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CORPORATION OF MADRAS

HEALTH DEPARTMENT

ANNUAL REPORT

1953

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S. E. D. MASILAMANI, M.B.B.S., B.S.SC., D.P.H. (Lond.)

HEALTH OFFICER, CORPORATION OF MADRAS

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HEALTH OFFICER, CORPORATION OF MADRAS

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HEALTH DEPARTMENT

ANNUAL REPORT

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CORPORATION OF MADRAS

HEALTH DEPARTMENT

ANNUAL REPORT FOR 1953

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INTRODUCTION

I have the honour to present the annual report on the Health Administration of the City of Madras for 1953.

Population: The Director General of Health Services estimates the population of the city at mid-1953 as 15,42,259.

Birth-rate: The birth-rate for the year was 35.20 against 42.28 in 1952. The fall in birth-rate is in keeping with a similar trend in the State.

Death-rate: The death-rate in 1953 was 28.37 as compared to 29.03 in 1952.

Infantile mortality rate: The infant mortality rate was 180.28 in 1953 as compared with 163.82 in 1952. The rise in infant mortality rate appears to follow a similar feature noticeable in the State.

It has been our experience that reports of births and deaths received from the hospitals and nursing homes contain very meagre and incorrect details. Correct record of vital statistics is important in many respects and unless the authorities concerned furnish correct and full information, this will not be possible.

A high percentage of un-certified deaths has to be verified by the Medical Registrars and often their endeavours do not lead to sufficient information to get at the correct causes of deaths. Only in 22% of the total deaths in the city during the year, the causes of deaths were certified by hospitals, nursing homes and medical practitioners. It is, therefore, high time that certification of deaths is made compulsory in the city in which case alone it may be possible to get at the actual causes of deaths for purposes of the vital statistical records of the city.

Cholera was prevalent in the city during the second half of the year. 3,872 cases of cholera were reported in the city during the year and 811 cases from the Chingleput district were brought to the city for treatment in the Infectious Diseases Hospital at Tondiarpet. The incidence of cholera in the city during the year was heavier than that during any of the previous five years. Cholera was also prevalent in the State during the year. Owing to the large incidence of cholera in the city as well as in the surrounding areas, there was severe strain on our staff. The strain was particularly great on the ambulance service of the hospital due to the need for transporting cases from within as well as from outside the city. We are thankful to the Inspector General of Police for releasing one of the Fire Service ambulances for our use during this period. In addition to the severe strain on the administration due to this heavy incidence of cholera, the expenditure incurred on the transport of cases from outside the city to our hospital for isolation and treatment was very heavy. There is, therefore, urgent need for providing facilities within the Chingleput district itself for the isolation of infectious diseases cases and, until this is done, arrangements should be made by the District Board authorities to provide their own transport for removing their cases to our hospital at Tondiarpet.

Tuberculosis and Leprosy: Control measures against Tuberculosis were organised on planned basis with the opening of a Tuberculosis Clinic at Pulianthope in 1944. A hospital was opened later in 1948, in Otteri, for deserving cases attending the clinic. The service was further expanded by opening four more clinics in association with the State Government in the four State Hospitals in the city in 1950. Increasing attendance at these clinics indicates that the citizens have become more tuberculosis-

conscious. Control measures depend for their ultimate effectiveness on the adequate provision of facilities for hospitalization and satisfactory domiciliary treatment. It is, therefore, necessary to provide increased hospital facilities and effective domiciliary treatment. The present bed-strength in the Corporation Tuberculosis Hospital and in the Government Sanatorium at Tambaram is utterly inadequate to meet the demand and need.

The Medical Officers and Health Visitors of the Clinics visit the homes of those diagnosed as suffering from Tuberculosis and give them advice on the measures to be adopted for effective home isolation and proper care of patients and on the need for examining immediate contacts for detecting early cases of infection among them. This service should be expanded so as to include domiciliary treatment particularly to those who are unable to find beds in the hospitals and are on the waiting list. The cost of providing hospital facilities to all the patients needing them is prohibitive and cannot be met by the Corporation with its slender financial resources. As it would not be possible to immediately increase hospital facilities to meet the demand, the next best would be to expand the existing domiciliary service and include domiciliary treatment as well. Expenditure on such an expansion would be quite legitimate and less costly than that required for providing hospital facilities immediately to all those as may need them. This expansion, even on a limited scale, is much beyond the resources of the Corporation and will only be possible with outside help.

