIELD STAFF WITH GOVERNMENT OF INDIA AID CONTEMPLATED.

28. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health in the note circulated has said that the Health Inspectors are not trained academically in the Medical Colleges in the Department of Social and Preventive Medicine; that inservice training is also imparted for them in the Orientation Training Centre, Research-cum-Action Project, Leprosy, Nutrition and Malaria Laboratories and that the need for starting a separate training school for these personnel involving extra expenditure to Government required to further examined in detail. The members agreed that this was not necessary and the subject was ordered to be dropped.

SUBJECT NO. VII (4)—DEPUTING FIELD STAFF TO OTHER COUNTRIES FOR AN ON THE SPOT STUDY (FELLOWSHIPS).

29. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health was of the view that this was not considered necessary at the present time of development of Public Health in the State. The Director of Public Health however pointed out that Health Inspectors are being trained at Ernakulam in Filaria and at Delhi in Malaria outside the Madras State. This subject was ordered to be dropped.

SUBJECT NO. VII (5)—HEALTH EDUCATION/PROGRESS MADE BY THE HEALTH EDUCATION BUREAU AND WITH WHAT RESULTS.

30. Vidwan Sri T. Muthukannappan proposed this subject. The Director of Public Health observed that there is a State Health Education Council which reviewed the work of the Health Education Bureau every quarter and that it was not necessary to have a second review by the Public Health Board. The members agreed with view of the Director of Public Health. The Board however desired that a copy of the report of the meeting of the Health Education Council might be placed at the next meeting of the Public Health Board.

SUBJECT NO. VII (6)—ALLOTING CERTAIN PERCENTAGE OF SEATS FOR TRAINING IN MEDICINE IN MEDICAL COLLEGE FOR THE CHILDREN OF PARA MEDICAL PERSONS AND CERTAIN PERCENTAGE FOR THE PARA MEDICAL PERSONS THEMSELVES AS IN OTHER COUNTRIES AS INDICATED BY THE MINISTER FOR HEALTH, GOVERNMENT OF INDIA AND THE DIRECTOR GENERAL OF HEALTH SERVICES, IN THE LAST/COUNCIL MEETING.

31. This subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health has in the note explained that this was a fit case to be considered by the newly constituted Medical Advisory Committee Board. The matter was dropped.

SUBJECT NO. VIII (1)—MADRAS CITY—SMALLPOX SITUATION.

32. (i) The Director of Public Health gave a brief account of the Smallpox Eradication Programme in Madras City and said that intensive Health Education and Publicity is also being carried out by the State Health Education Bureau. The Director of Public Health further stated that almost all the Smallpox cases occurred only in divisions which had not been taken up for vaccination so far. The Director of Public Health however assured the members that every effort is being made to cover a minimum of atleast 80 to 85 percent of the total population in the City during this intensive drive of vaccination which has been undertaken on a national scale. It was stated by the Director of Public Health that the smallpox cases which occurred recently were the results of the many accumulations of cases which had not been primarily vaccinated at all and this portion of persons alone accounted for the heavy incidence. The Secretary to Government pointed out that a special meeting might be convened in the Secretariat to discuss about this programme in the City. The Minister for Health agreed to this suggestion. The Minister for Health desired that the Director, King Institute, Guindy might also be invited to the above meeting.

32. (ii) The Director of Public Health incidentally pointed out that the supervision work in the City was lacking and the vaccinators were left to themselves in order to make the programme an effective and efficient one and to achieve better results, the extra supervisory staff required will have to be sanctioned by Government. The Minister desired that the matter might be pursued further once again and sanction of required staff (supervisory) sought for.

SUBJECT NO. VII (2)—CREATION OF SPECIAL SUPERVISORY POSTS FOR EVERY DISTRICT IN CONNECTION WITH THE SMALLPOX ERADICATION PROGRAMME.

33. This subject was proposed by Vidwan Sri T. Muthukannappan. The Board felt that the subject may be dealt with departmentally if necessary.

SUBJECT NO. VII (3)—SETTING UP OF AN EPIDEMIC CONTROL UNIT IN THE DISTRICT HEAD QUARTERS.

34. This subject was proposed by Vidwan Sri T. Muthukannappan. It was stated in the note of the Director of Public Health that as there was provision for such units in the districts there was no need to consider the subject. This was agreed to.

SUBJECT NO. VII (4)—PROVISION OF QUICK CONVEYANCE (JEEP) FOR THE FIELD STAFF TO REACH THE SPOT QUICKLY FOR WORK, FREE OF COST OBTAINED THROUGH THE UNICEF, WHO OR/TCM OR ATLEAST ON LOAN.

35. This subject was proposed by Vidwan Sri T. Muthukannappan. The note of the Director of Public Health pointed out that such a facility was available at present in the districts, especially during the epidemic times. The Board agreed with the view of the Director of Public Health.

SUBJECT NO. VII (5) PARTICULARS OF RESEARCH IF ANY MADE REGARDING PREVENTION OR EDUCATION OF EPIDEMIC DISEASES IN OUR STATE OTHER THAN THAT WE LEARNT FROM OTHER COUNTRIES THROUGH LECTURES.

36. This subject was proposed by Vidwan Sri T. Muthukannappan. It was pointed out by the Director of Public Health that researches particularly in the field of plague and cholera have been carried out in this State and that the measures for control are based on these findings only. This was accepted.

SUBJECT NO. VII (6)—SOME CONCRETE SUGGESTIONS TO CONTROL AND ERADICATE SMALLPOX AND CHOLERA.

37. This subject was proposed by Vidwan Sri T. Muthukannappan. It was pointed out by the Director of Public Health that several concrete suggestion had been made by the Expert Committee constituted by the Government of India for eradicating smallpox and cholera and that the schemes which were in operation in State as well as other States of the Indian Union were all based on these suggestions only with modifications here and there to suit the local condition. This was agreed to.

SUBJECT NO. IX—FORMATION OF A SEPARATE DEPARTMENT OF PREVENTION OF FOOD AND DRUG ADULTERATION AND ANALYSIS WITH AN INTELLIGENCE SECTION ATTACHED UNDER A SEPARATE HEAD AT THE STATES.

38. This Subject was proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health pointed out that with regard to the adulteration of food there was a separate department which was in charge of the Prevention of Food Adulteration Act under the Director of Public Health and that as regards the drug the same was under the charge of the Director of Medical Services who was the authority concerned. The members were of the opinion that cases of food and drug adulteration were not decreasing and that on the other hand they were on the increase. The Minister for Health and the Municipal Administration desired that the provisions of the Act should be rigidly enforced. The minister desired that more number of prosecutions should be launched against the offenders and more fines realised. The Minister for Health desired that a report containing the detailed particulars regarding the working of the prevention of Food adulteration Act in this State might be sent to her. No resolution was passed on the subject.

SUBJECT NO. X (1).—CREATION OF POSTS LIKE PERSONAL ASSISTANTS TO THE DIRECTOR OF PUBLIC HEALTH AND ASSISTANT DIRECTORS OF PUBLIC HEALTH ASSISTANT DIRECTORS AS IN ANDRA AND KERALA.

39. This subject was proposed by Vidwan Sri T. Muthukannappan. The member pointed out that personal Assistants should be appointed to the Director of Public Health on the administrative side. He said that the Director of Public Health or his Assistants should not be burdened with administrative questions; and that they must be free from Establishment, postings, transfers, etc., as was being done in the Medical, Agriculture, Animal Husbandry Departments. The Secretary to Government said that Heads of Departments of Technical Departments should be assisted by Personal Assistants selected from the Revenue Department from the cadre of Deputy Collectors, or an Assistant Secretary from the Secretariat should be appointed as Personal Assistant. The Director of Public Health explained that even now to assist her in administrative matters in the office there were the office Manager and two non-technical gazetted assistants, and that there was no need to have a separate personal Assistant. The Minister for Health wanted to know the authority who was effecting transfers, appointments and posting, etc. of Public Health personnel. The Director of Public Health replied that the powers were vested with the Assistant Directors of Public Health. However the Minister for Health was of the view that the question of having a personal assistant to the Director of Public Health with gazetted rank on the Administrative side might be examined in detail. The Secretary to Government, Education and Public Health Department however pointed out that if a personal assistant is to be posted to the Director of Public Health when the same is sanctioned by Government, it should be filled up by an officer of the Revenue Department in the rank of a Deputy Collector as in all the offices of the departmental heads such posts were held by the Deputy Collectors whose services were lent from the Revenue Department. The Board however decided that the matter may be examined by the Director of Public Health.

SUBJECT NO. X (2) PUBLIC HEALTH ADMINISTRATION IN THE STATE DEPARTMENT CERTAIN SUGGESTIONS.

40. Taking over control (Administrative and Technical) of Health Departments in the Corporation, Municipalities, Panchayats and Panchayat Unions to overcome the difficulties in the matter of control of epidemic diseases, maintenance of better supervision, etc.

This subject has been proposed by Vidwan Sri T. Muthukannappan. The Director of Public Health had explained in detail in the note that question of taking over the Public Health Administration in the City did not arise. The Director of Public Health further said that in the case of Municipalities, the Public Health staff were directly under the control of the Municipal Health Officers and that in the case of Panchayat Union Councils, it was desirable to bring them under the control of the District Health Officers. The Minister for Municipal Administration did not agree with the views expressed by the Director of Public Health. The Minister said that the real attainment of the Panchayat Raj as visualised by the Indian Union would not be possible if the administrative control of Public Health staff and other staff were not vested with Panchayat Union Commissioners. The subject was talked out and no resolution was passed.

SUBJECT NO. X (3) NEED TO CREATE A SEPERATE CADRE OF PROSECUTING SANITARY INSPECTORS IN MUNICIPALITIES.

41. This subject has been proposed by Sri M. S. Selvarajan. The member suggested that a speerate cadre of prosecuting Sanitary Inspectors should be created in municipalities so as to enable normal duties in the municipalities being attended to efficiently. The member said that in as much as the Sanitary Inspectors are called upon frequently to visit their routine work suffers to a considerable extent and that there must be separate cadre of prosecuting Sanitary Inspectors. The Director of Public Health has already indicated in the note that was a problem connected with the urban local authorities in the State and that it would be examined and dealt with suitably when proposals from these urban local authorities were received. The Board agreed with the views expressed by the Director of Public Health and decided that the question might be left to the decided by the urban local authorities themselves.

SUBJECT NO. XI (1) BETTER MAINTENANCE AND UTILISATION OF PUBLIC PARKS, BUS STANDS, ETC., CERTAIN SUGGESTIONS.

42. This subject was proposed for discussion by Sri M. S. Selvarajan. The member has suggested that a complaint book may be kept in Public Places like bus stands, railway stations, Cinemas, Public gardens, etc., for enabling the public to record their complaints if any and offer their suggestions for properly maintaining the Sanitary conditions, etc., in these public places which normally should be the legitimate concern of every citizen. He also suggested that these books should be personally seen and action taken by the Commissioners and President of the Panchayats. The Director of Public Health observed that this was a fit subject to be placed before the District Collectors for disposal at the District level. The Board accordingly resolved that this subject might be communicated to all the District Collectors for consideration of the District Development Councils.

SUBJECT NO. XI (2) ANNUAL COMPETITIONS FOR BEST KEPT BUS STANDS, ETC.

43. This subject has been proposed by the member Sri M. S. Selvarajan. The member has suggested that annual competitions may be held every year for rewards for the best kept bus stand with public lavatories, etc., stations, public streets, wards, etc., including schools, recreation centres and public offices with the help of a Committee to be formed for the purpose of making these competitions. He has also suggested the award of cups and shields to the best Panchayat, the best Municipality and best circle or ward of any Corporation, etc., and cups and shields to be given in the name of donors and philanthropist which is sure to promote healthy rivalry among the workers and thus create a public spirit among the citizens for the well being of villages and towns where they live in. The Director of Public Health suggested that this was also a fit case for being brought to the notice of all the District Collectors for consideration of the District Development Councils. The Board resolved that this subject also might be communicated to all the District Collectors for consideration of District Development Councils.

SUBJECT NO. XII. PROVISION OF PUBLIC CONVENIENCES IN ALL PANCHAYATS IN THE VILLAGES AND TOWNS ON THE BASIS OF A MINIMUM EXPENDITURE TO BE EARMARKED OUT OF ALLOTMENTS MADE IN THE ANNEXURE BUDGET UNDER THE HEAD PUBLIC HEALTH.

44. (1) This subject was proposed by Sri M. S. Selvarajan. The member has suggested that public conveniences-urinals, lavatories should be provided in all the Panchayat villages and towns on the basis of minimum expenditure to be earmarked out of allotments made in all the Panchayat villages and towns on the basis of minimum expenditure to be earmarked out of allotments made in the budget every year under "PUBLIC HEALTH". The member felt that this will help the people using the public conveniences and thus eliminate nuisance being committed in the street corners and sundry places and also open yards.

44. (2) The Director of Public Health observed in the note that it was the experience in the Municipalities and also in town Panchayats and villages that public latrines and urinals have proved to be biggest source of nuisance for various cases, and that in view of the above position it was the policy now to encourage only private latrines at homes and to educate the people to that end. The Chief Electoral Officer said that the corporation of Madras is even now unable to maintain the public latrines in a sanitary condition and that these public conveniences are required only in place where people gather in large numbers like bus stands, markets, etc. The Sanitary Engineer to Government referred to the latrines constructed under the National Water Supply and Sanitation Scheme and said that not even one of these latrines were properly used. The Board ultimately decided that this question might be dropped out, as it will be only a sheer waster of funds to invest them on the construction of public latrines. The Board decided that the next meeting might be held at Cape Comerin during September, 1964.

The Director of Public Health finally thanked the Chairman and all the members Present at the meeting for having taken part in the deliberations.

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ADMINISTRATION REPORT OF THE GOVERNMENT ANALYST FOR THE YEAR, 1964-65.

GENERAL.

As in previous years, the following categories of analysis constituted the work of the Government Analyst's Department.

- (1) Analysis of foods under the Prevention of Food Adulteration Act of 1954.
- (2) Analysis of Drugs under the Drugs Act of 1940.
- (3) Analysis of foods, drugs and miscellaneous products under other penal statutes and control orders.
- (4) Analysis of samples from bulk supplies of food received from Government agencies for poisons, pesticide residues and other contaminants.
- (5) Analysis of samples of food involved in cases of food poisoning in the State.
- (6) Analysis of samples of diet articles supplied by contractors to State Hospitals.
- (7) Analysis of stock mixtures and other drugs from state Hospital Dispensaries.
- (8) Analysis of samples of food, drugs and other products from private parties.
- (9) Research.

During the year under review a total of 29,572 samples of all categories were analysed. Of these 17,648 consisted of samples under the Prevention of Food Adulteration Act. This does not include the number of samples analysed by the public Analyst, Corporation of Madras.

STAFF.

The Department is under the charge of the Government Analyst (Food and Drugs). He is assisted by a Deputy Government Analyst, thirteen Senior and thirteen Junior Assistants to Government Analyst one Technical Assistant, one Technician and seven Laboratory Attendants.

Thiru K. R. Srinivasan, Government Analyst went on leave preparatory to retirement on 10th February 1965. Sri K. Narayanaswamy, Deputy Government Analyst, was given additional charge of the post of Government Analyst.

FINANCE.

The total estimated income during the year was Rs. 2,55,428-00 and the estimated expenditure Rs. 1,84,387-00 showing a profit of Rs. 71,041-00. The working of the Act has also resulted in a profit of Rs. 58,766 00 being the Government share of the fines realized under the Act credited to the Judicial Budget.

PREVENTION OF FOOD ADULTERATION ACT.

Tables I and II give the total numbers of samples of food received and analysed in Madras State (excluding Madras City) and Madras City respectively under the Prevention of Food Adulteration Act. The consolidated figures for the whole State are furnished in Table III.

TABLE I.

Particulars of samples of food taken and analysed in Madras State (excluding Madras City) in 1964-65 under the Prevention of Food Adulteration Act.—

Serial number and nature of sample.	Number of samples received.	Number Analysed.	Number Adulterated.	Percentage of Adulteration.
(1)	(2)	(3)	(4)	(5)
1. Milk	8,596	8,666	3,468	40.0
2. Butter	101	103	60	58.3
3. Ghee	277	276	57	20.7
4. Coffee	780	730	61	8.4
5. Tea	261	290	19	6.6
6. Turmeric	588	557	137	24.6
7. Dal	1,166	1,194	181	15.2
8. Flours	589	699	10	1.5

Serial number and nature of sample.	Number of samples received.	Number Analysed.	Number Adulterated.	Percentage of Adulteration.
(1)	(2)	(3)	(4)	(5)
9. Gingelly oil	2,304	2,298	200	8.7
10. Groundnut oil	595	628	46	7.3
11. Coconut oil	1,116	1,255	16	1.3
12. Honey	71	68	6	8.8
13. Sweets	171	166	99	59.6
14. Asafoetida	79	84	14	16.7
15. Aerated Water	257	249	202	81.1
16. Miscellaneous	493	385	69	17.9
Total ..	17,441	17,648	4,645	26.3

TABLE II.

Particulars of samples of food taken and analysed in *Madras City* in 1964-65 under the Prevention of Food Adulteration Act.