Control of leprosy in the city involves detailed survey, isolation of infective cases and prolonged treatment of the afflicted. The Medical Officers in charge of the two Corporation Leprosy Clinics undertake detailed survey work with the assistance of Health Visitors in parts of the city by stages, year after year, and give suitable treatment to the cases as out-patients. Infective cases have to be isolated and treated but, because of financial stringency, it has not been possible to provide a hospital for them. Only a very limited number of cases from the city could be afforded facilities of hospitalization at the Government Lady Willingdon Leprosy Sanatorium at Tirumani in the Chingleput district. The opening of a hospital is necessary and it will be possible only with assistance from without.

Health services: Health services continued to be the same as in the previous year. The free mobile dispensary put to service during the year in the outlying areas in the south of the city, which are beyond easy reach of regular dispensaries, has been much appreciated by the residents of these areas.

Conservancy: Conservancy was separated from the administrative control of this department and is placed under an Officer designated as the Conservancy Officer from 1-10-1953. As the Officer feels that his report for the year 1953 should find a place in the Administration Report of the Commissioner, it does not find a place in this report.

I thank the Commissioner for the help and assistance he has given to me during the year. I acknowledge with appreciation the good work done by my assistants and other members of the Health Staff.

MADRAS
2-9-54

S. E. D. MASILAMANI
M. B., B. S., B. S. SC., D. P. H. (LOND.)
Health Officer

FORWARDED

According to the report of the Health Department, the birth rate for the year was 35.2 per mille in 1953 against 42.28 in 1952. The death rate during the year under report was 28.37 per mille against 29.03 in the previous year. The number of births (excluding still-births) recorded during the year was 54,277. The infant mortality rate was 180.28 per 1,000 live-births against 163.82 in 1952. During the year, the maternal death rate was 2.78 per 1,000 live and still-births against 2.40 in the previous year.

Cholera was prevalent in the city during the second half of the year. In addition to 3,872 cases reported within the city, 811 cases from the outlying areas of Chingleput District were treated in the Infectious Diseases Hospital at Tondiarpet. The strain on the ambulance service was particularly heavy during the year as outside cases had to be removed in the Corporation vans to the hospital at Tondiarpet. Thanks to the Inspector General of Police, who was kind enough to place a Fire Services ambulance van at the disposal of the Corporation for removing cases to the hospital with the addition of which it was possible to cope with the situation. Preventive measures were tightened and the health staff was mobilised for the work. Accommodation at the hospital was increased and temporary additional staff was appointed to cope with the increase in admissions. In view of the strain caused on the health staff in attending to the heavy incidence of Cholera and the lack of accommodation in the hospital, it will be better if arrangements are made for providing facilities within the Chingleput District itself for the isolation of cases of infectious diseases occuring in the District Board area.

General health services were maintained at the same level as in previous years. The Mobile Medical Unit started during the year was highly beneficial to the poor people residing in the remote parts of the city who could not avail themselves of the free medical treatment given in the Corporation dispensaries. 22,475 children studying in Corporation schools were examined by the Corporation medical staff during the year. 8,281 children were found defective and in need of treatment. 3,143 children were found under-nourished. Sharkliver oil and Calcium Lactate were given to them with a view to improve their health.

Food control was intensified. Against 5,223 samples analysed in 1952, 6,166 samples were analysed during 1953.

In the interest of public health, the Corporation has been tackling the beggar problem, in its own way, in spite of its limited resources though it is the outcome of the economic condition of the people in the state. The Poor House, the Special Home, the Work House for able-bodied beggars, the Orphanage for vagrant children and the Homes for Homeless are rendering useful service in this direction. The Health and Recreation Centre (Ashok Vihar), the first of its kind in India, continued to exercise wholesome influence in improving the health, social and educational condition of the poor families residing in slums. Proposals are under consideration for reorganising it and extending its useful services to various parts of the city.

The question of relieving the Health Department of the responsibility for the conservancy of the city was engaging the attention of the Corporation for several years. The Council finally agreed to the proposal of separation of Conservancy from the Health Department during the year and the work connected with the conservancy of the city was trans-