Nature of the sample.	Number of samples received and analysed.	Number of samples certified.	Number Adulterated.	Percentage of Adulteration.
(1)	(2)	(3)	(4)	(5)
1. Milk	4,482	4,080	1,275	31.3
2. Ghee	894	781	15	1.9
3. Butter	530	470	43	9.1
4. Gingelly oil	940	777	33	4.9
5. Groundnut oil	237	196	6	3.1
6. Coconut oil	308	255	2	0.8
7. Coffee	231	183	33	18.0
8. Tea	114	92	2	2.2
9. Pulses and their products.—				
(a) Thovar dal	103	85	10	11.8
(b) Mysore dal	2	2	..	..
(c) Bengalgram dal	1	..	..	..
(d) Bengalgram flour	2	2	..	..
10. Cereals and their products.—				
(a) wheat samba	1	1	..	..
(b) Maida flour	14	14	..	..
(c) Atta flour	2	2	..	..
(d) Wheat Revai	3	2	..	..
11. Other starchy food.—				
(a) Sago	1	1	..	..
(b) Arrowroot	3	2	..	..
12. Spices and Condiments.—				
(a) Turmeric	60	45	15	25.0
(b) Chillie Powder	11	10	9	9.0
(c) Curry Powder	2	1	..	..
(d) Sambar Powder	1	1	..	..
(e) Dhanis Powder	1	1	..	..
13. Asafoetida	4	3	3	100.00
14. Sweetening Agents.—				
(a) Honey	2	2	..	..
(b) Jaggery	3	3	..	..
(c) Sugar	3	2	..	..
15. Confectionery and Sweets	9	9	6	66.7
16. Aerated Water	9	8	8	100.0
17. Ice Cream	5	5	5	100.0
18. Fruit Products	3	3	3	100.0
19. Food colours (Kesari Powder)	8	4	4	100.0
Total ..	7,989	7,042	1,477	21.0

TABLE III.

Particulars of samples of food taken and analysed in the whole State in 1964-65 under the Prevention of Food Adulteration Act.

Nature of the sample.	Number analysed.	Number adulterated.	Percentage of adulteration.
(1)	(2)	(3)	(4)
1 Milk	12,746	4,743	37.2
2 Butter	573	103	18.0
3 Ghee	1,057	72	6.8
4 Coffee	913	94	10.3
5 Tea	382	21	5.5
6 Turmeric	602	152	25.3
7 Dal	1,281	191	14.9
8 Flours	717	10	1.4
9 Gingelly oil	3,075	238	7.7
10 Groundnut oil	824	52	6.3
11 Coconut oil	1,510	18	1.2
12 Honey	70	6	8.6
13 Sweets	175	105	60.0
14 Asafoetida	87	17	19.5
15 Aerated Water	257	210	81.7
16 Miscellaneous	421	90	21.4
Total ..	24,690	6,122	24.8

Six more Panchayats were permitted to send samples under the Prevention of Food Adulteration Act bringing the total number of local bodies working the Act to 296 comprising 71 Municipalities, 194 Panchayats, 5 Township Committees, 2 Cantonment Boards and 24 others. The total number of samples received during the period under report (from local bodies in the State excluding Madras City) was 17,441 as against 16,983 during the previous year. 26.3 per cent of the samples reported were adulterated.

There was an increase in the number of samples of turmeric, dal and aerated waters received during the year from local bodies excluding Madras City, the increase being most significant in the case of aerated waters. The number of aerated water samples received during the year was 257 as against 98 in the previous year. More extensive sampling also revealed more wide-spread adulteration and misbranding in this category of foods.

The overall percentage of adulteration showed little change, being 26.3 as against 24.8 in 1963-64 (for Madras State excluding Madras City). Increase in adulteration was noticed in milk, butter, gingelly oil and aerated waters while there was a slight decrease in the case of tea, turmeric and cooked sweets.

There were 16 cases of 100 per cent substitution of toor dal by lak dal and 4 cases of partial substitution. The sale of lak dal and admixtures thereof is prohibited under the Prevention of Food Adulteration Act.

VEGETABLE OIL PRODUCT CONTROL ORDER.

Six samples of Vanaspati taken by Assistant Directors of Industries and Commerce under the Vegetable Oil Product Control Order were examined during the year. All of them were found to conform to the prescribed specifications.

TOXICOLOGICAL ANALYSIS.

Contaminated foodgrains.—It was reported that some consignments of wheat imported from the United States were contaminated with datura seeds. Samples of wheat taken by the District Health Officer, Cingleput from the Central Storage Depot at Avadi were found to contain datura seeds. Samples of flour and semolina prepared from the wheat were also examined and found to contain traces of alkaloids of datura.

Thirty-five samples of rice and wheat from the Government of India, Regional Directorates of Food at Bombay and Madras were analysed and 33 of them were found to be contaminated with chemicals like cadmium sulphide, sulphur, mineral oil, asphalt, iron ore, coal tar dyes, D. D. T., etc.

Fourteen samples of cereals and cereal products were received from the Railways. Two samples of paddy from the Southern Railway were found to contain parathion, the organophosphorus insecticide commercially available as "Folidol".

Food poisoning.—Sixty samples of foodstuffs and prepared food suspected to be involved in cases of food poisoning were analysed. In a case involving 238 school children who developed giddiness and nausea after partaking of their midday meal, traces of nicotine were found in the cooked rice and vomitus sent for examination. One significant fact about this episode is that the *sambar* served with the meal was made with Kesari dal (*Lathyrus Satives*).

The poisonous variety of *varagu* was identified in three cases of food poisoning from village in South Arcot, Madurai and Ramanathapuram districts respectively.

In a case in which there were fatalities after drinking tea, the jaggery used for the tea and the chemicals used for the preparation of the jaggery were analysed. The jaggery was found to contain 1,100 p.p.m. of sulphur dioxide and the chemicals were identified to be sodium sulphite and sodium hydrosulphite.

Analysis of samples of hospital diet articles.—The number of samples of diet articles sent by Government Hospitals was the highest so far 10,506. The samples consisted of milk, butter, ghee, coffee, dal, flours, gingelly oil, coconut oil, brown sugar, jaggery, bread and biscuits. Eight hundred and seventy-one of the samples analysed were found to be adulterated or otherwise unsatisfactory. A number of so called butter samples consisted of Vanaspati admixed with a lot of water and small amounts of butter and made to simulate table butter.

MISCELLANEOUS ANALYSIS.

Twenty-five Lactometers received from Government Hospitals were tested and 11 were reported to be unsatisfactory.

Seventy-nine samples of milk powder received from Primary Health Centres of which 72 were found to be unfit for human consumption.

Out of 143 samples of rice received from the Department of Public Health, 7 were found to be unfit for human consumption.

Four samples of compounded asafoetida and 2 samples of Asafoetida received from private parties were found to be deficient in alcoholic extract. A sample of chicory sent by a private firm consisted wholly of roasted wheat. A sample of ghee from another contained 47 per cent Vanaspati.

RESEARCH.

In connection with the fixation of standards for chicory by the Expert Panel of the Central Committee for Food Standards, some samples of chicory were collected and analysed.

A thin layer chromatographic technique reported by Dr. Bhale Rao for the identification of annatto colour in butter was examined and found to be not specified for annatto.

At the request of the Central Committee for Food Standards, following representations that the limit for moisture in deshi butter should be relaxed, a few samples of authentic deshi butter were analysed for their water content.

Work is in progress on the analysis of coffee-chicory mixtures with a view to fixation of standards for "French Coffee".

The nitrogen content of the non-volatile extract of a few samples of pepper was determined. Determination of the volatile oil content of a number of spices was carried out at the request of the Central committee for Food Standards with a view to fixation of standards.

Office of the Government Analyst,
King Institute, Guindy, Madras-32,
22nd July, 1965.

K. NARAYANASWAMY,
Government Analyst.

DEPARTMENT OF WATER AND SEWAGE EXAMINATION (BRANCH OF DEPARTMENT OF PUBLIC HEALTH).

K. G. Veeraraghavan, B.A., M.Sc., Chief Water Analyst.

I have pleasure in presenting the Seventeenth Administration Report of the Department of Water and Sewage Examination of the year 1964 after the reorganisation of the Department in 1948, which is also the fifth since the branch was transferred from the Medical Department to the Public Department. In these five years the scope of the laboratory and field services of the Department have been enlarged by the addition of separate sections for Sewage and Industrial Wastes analysis, Atmospheric Pollution studies and Mobile Laboratory Unit. The Department now provides services covering all aspects of Environmental sanitation and Hygiene.

It is my painful duty once again to state that lack of sufficient space for the laboratories and administrative wings of the Department and the appalling state of overcrowding and congestion in the few rooms in the present building is the biggest single handicap in coping with the work that this Department has now to carry out. The scientific staff have literally to queue up for their turn to get bench space for their analytical work. The apparatuses and equipments have to be shifted every time to make room for the next test. The ministerial staff have to daily set up their office in the narrow open verandah in the morning and put everything back into the laboratory at the end of the day. Parcels of samples received for test for critical bacteriological and other tests in connection with Public Health have to be opened under the shade of a tree. In such conditions which hamper even routine work, it has been impossible to pursue research work on the many vital problems that should be studied on improvement to chemical and bacteriological analytical methods, advanced methods of treatment of Sewage and Industrial Wastes, environmental sanitation and other subjects. Proposals for the construction of additional rooms in a readily available ground adjacent to the present building are pending with the Government since 1958. I can only express my hope that early sanction will be for the additional building at least during the coming year.

GENERAL.

The Department continued to maintain a supervisory control over the hygienic quality of the public water supplies in the State including the supplies to State Hospitals, important Railway Stations, Jails, Certified Schools, Raj Bhavan, University campuses, Project Camps, Public Sector Industrial Townships and other large institutions. One hundred and ninety-six water-supplies are now under this periodical analytical examination. At the time of each sample collection, sanitary survey of the supply is also carried out by the trained Sanitary Inspector and Sample Collector, and the date entered in special *pro forma*. The water-supplies at Dharmapuram, Sattur and the A.I.R. Station at Tirunelveli were included in the list for periodical analytical examination during the year under report.

The number of sources from which the supplies are derived, the type of purification system in use, and other data are furnished in Table I, appended to this report.

Samples from all new Rural Water Supply Schemes are tested for potability before these supplies are brought into commission. Chemical quality requirements in these samples for potability are relaxed to the extent possible consistent with safety to the health of the consumers. The occurrence of excessive amounts of fluorine, iron and salinity have been the main causes for rejection.

As regards the hygienic quality of these supplies, for their safety is mainly ensured through a proper selection of the site for the well and the observance of sanitary practices in construction. Regular disinfection of each of these supplies with chlorine would appear to be rather impractical under present conditions.

The importance of safeguarding the fresh water resources of the State from adverse pollution by the unregulated discharge of sewage and trade wastes under a rapidly developing condition of industrialisation has been fully recognised. As a first step in this direction, the existing conditions of the rivers and streams in the State and the

nature and characteristics of the wastes from existing industries discharged into the rivers and other water courses in each district is being determined with a view to implementing a planned programme of pollution control.

Another Public Health problem that has come to the fore consequent on industrial growth is that of Atmospheric pollution. An Air Pollution Unit has been constituted and during the period under report, studies were carried out on the presence of sulphur dioxide in the community air in the vicinity of three acid manufacturing industries in the State. A brief account of these studies is given later in this Report.

Visiting students of the M.Sc. and Short Term courses in Public Health Engineering, Medical Colleges and Orientation Training Centre, Poonamallee were given instructions on the various tests done and their significances.

The Chief Water Analyst continued to serve as a Member on (1) The Water Sectional Committee of the Indian Standards Institution, (2) as the Secretary for the Water and Sewage Purification Committee, (3) member of the Air Pollution Expert Committee and (4) member of the Environmental Sanitation and Health Education Committee. In connection with the last Committee, he visited various industries throughout the State for a study of the conditions of the working environment in the factories, workers' amenities, sewage and waste water disposal arrangements, etc.

Bacteriology Section.—Four thousand one hundred and sixty-six samples of water and other specimens like milk, utensils, washings, etc., were tested bacteriologically during the period under report. Of these, 2,866 were water samples from Protected Water Supplies and 626 from the Madras City Hospitals. A total of 3,755 bacterial growths isolated from the samples were separately studied for their characteristics, identification and classification. These include 95 vibrios, 3,520 coliform organisms, 32 belonging to the Salmonella-Shigella group, 18 *Streptococcus fecalis*, 64 sulphate reducers, and 2 Gelatin liquefiers. Sixty-seven cultures of the standard test organism, *B. Typhos* No. 786 and 4 cultures of *Staphylococcus pyogenes* Var. *Aureus* were prepared and supplied for use in the testing of disinfectants. Five thousand five hundred and fifty sterilised sampling bottles were prepared. The total quantity of special media prepared and used was 68 liters.

In the bacteriological analysis of water samples, the rapid E. Coli Test recommended by the Indian Council of Medical Research in their methods for the examination of water, sewage and industrial wastes (Special Report Series No. 47, 1963) was adopted. A loopful of the culture from the gas positive presumptive Bile-salt Lactose Broth tube is transferred to one tube of Bile Salt Lactose Broth, and another of Peptone water. Both are incubated for 24 hours at $44.0 \pm 0.25^\circ \text{C}$ in a water bath and then tested for gas production and indole. The production of gas in the broth culture, and indole in the peptone tube indicates presence of E. Coli. in the test specimen. The validity of this test has been also confirmed by plating and differentiation of the types from a large number of samples.

The number of samples of water analysed for their physical and chemical features was 3,296 of which 2,062 were from protected water supplies and 922 from other sources for potability. Five hundred and eighty samples were tested for non-domestic uses such as for industrial and other uses. The number of samples taken from the Kilpauk Experimental Station was 156.

The non-domestic water samples were analysed for quantitative estimation of all their mineral constituents and potability samples are tested with the main emphasis on the detection and estimation of pollutional constituents of sanitary and taste significance such as the total solids, Chlorides, Hardness, Nitrogenous and Carbonaceous organic matter, Fluorine, Iron, Phosphates, etc.

Water Biology Section.—Except exceptionally clear and colourless samples, all other water samples received for test are subjected to a microscopical examination of the settled and centrifuged deposit, for determining the nature and composition of the suspended impurities, such as algae and other micro organisms. The new water storage tanks at 15 municipalities are under periodical algal control treatment assisted by this basis or laboratory tests. These tests are also under review and a new method based on the photosynthetic activity of the organisms after exposure to varying doses of

algicides for different contact periods is under study. The application of this line of approach to the problem has also been extended to a study of the oxygen donating ability of various types of algae commonly developing in sewage bio-oxidation ponds, with a view to selecting the more active oxygen suppliers and preparing cultures of these organisms for seeding treatment lagoons.

Sewages and Industrial Water Section.—Eighty-seven samples of Sewage and Industrial Wastes and 33 samples of sludge were analysed. A short account of the special investigations carried out are given in a later part of this Report.

Air Pollution Studies.—Studies on the extent of pollution of the air in the vicinity of chemical factories at Ennore and Kaduvetti near Madras were carried out and 63 samples of air were analysed. An account of this is given later in the Report under Special Investigations.

Sanitary Biology Section.—The main line of work carried out related to a detailed survey of the nature and intensity of the occurrence of parasitic infections of the alimentary tract in the population residing at Saidapet, Guindy and Alandur. Four hundred and thirty-four samples of feces were collected and examined by special techniques for the presence of intestinal parasites. The data collected is being statistically analysed and a paper on this subject is under preparation.

Thirty-six samples of sludge from leach pit latrines after varying periods of use were collected for the presence of viable pathogenic organisms and manurial value (Phosphorous and Nitrogen, Carbon, Potassium, etc.).

Experiments are being carried out on the survivability of *Ascaris Lumbricoides* eggs in leach pit latrine sludge.

Municipal and Panchayat Water Supplies.—The samples taken from the Municipal and Panchayat Water Supplies continued to be of approval Chemical quality in accordance with the Indian Standards* except those from Mayavaram which contained an excessive amount of Iron in solution and those from Kaur with a high Fluorine content.

Bacteriologically 85 per cent of the final treated water samples taken from Head-works of the Municipal and Panchayat supplies were of approval standards, while the percentage of satisfactory samples from the consumer taps was 67. The corresponding figures for the previous year were 85 per cent and 77 per cent. There would thus appear to be a fall in the hygienic quality of the water supplies, chiefly due to transit contamination in adequate scouring of mains due to water scarcity conditions in many places.

Hospital Water Supplies.—Seven hundred and fifty samples were taken and examined from State Hospital Water Supplies. The samples from the mufasil hospitals were taken at the time of the sample collector's visit to the respective municipalities, thrice during the year. The samples from the Madras City hospitals were taken about once a fortnight.

The supplies in the mufasil hospitals are mostly drawn from the municipal system and reflect the general quality of the municipal supply within a few instances, some deterioration in bacteriological quality due to improper storage.

As regards the City hospitals it was found that less than 50 per cent of the samples taken from R.S.R.M. Lying-in-Hospital, Royapuram, Ophthalmic Hospital, T.B. Hospital were of approved bacteriological quality. The highest percentage of good quality samples were obtained from Kasturibhai Gandhi Women's Hospital, Egmore (95 per cent).

Jails and Certified Schools.—Seventy per cent of the samples taken from these institutions were of satisfactory hygienic quality.

Railway Station Water Supplies.—The improvement noticed in the hygienic quality of the water supplies at Railway Stations maintained.

* Manual of Standards of Quality for Drinking Water Supplies. Indian Council of Medical Research Special Report Series 44, 1962.

RESEARCH AND SPECIAL INVESTIGATIONS.

Survivability of Pathogenic Bacteria on Onions and other Vegetables.

I.

Arising from the findings of Shoushas (Bull. W.H.O. 1948) that Cholera vibrio may survive for one day on the outer surface, and for two days on the inner surfaces of onions, a study was made of the survivability of Cholera vibrios (Inaba and Ogawa strains), B. Typhosus (No. 786, Lister Strain) and E. Coli Type I (isolated from water samples) on onions.