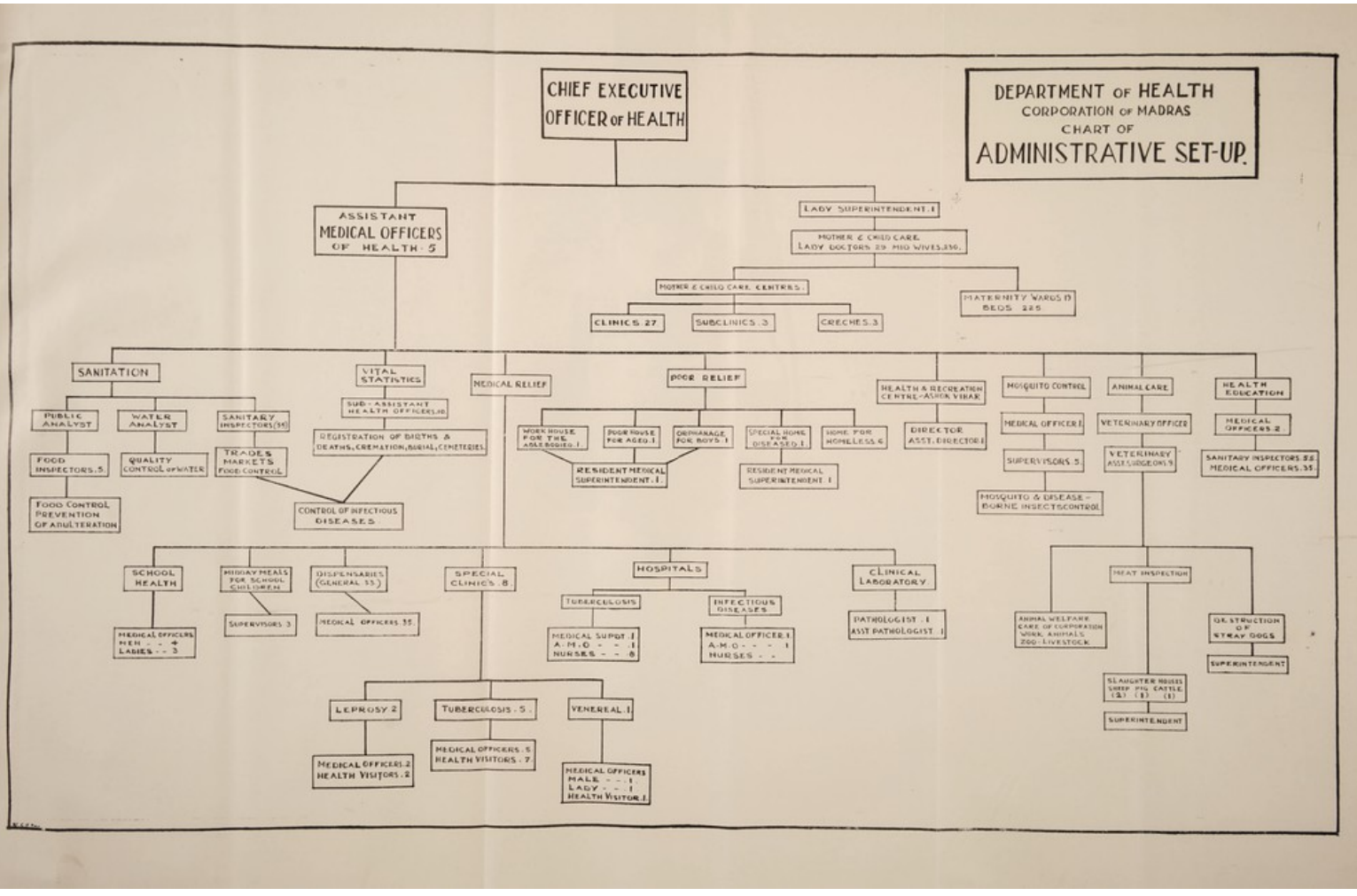
ferred from the control of the Health Officer to the Mechanical Engineer designated as the Conservancy Officer with effect from 1-8-1953. This separation of work, which was made as an experimental measure for one year, has been found to yield encouraging results. Proposals for the retention of the Conservancy Department permanently are under consideration.

The Child Welfare Scheme continued to render useful service to the expectant, confining and nursing mothers during the year. Serological testing of blood of ante-natal cases was started in two more centres viz. Pulianthope and Washermenpet Child Welfare Centres bringing the total number of centres conducting the blood tests to 6. 27 child welfare centres, 3 sub centres, 17 maternity wards with 218 beds and 3 creches were maintained under the Child Welfare Scheme at the end of the year. 64,473 infants, 35,991 toddlers, 67,811 nursing mothers and 36,185 expectant mothers were treated and advised. The total number of labour cases that came under the care and observation of the Corporation Child Welfare Scheme was 27,218 out of which 12,389 births were conducted in the Corporation Maternity Wards. In the three Family Planning Clinics at Choolai Maternity Home, Washermenpet and George Town Child Welfare Centres, advice to 227 multiparous women was given. Contraceptives were supplied in 86 cases.

Despite the prevalence of Cholera and the consequent threat to Public Health, there was no serious deterioration in the health of the city as a whole during the year. The Health Officer and his staff had to work vigorously owing to the prevalence of epidemics. I record my appreciation of the good work done by the Health Officer and his assistants and the Lady Superintendent, Child Welfare Scheme during the year.