Onions are exported from this State and hence the importance of this study from the view point of global epidemiology.

Large sized onions were cut into halves and the exposed surfaces were smeared with pure growths of the organisms under test from agar cultures. A number of such surfaces were smeared for each organism at a time.

At the same time, the cultures were smeared on a same number of sterilised glass slides and a tube of the expressed juice from the same lot of onions was also inoculated with several loopfuls of the test organisms.

The smeared onion specimens, glass slides and the inoculated juice were kept aseptically in a moist chamber under bell jars.

At interval of 15 minutes, 30 minutes, 1 hour, 4 hours, 24 hours and 72 hours, two specimens from each of group were withdrawn and organisms on the surface of the onions and the slides recovered by the Swab technique, and cultured on relevant media. A sub-culture was also made from the seeded juice tube.

The results of these experiments are summarised in the following table.

TABLE SURVIVAL OF TEST ORGANISMS.

(Growth at the end of periods.)

Test organism.	15 mts.	30 mts.	1 hour.	4 hours.	Days.		
					1	2	3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Cholera</i> —							
Inaba and Ogawa sub-type mixture—							
On glass	..	..	..	..	..	..	..
On cut onion	..	..	..	..	..	..	..
In onion juice *	..	..	..	..	..	..	..
<i>B. Typhosus</i> B.T. 786, Lister Strain—							
On glass	..	..	..	..	..	..	..
On cut onion	..	..	..	..	..	..	..
In onion juice	..	..	..@	..	..	..	..
<i>Escherichia coli</i> type I.							
On glass	..	..	..	..	..	..	..
On cut onion	..	..	..	..	..	..	..
In onion juice	..	..	..	..	..	..	..†

* PH of fresh onion juice 9.3.

† Survival been at the end of one week.

@ Survival for 3 hours.

It will be seen from the table that Cholera vibrio failed to survive even for 15 minutes on the sterile slide, but was able to live up to 1 hour on the onion surface and for 30 minutes in the juice. *B. Typhosus* appears to be more resistant and were recoverable from the onion surface up to 3 days and for 3 hours in the juice. *E. Coli-I* was found the most resistant of the three forms and was able to live for 72 hours in all the tests. It was recoverable from the juice even after one week. The present findings are different from those of Shousha, and would seem to indicate that onions may not be of significance in the transport of the Cholera vibrio, due to its comparatively short survivability on the surface of these vegetables.

Specimens of onions picked at random from heaps kept for sale in a local market were also examined, by the Swab method. No vibrios were isolated from these. All the coliform bacteria isolated were of the Irregular VI Type (Invisc - -++ and Eijkman 44° C+ive). Earlier studies carried out in these laboratories by Raghavachari and Seetharaman have shown that this type is normally present in large numbers in human feces. Their occurrence on the onion specimens taken with the long survivability of *E. Coli-I* ascertained in the present experiments is therefore note worthy in evaluating the sanitary significance of the Irregular VI type whose natural habit has not been determined.

II.

BACTERIOLOGY OF SEWAGE IRRIGATED PLANTS.

The utilization of sewage for cultivating food crops, and vegetables is now being increasingly adopted under Grow More Food Schemes. The hygienic safty of the practice of using sewage for crop irrigation was previously investigated in the State under the auspices of the Indian Council of Agricultural Research, and it was then concluded that sewage irrigation must be strictly limited to fooder plants only and cultivation of vegetables especially those eaten raw or only partly cooked should not be made under sewage irrigation.

However, with the more extensive use of bio-oxidation lagoons for sewage treatment and the problem of ultimate disposal of the effluent from these lagoons the cultivation of vegetables with these effluent is being adopted as a measure of economic use of the waste and its disposal.

In order to ascertain the hygienic hazards in this practice, studies have been started on the bacterial growths found on the surfaces of vegetables grown under oxidation pond effluent irrigation at the Indian Institute of Technology, Guindy and the Bharat Heavy Electricals Township at Tiruverambur near Tiruchirappalli.

A total of 32 samples of vegetables including Brinjals (*Solanum melongera*), Ladies Finger (*Artocarpus lakooche*), Tomatto (*Lycopersicon esculantum*), Cluster bean, (*Cyamopsis tetragonoloba*), Amaranthus (*Amaranthus Aristis*, Stem and leaves Pumpkin) (*Seninaasa companulustum*), Onion (*Allium cepe*), Chillis (), Agathi (*Sesbania grandiflora*), Moise (*Zeb Mays*), Plantain (*Muse sp.* leaf and fruits) grown with the effluent from the oxidation pond were examined, for the presence of bacterial pathogens and parasitic ova and cysts.

None were recovered. The specimens however showed the presence of large number of coliform bacteria. The type of the Coliforms isolated from the vegetable surfaces are given in the following table.

Coliform type.					Number of cultures.
1	<i>Klebsiella</i> serogenes Type-I	..	—		24
2	Irregular VI				21
3	Irregular II	.. —		— ..	2
4	<i>Citrobacter freundii</i> Type-I				2
Total					49

Of the 49 strains tested 45 belong to *Klebsiella* serotypes and Irregular VI types. The absence of *E. Coli* Type I may be regarded as significant. At the same time the presence of Irregular VI also seems to require further extensive investigation to assess its true sanitary significance.

While the studies carried out so far may appear to indicate the relative hygienic safety of sewage irrigation under the meteorological conditions of use, it has to be stated that these studies should include viruses also in order to estimate the hygienic hazard in sewage irrigation, with special reference to entero viruses.

CHEMICAL SECTION.

Fluorosis.—The results of the analysis of over 2,000 samples of ground water taken from all over the State in connection with the Rural Water Supply Schemes were received with special reference to the distribution of Fluorine in ground water, and the findings are summarised in the following table.

CHINGLEPUT DISTRICT.

	Taluk.	Fluorine in mg/l.
Chingleput ..		Less than 1.6
Kancheepuram ..		Do.
Madurantakam ..		Do.
Ponneri ..		Do.
Saidapet ..		Do.
Sriperumbudur ..		Do.
Tiruttani ..		Do.
Tiruvellore ..		1.6 1.8

COIMBATORE DISTRICT.

	Taluk.	Fluorine in mg/l.
Avanasi ..		1.6 1.8
Bhavani ..		1.6 2.4
Coimbatore ..		1.6 5.0
Dharapuram ..		1.6 3.6
Erode ..		2.0 2.4
Gobichettipalayam ..		1.6 2.4
Palladam ..		1.6 3.6
Pollachi ..		1.4 2.8

KANYAKUMARI DISTRICT.

	Taluk.	Fluorine in mg/l.
All taluks ..		Less than 1.6

MADURAI DISTRICT.

	Taluk.	Fluorine in mg/l.
Dindigul ..		1.6 3.2
Melur ..		1.8 3.2
Madurai ..		1.6 1.8
Nilakottai ..		1.6 1.8
Palani ..		1.6 2.0
Periakulam ..		1.6 3.6

NILGIRIS DISTRICT.

Taluk.

	Fluorine in mg/l.
All taluks ..	Less than 1.6

NORTH ARCOT DISTRICT.

Taluk.

	Fluorine in mg/l.
Arkonam ..	2.0
Arni ..	Less than 1.6
Chengam ..	Do.
Cheyyar ..	2.4
Gudiyattam ..	1.8
Polur ..	Less than 1.6
Tirupattur ..	1.6 2.0
Tiruvannamalai ..	Less than 1.6
Vaniyambadi ..	2.4
Vellore ..	3.2
Walajah ..	Less than 1.6
Wandiwash ..	Do.

RAMANATHAPURAM DISTRICT.

Taluk.

	Fluorine in mg/l.
Arupukottai ..	2.0 4.0
Mudukulathur ..	Less than 1.6
Paramakudi ..	2.2
Ramanathapuram ..	Less than 1.6
Sattur ..	1.6 3.2
Sivaganga ..	Less than 1.6
Srivilliputtur ..	1.8 2.8
Tirupattur ..	2.2 4.9
Tiruvadanai ..	Less than 1.6

SALEM DISTRICT.

Taluk.

	Fluorine in mg/l.
Attur ..	1.6
Dharmapuri ..	1.6 2.8
Harur ..	2.0 2.8
Hosur ..	1.8
Krishnagiri ..	1.6 2.4
Mettur ..	Less than 1.6
Namakkal ..	1.6 3.2
Omair ..	1.6 2.8
Salem ..	1.6 2.8
Sankari ..	2.0 3.6
Tiruchengode ..	1.6 3.2
Yercaud ..	Less than 1.6

SOUTH ARCOT DISTRICT.

Taluk.	Fluorine in mg/l.
Chidambaram	Less than 1.6
Cuddalore	Do.
Gingee	2.8
Kallakurichi	Less than 1.8
Tindivanam	Do.
Tirukkottur	Do.
Vriddachalam	Do.
Villupuram	Do.

THANJAVUR DISTRICT.

Taluk.	Fluorine in mg/l.
Arantangi	2.4
Kumbakonam	Less than 1.6
Mamargudi	Do.
Mayavaram	Do.
Nagapattinam	Do.
Nannilam	Do.
Orthanad	Do.
Papanasam	Do.
Pattukottai	Do.
Sirkali	Do.
Thanjavur	Do.
Tiruthuraiyudi	Do.

TIRUCHIRAPPALLI DISTRICT.

Taluk.	Fluorine in mg/l.
Karur	1.6 2.8
Kolathur	1.8 4.4
Kulathalai	1.6 4.8
Lalgudi	1.6 2.8
Musiri	1.8 2.0
Perambalur	1.6 2.4
Pudukottai	1.8
Tirumayan	1.8 2.0
Tiruchirappalli	Less than 1.6
Udayarpalayam	6.0

TIRUNELVELI DISTRICT.

Taluk.	Fluorine in mg/l.	Taluk.	Fluorine in mg/l.
Ambasamudram	1.8	Tenkasi	Less than 1.6
Koilpatti	1.8	Tiruchendur	1.8 2.2
Nanguneri	1.6	Sankarankoil	2.0 2.2
Tirunelveli	Less than 1.6	Srivaikundam	Less than 1.6

It will be seen from the tables that the districts of Nilgiris and Kanyakumari are practically free from fluorine bearing water, while Chingleput, South Arcot, Tanjore are almost free from such waters. The highest fluorine content of the samples taken from Tirunelveli district is within 2.2 ppm. The more markedly fluorine areas of the State lie in the districts of Coimbatore, Madurai, Ramanathapuram, Salem and Tiruchirappalli where the upper limit in the various taluks ranges between 2.0 and 6.0 mg/l. A very large number of the high fluorine containing samples have been taken from wells that are reported to have been in use as sources of drinking water for many years. The data collected show the imperative need for a detailed survey of the incidence and severity of Fluorosis in these localities, especially in view of the fact that the prevalence of skeletal manifestation in a large scale in these areas has not been reported.

Fluorine in food stuffs.—The studies on the fluorine content of the common food materials used in South India was continued. The object of this enquiry is to study the relationship of fluorine in food to the occurrence of dental caries and dental mottling as well as its relation to ground and surface water fluorine content.

Samples of the various food stuffs (cereals, vegetables) were weighed and dried at 103-105°C to constant weight. The percentage of moisture was obtained from the loss in weight on drying. Twenty ml. of fixative (Calcium oxide one per cent, Magnesium oxide one per cent, Manganese acetate 7.0 per cent) was added to the dried material, and the mixture evaporated to dryness on a water-bath. The residue after evaporation was ashed at 600°C for about four hours, cooled, and transferred to the fluorine distillation flask. One gramme of solid silver sulphate was added together with 20.0 ml. of 50 per cent H₂SO₄. The fluorine was then steam distilled at 140°-146°C at a rate of not less than three ml/min. The fluorine in the distillate was estimated colorimetrically by the Scott-Sanchez method using Alizarin Red S, and Zirconium Oxochloride. All the reagents used were previously tested for freedom from fluorine. The fluorine content of the samples was calculated and recorded as p.p.m. F. on the wet and dry basis.

The fluorine content of the samples tested are given in the Table below :—

Specimen.	F. mg/l dry basis.	Specimen.	F. mg/l dry basis.
Beet root	50.37 85.3	Potato with skin	3.03 3.7
Noleole	106.7 141.6	Snake gourd	6.22 15.93
Carrot	7.07 7.4	Rice	1.3 1.6
Raddish	10.06 12.05	Wheat	20.59 24.60
Sweet Potato	1.3 2.5	Mustard	10.67 12.01
Potato without skin	1.7	Coriander	4.22 7.74

SEWAGE AND INDUSTRIAL WASTES TREATMENT.

1. *A study of the oxidation pond method of purification of sewage.*—Within the last ten years, several oxidation ponds have been put into operation for treatment of domestic sewage. In Madras State also oxidation ponds have been designed and constructed for treatment of sewage from housing colonies, townships, institutions and sanatoria. A study of the functioning of two oxidation ponds are at M/s Bharat Heavy Electricals Ltd., Tiruverambur (near Tiruchirappalli) and another at The Indian Institute of Technology, Guindy (near Madras) was started during the report year.

(a) *Oxidation pond in the township of M/s Heavy Electricals, Tiruverambur.*—Domestic sewage from a population of 2,100 (3,78,000 liters/day) in the township is treated in this oxidation pond. The pond is 57.2 metres square and 1.2 metres deep. It has been designed for a B.O.D. loading of 1.00 lb/acre/day. The sewage is collected in a sump well and pumped into the pond through a pipe taken to the middle of the pond. The effluent from the pond is at present let into an irrigation channel. The Uyyakondan Channel and partly used in a three acre farm for irrigation.

The raw sewage is black in colour and has strong disagreeable odour. It shows a five day B.O.D. of 216/mg/l suspended solids 393 mg/l, total nitrogen 42 mg/l and PH 7.2. Dissolved oxygen was absent.

The effluent flowing from the oxidation pond is greenish in colour and has an algal smell. The effluent B.O.D. was 33 mg/l (13mg/l in the filtered sample), suspended solids 100 mg/l (volatile 70mg/l) total nitrogen 15.4 mg/l and pH 8.8. Trace of nitrites is present but nitrates are absent. The dissolved oxygen content shows a well marked diurnal variation with 8.4 mg/l in the midmorning sample.

The pond effluent contains a large number of algal forms. The predominant algae in the pond were species of *Eudorina* (66,600/ml), *Pandoria* (5,550/ml), *Pediastrum* (25,530/ml), *Scenedesmus* (3,330/ml), *Costerium* (2,220/ml), *Oscillatoria* (25,530/ml), *Merismopedia* (21,090/ml), *Synedra* (12,210/ml), *Navicula* (4,440/ml) and *Euglena* (14,430/ml). Ciliate protozoans (*Coleps* *Vorticella* and *Paramecium*) and the Crustaceans (*Daphnia* and *Filinia*) are also present in large numbers.

(b) *Oxidation pond in the Indian Institute of Technology, Guindy.*—In this pond sewage amounting to 11,34,000 litres per day from a population of about 4,500 is treated. The raw sewage is taken to a screening well from where it flows into a grit well and then to a suction well. From the suction well it is pumped to an elevated tank and distributed into the pond through a pipe taken to the middle of the pond. The pond proper is 123 metres square and 1.5 metres deep. It provides a detention of 25 days, and a B.O.D. loading of 150 lbs/acre/day.

The raw sewage is greyish-black in colour with a disagreeable odour. It has a five day B.O.D. of 226 mg/l suspended solids 130 mg/l, total nitrogen 25.2 mg/l and PH 7.1.

The pond effluent is greenish in colour due to the presence of a large number of algal organisms. The five day B.O.D. is 47 mg/l (17 mg/l in the filtered sample). There is no reduction in the suspended solids content. The total nitrogen content was 4.4 mg/l. Nitrate and nitrite nitrogen is absent. Dissolved oxygen is present in a supersaturation level (16 mg/l) in the midday sample. The sample was also alkaline in PH 8.4.

The algal organisms comprised chiefly of *Oscillatoria* (12,320/ml), *Anabena* (5,550/ml), *Coclospherium* (7,770/ml), *Merismopedia* (2,220/ml), *Cyclotella* (5,550/ml), *Scenedesmus* (5,550/ml). The Rotifer *Brachionus* was fairly intense (12,100/ml). The Crustacean present was *Filinia* (2,220/ml), *Coleps* were rather few.

2. *Industrial, waste Pollution of a drinking water well.*—The water supply to the Industrial Estate, Guindy, is taken from dug wells. During the course of the periodical examination of the water supply to the Estate in October 1964, it was seen that the water in one of the wells was greenish yellow in colour. On suspicion it was tested for Chromium and the chromium content was found to be 12 mg/l of which 7.7 mg/l was in the hexavalent form. Copper and Zinc were also present to the extent of 0.1 mg/l and 8.2 mg/l respectively. Immediately the water supply from this well was discontinued and a survey of the Estate Industries was carried out. It was then seen that in one metal industry situated close to the polluted well was pickling brass components in a bath of dichromate and sulphuric acid and the wash water was being discharged into a cutcha earthen drain running about 50 feet from the well. The effluent was stagnating in the cutcha drain.

The sample of stagnant drain water on examination showed the presence of Chromium to the extent of 192 mg/l, all in the hexavalent form. It was also highly acidic and with typical chromic acid colour. In addition, copper and zinc were present to the extent of 2.5 mg/l and 61.4 mg/l respectively.

The industry was immediately asked to stop pickling operations until satisfactory arrangements for the treatment of the effluent to make it innocuous was adopted.

Detailed bench scale trials were carried out for determining suitable methods of treatment for the metal pickling wastes, and for detoxicating the well.

Treatment of the hexavalent chromium in the wash water from the industry to reduce it to the trivalent state by the quantitative addition of ferrous sulphate followed by subsequent treatment with lime to raise the pH 8.0 to 8.5 was found satisfactory for precipitating and setting out the chromium salts and obtaining a treated effluent suitable for disposal.

The water in the well was also similarly treated and afterwards pumped to waste. However, after recouplement, it was found that the springs feeding the well carried toxic amount of chromium leached from the already contaminated soil, and the treatment had to be repeated several times. It is interesting to record that following heavy rainfall in the area, the ground water collected in the well showed a marked increase in chromium content from 1.1 mg/l to 3.0 mg/l due probably to more intensive soil leaching. This water is therefore pumped out, and disposed off into a nearby river at the time of the highest flood flow.

These investigations show clearly the importance of avoiding contamination of the soil with industrial wastes carrying toxic chemicals and the practical difficulties in detoxicating the area.

FIELD INVESTIGATIONS.

The following field investigations were carried out:—

1 Sugar Factory Waste at Pugalur.	Sri A. S. Hariharan, Assistant Water Analyst and Sri K. G. Veeraraghavan, Chief Water Analyst.	February 1964.
2 Atmospheric Pollution by Sulphuric dioxide at Kaduvetti.	Sri K. G. Veeraraghavan, Chief Water Analyst and Sri A. V. Varadarajan, Assistant Water Analyst.	February 1964.
3 Seepage water from the Lower Bhavani Dam.	Do.	January 1964.
4 Water and Air Pollution problem at Nellikuppam.	Sri K. G. Veeraraghavan, Chief Water Analyst and Sri A. S. Hariharan, Assistant Water Analyst.	March 1964.
5 Corrosivity of Stream Water in connection with the Kodayar Hydro-electric Project.	Sri S. Venkataraman, Assistant Water Analyst.	February 1964.
6 Pilot Water Supply Project, Vaniyambadi.	Sri K. G. Veeraraghavan, Chief Water Analyst.	September 1964.
7 Tannery Waste treatment and disposal at Neelanaickenpatti, Salem district.	Sri A. S. Hariharan, Assistant Water Analyst.	September 1964.
8 Bacteriological Studies on River and Canal waters in Thanjavur and Tiruchirappalli districts in connection with Cholera Epidemic.	Sri K. G. Veeraraghavan, Chief Water Analyst and Sri G. Swaminathan, Assistant Water Analyst.	August and September 1964.
9 Occurrence of Worms in Vellore Water Supply.	Sri K. Venkatakrishnan, Assistant Water Analyst.	September 1964.
10 Air Pollution Studies at Ennore, Madras.	Sri A. V. Varadarajan, Assistant Water Analyst and Sri K. G. Veeraraghavan, Chief Water Analyst.	May and November 1964.
11 Studies on Air and Water Pollution from Phosphate Fertilizer Factory at Panipat.	Do.	December 1964.

An account of these investigations and the findings will be given in the next report.

WATER AND SEWAGE PURIFICATION COMMITTEE.

The Committee met on 31st July 1964. The main subject discussed was that of the agency for chlorination of Municipal water supplies. It was resolved that the responsibility for indenting, stocking and issue of the chemicals required for the disinfection of the water supplies may be vested in the Municipal Engineer. It was also resolved that taking note of the fact that the Health Authority is specifically responsible for taking all required remarks for safeguarding public health and that chlorination of the water supply is a vital measure for health protection, the fixation of the dose of chlorine to be added, and changes in this as may become necessary may be done in consultation with the Health Officer and in accordance with the requirements.

for the safety of the health of the consumers. The Health Officers should be empowered to purchase and stock the disinfectants like Bleaching Powder needed for general sanitation purposes.

The Committee also considered the conclusions arrived at from the Research Studies on removing fluorine from drinking water carried out by the Water Analysis Department on a Pilot Plant scale at the Guntakkal Field Station, and resolved to recommend this method using Activated Alum impregnated paddy husk carbon for water treatment for Fluorine removal wherever local conditions and facilities are available.

Department of Water Analysis,
The King Institute, Guindy, Madras-32,
20th December 1965.

K. G. VEERARAGHAVAN,
Chief Water Analyst.

APPENDIX I.

TABLE I.
1964.

<i>Samples of water tested.</i>	
Samples for chemical examination from protected water supplies ..	3,286
Samples for bacteriological examination from protected water supplies ..	2,866
Samples for chemical examination from schemes under investigations ..	928
Samples for bacteriological examination from Government Institutions and other local bodies, etc.	531
Samples for bacteriological examination from Government Milk Scheme and Dairy.	56
Samples for bacteriological examination from the Experimental Filter Station, Kilpauk.	76
Samples for chemical examination from Government and local bodies ..	143
Samples for Fluorine Estimation from	32
Samples for odour and turbidity test	4,591
Samples for test for ferrous iron	844
Samples for bacteriological examination for special studies	153
Samples for chemical examination for Experimental Filter Station	156
Field investigations	195
Samples for bacteriological examination from Hospitals in Madras	626
Samples for chemical examination from rural water supply schemes	876
Total ..	15,363

TABLE II.

Government Experimental Filter Station, Kilpauk.

Samples for examination for biological growth	150
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TABLE III.

Non-domestic water samples, sewage and industrial wastes.

Full mineral analysis	230
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TABLE IV.

Aquatic Biology.

Samples of water for microscopical examination, Municipal supplies ..	329
Rural water supplies	120
Industrial wastes and sewage	56
Non-domestic water samples	64
Miscellaneous	179
Total ..	748

TABLE V.
Other Specimens Analyzed.

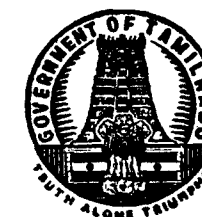
Bacteriological—									
Milk powder	..	..	..	..	..	..	..	..	16
Milk from Government Dairy	..	..	..	..	..	..	..	..	44
Utensil washings	..	..	..	..	..	..	..	..	18
Foods (for food poisoning)	..	..	..	..	..	..	..	..	3
Vibros	..	..	..	..	..	..	..	..	95
Salmonella-Shigella	..	..	..	..	..	..	..	..	32
Clostridium Welchii	..	..	..	..	..	..	..	..	18
Streptococcus fecalis	..	..	..	..	..	..	..	..	13
Sulphate reducing bacteria	..	..	..	..	..	..	..	..	64
Sulphur bacteria	..	..	..	..	..	..	..	..	6
Iron bacteria	..	..	..	..	..	..	..	..	4
Gelatine liquefiers	..	..	..	..	..	..	..	..	2
Micro-fungi	..	..	..	..	..	..	..	..	1
Coliform bacteria	..	..	..	..	..	..	..	..	3,520
B.T. 786 Culture for R.W. Test	..	..	..	..	..	..	..	..	57
Staphylococcus pyogenes aureus	..	..	..	..	..	..	..	..	4
Media—									
Nutrient gelatine—plates	..	..	..	..	..	..	..	..	25
Eosin Methylene blue—plates	..	..	..	..	..	..	..	..	50
Two per cent sewage Agar plates	..	..	..	..	..	..	..	..	25
Wilson and Blair-plates (for Welchii)	..	..	..	..	..	..	..	..	25
Ringer's solution—quarter strength	..	..	..	..	..	..	..	..	20 litres.
Mac Conkey broth for special work	..	..	..	..	..	..	..	..	27 "
0.5 per cent Kieselghur suspension	..	..	..	..	..	..	..	..	5 "
Starkey's medium (for sulphate reducers)	..	..	..	..	..	..	..	..	5 "
Meikle John's medium (for nitrifiers)	..	..	..	..	..	..	..	..	2 "
Percival medium (for nitrifiers)	..	..	..	..	..	..	..	..	2 "
Hay Infusion	..	..	..	..	..	..	..	..	1 "
Dushon and Miller Medium (for iron bacteria)	..	..	..	..	..	..	..	..	1 "
Leathern Mo. Intyre and Barley's medium for iron bacteria	..	..	..	..	..	..	..	..	1 "
Starkey's medium for Thiobacillus thioparus	..	..	..	..	..	..	..	..	1 "
Starkey's medium for Thiobacillus thiooxidans	..	..	..	..	..	..	..	..	1 "
Lemo broth	..	..	..	..	..	..	..	..	1 "
Bismuth sulphite medium	..	..	..	..	..	..	..	..	1 "
Molish enrichment medium (for chromatium)	..	..	..	..	..	..	..	..	500 ml.
Azide medium	..	..	..	..	..	..	..	..	500 "
Breggoff Stab medium	..	..	..	..	..	..	..	..	500 "
Benzaldehyde solution for Indole test	..	..	..	..	..	..	..	..	1,250 "
Methylene Red indicator solution	..	..	..	..	..	..	..	..	2,150 "
Number of sterilized sampling bottles specially prepared	..	..	..	..	..	..	..	..	5,550 "
Disinfectant for R. W. Test	..	..	..	..	..	..	..	..	36
Chemical—									
Bleaching powder for available chlorine	..	..	..	..	..	..	..	..	296
Poisonous metals	..	..	..	..	..	..	..	..	38
Urine for Fluorine	..	..	..	..	..	..	..	..	4
Alum	..	..	..	..	..	..	..	..	6
Winchester Quart bottles for sample collection	..	..	..	..	..	..	..	..	997

TABLE VI.

Statement showing the number of municipal and other water supplies under periodical analytical examination.

Serial number and name of places.	Total number of				Nature of source.			
	Places.	Sources.	Impounded reservoirs.	River or stream.	Inf. Gall. and well.			
					Tank.	Well.	Bed.	Bank.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Municipalities	50	71	14	11	2	6	25	13
2 Panchayat Boards and Townships.	26	34	4	15	1	4	4	6
3 Jails and Approved Schools.	14	18	1	1	1	8	5	2
4 Railway stations	25	26	1	3	Nil.	16	3	3
5 Hospitals	56	60	15	11	1	10	16	7
6 Other institutions	24	49	7	8	..	32	1	1
7 Swimming pools	1	1	..	..	..	1	..	..
Total	196							

	Filtration.					Chlorination.			
	Mechanics.					Bleaching powder.			
	S.F.P.	Pressure.	Gravity.	Inf. Gall and well.	Not filtered.	Automatic liquid.	Mech.	Hand.	Unchlorinated.
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1 Municipalities	4	2	8	28	19	34	3	34	Nil.
2 Panchayat Boards and Township.	4	Nil.	4	10	16	7	3	21	3
3 Jails and Approved Schools.	..	1	1	7	9	4	Nil.	14	Nil.
4 Railway stations	..	1	3	6	16	11	Nil.	14	Nil.
5 Hospitals	1	1	17	23	18	23	5	27	5
6 Other institutions	3	4	1	2	39	7	15	18	9
7 Swimming pools	..	1	..	..	..	1	..	..	..



EDUCATION AND PUBLIC HEALTH DEPARTMENT
(Health.)

G.O. No. 382, 1st March 1967

Administration Reports—Public Health Administration Report for 1964—Reviewed.

Read—the following papers :—

- From the Director of Public Health, letter R. No. 188824/VS/65, dated 25th/30th July 1965.
- From the Director of Public Health, letter R. No. 118824/VS/653, dated 9th October 1965.
- From the Director of Public Health, letter R. No. 11392/UN5/66-1, dated 29th March 1966.
- From the Director of Public Health, letter R. No. 70163/UN5/66-1, dated 7th May 1966.
- From the Drugs Controller, letter R.No. 273065/DI(6), dated 4th October 1966.

Order—No. 382, Health, dated 1st March 1967.

Recorded.

2. The registration of births and deaths was compulsory throughout the State except in certain backward areas and hilly tracts. The salient features of the vital statistical indices compiled for 1964 are the following:—

- (a) A slight increase in the birth rate from 25.7 in 1963 to 25.8 in 1964.
- (b) A fall in the death rate from 11.5 in 1963 to 11.0 in 1964.
- (c) An appreciable fall in the infant mortality rate from 80.7 in 1963 to 71.7 in 1964.
- (d) Except for a solitary cases of death, the State was completely free from plague.

3. *Communicable diseases control*.—(i) *Cholera*.—Ten thousand and twenty-seven attacks and 3,653 deaths were reported in the whole State. The districts of Kanyakumari and Nilgiris were free from infection.

(ii) *Dysentery and diarrhoea*.—The number of deaths recorded under this head in 1964 was 23,326 as against 26,049 in 1963.

(iii) *Enteric fever*.—There were 419 deaths under this head in all municipal areas and 59 deaths in Madras City.

(iv) *Smallpox and vaccination*.—There were 5,545 attacks and 1,423 deaths during the year.

Thirteen lakhs ninety-one thousand nine hundred and four primary vaccinations and 1,24,84,727 re-vaccinations were performed during the year as against 13,88,544 vaccinations and 1,38,74,493 re-vaccinations done during 1963.

(v) *Fever other than malaria*.—The total number of deaths under this head was 55,015 in 1964 as against 55,690 in 1963, showing a decrease in the year.

(vi) *Malaria*.—There were only 795 deaths during 1964 as against 873 in 1963. The performance of the National Malaria Eradication Programme in the State has been adjudged as best in the country and a model to follow. Several important personalities visited the State to study the working of the scheme.

(vii) *Filaria*.—Filarial control operations were continued by the department and adopted by many local bodies with the financial assistance from the Government.

(viii) *Respiratory diseases*.—There were 34,363 deaths during 1964 as against 34,267 in 1963.

(ix) *B.C.G. Vaccination Programme*.—Six lakhs, sixty-three thousand one hundred and thirteen persons were montoux tested and 1,93,526 persons were B.C.G.

(x) *Guinea worm*.—One hundred and ninety-one villages which were infected during 1963 became free from infection during 1964. Four thousand four hundred and sixty-four patients were detected and treated during the year as against 5,989 during 1963.

The three mobile epidemic units continued their useful work in arresting the spread of epidemic diseases.

4. *Health Services*—(i) *Maternity and Child Welfare*.—There were 2,811 Maternity and Child Welfare Centres functioning during 1964 as against 2,451 in 1963. Two thousand three hundred and nine Thais were trained during the Third Plan period to render skilled maternity services.

The UNICEF continued their supply of drugs, diet supplements for use in the Maternity and Child Health Centres.

(ii) *Industrial hygiene*.—The Health Officers inspected 1,184 out of 4,827 and 1,133 out of 4,628 factories during the first and second half of 1964 in their capacity as Additional Inspectors of Factories.

(iii) *Residential and industrial areas*.—Residential areas were notified by two municipalities and one panchayat in 1964. Industrial areas were notified by one municipality, three panchayat unions and six panchayats.

(iv) *Health Education*.—Health Education activities were carried on through pamphlets, posters, radio talks, etc., and by participation in exhibition.

(v) *Primary Health Centres*.—One hundred and forty-four Primary Health Centres were functioning with full complement of staff and 133 centres were recipients of UNICEF assistance.

(vi) *Oriental Training Centre, Poonamallee*.—The Oriental Training Centre, Poonamallee continued to impart orientation training to medical and para medical personnel and the technical staff of the Public Health Department.

5. *Food and nutrition*.—During the year, 22 family diet surveys and 13 institutional diet surveys were conducted by the department. The prevention of Food Adulteration Act was implemented in 365 local bodies against 253 in 1963. Out of 25,173 food samples taken for analysis of 6,695 were found adulterated.

6. *Environmental hygiene*.—eighteen municipalities are having in commission protected Water Supply Schemes and two municipalities are benefited with pilot water supply. Twenty-four major panchayats are provided with protected water supply. The progress in the execution of other water supply and drainage schemes was satisfactory.

(i) *Compost manufacture*.—Seventy-two Municipalities, 324 notified panchayats and 5 township committees besides the Corporation of Madras manufactured compost during the year estimated at over Rs. 4 lakhs.

(ii) *Town-Planning*.—Good progress was maintained by local bodies in executing their schemes.

7. *Chief Water Analyst Section*.—The activities of this branch included the following:

(a) Analysis of samples received under Rural Water Supply Scheme.

(b) Studies on the nature and characteristics of the wastes from industries discharged into the water courses with a view to evolve a suitable programme of population control.

(c) Air pollution studies.

(d) Studies in the distribution of fluorine in ground water, etc.

The total number of samples of water analysed during the year was 15,363 as against 10,356 samples during 1963. The samples examined included 6,162 samples drawn from protected water supplies 626 from Madras City Hospital supplies, 876 from Rural Water Supply Schemes.

8. *Food Analyst and Drug Analyst Sections*.—The total number of food and drug samples analysed in the laboratory during 1964 was 17,795 and 271 respectively as against 16,883 and 209 during 1963. Four thousand five hundred and ninety-three food samples were found adulterated.

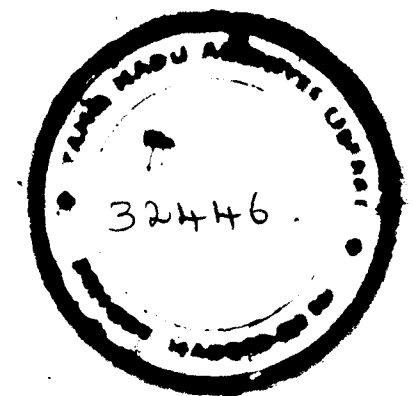
9. *General*.—The Public Health Board met twice during the year. The Public Health Administration, of this State during the year continued to be satisfactory.

(By order of the Governor)

S. KRISHNASWAMI,
Secretary to Government.

To the Director of Health Services and Family Planning, Madras-6.

„ Director of Stationery and Printing, Madras-1, (For distribution of copies with reference to the orders of distribution).



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