Madras.
21-9-54.

V. N. SUBBARAYAN,
Commissioner.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MEDICAL SUPDT 1
A.M.O - 1
NURSES - 8
INFECTIOUS DISEASES
MEDICAL OFFICER 1
A.M.O - 1
NURSES -
CLINICAL LABORATORY
PATHOLOGIST 1
ASST PATHOLOGIST 1
MEAT INSPECTION
ANIMAL WELFARE CARE OF CORPORATION WORK ANIMALS ZOO - LIVESTOCK
SLAUGHTER HOUSES SHEEP PIG CATTLE (2) (1) (1)
SUPERINTENDENT
DESTRUCTION OF STRAY DOGS
SUPERINTENDENT

Summary

Area	...	31900·9920 Acres or 49·84 Sq. miles
Population as per census of 1951	...	14,16,056
Population estimated (Midyear) 1953	...	15,42,259
Average density per acre	...	48·35
Births excluding still-births	...	54,277
Birth-rate per 1000 of estimated population	...	35·20
Deaths excluding still births	...	43,753
Death-rate per 1000 of estimated population	...	28·37
Natural increase	...	10,524
Rate of natural increase per 1000 of estimated population	...	6·82
Still births	...	1,406
Still birth rate per 1000 births (live and still)	...	25·25
Infant deaths	...	9,785
Infantile death rate per 1000 live births	...	180·28
Maternal deaths	...	155
Maternal death rate per 1000 live and still births.		2·78

Deaths from principal causes

Principal causes		Deaths	Death rate per 1000 of estimated population
Cholera	...	602	0·39
Small-pox	...	96	0·06
Dysentery and Diarrhoea	...	6,191	4·01
Malaria	...	96	0·06
Enteric fever	...	186	0·12
Tuberculosis including tubercle of lungs	...	471	0·30
Respiratory diseases	...	10,010	6·49

Vital Statistics

Area :

The area of the city is 49·84 Sq. miles or 31900·9920 acres.

Meteorology :

Atmospheric conditions recorded during the year 1953 are furnished in Vital Statistics statement No. I in the appendix.

Rainfall :

There was a rainfall of 37·63 inches during the year against 42·21 inches of rain in the previous year, the average rainfall for the previous five years being 36·33 inches.

The rainfall recorded in the city during each quarter of the year compared with that of the previous year is furnished below :

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
1952 ...	0·79	16·74	6·49	18·19	42·21
1953 ...	1·42	0·82	10·01	25·38	37·63

Population :

The population of the city of Madras according to the census of 1951 was 14,16,056. The estimated mid-year population for 1953 was 15,42,259, the density being 48·35 per acre.

In calculating the rates, the estimated mid-year population has been adopted.

Registration of births and deaths

Registration of births and deaths has been compulsory in the city since 1st April 1868. Registration is being done in 30 registeration centres spread all over the city, by trained fulltime Registrars of births and deaths under the supervision of 10 Medical Officers. Births and deaths occurring in the hospitals, nursing homes, clinics and child welfare wards are reported by the respective authorities in the prescribed forms supplied to them. Births and deaths occurring in residences are reported by the concerned parties themselves at the respective registration centres. Vaccination Inspectors verify all births registered for the purpose of vaccination as soon as possible after a period of six months from birth. Some of the birth and death reports received from the hospitals, nursing homes etc. are still found to be defective, particulars about address, sex, age of parents, occupation etc. being inaccurate or insufficient and resulting in difficulty in tracing births and leading to complaints at the time of the issue of extracts of births and deaths. Every effort is being made by this department to obtain the correct particulars for purposes of registration.

During the year, the Health staff detected 201 unregistered births and deaths and registered them after warning the defaulters. 7 persons were prosecuted for failure to register births and deaths even after the issue of notices and personal warnings.

Birth and Birth rates :

The number of live births recorded during the year was 54,277 (27,828 boys and 26,449 girls) giving a birth rate of 35·20 per 1000 of estimated mid-year population as compared with the rate of 42·28 in 1952, the quinquennial average being 47·80.

The proportion of male births to female births was 105 : 100.

The number of live births and birth rates recorded in each division are given in V. S. statement No. II appended to the report. The number of live births recorded during each quarter of the year as compared with the figures for the previous two years is as follows :—

Quarter	Number of births recorded in			Percentage to total births recorded		
	1953	1952	1951	1953	1952	1951
1st Quarter ...	11,353	11,355	10,099	20·92	18·05	17·13
2nd ,, ...	12,225	13,834	14,170	22·52	21·98	24·03
3rd ,, ...	14,494	16,944	16,641	26·70	26·93	28·22
4th ,, ...	16,205	20,788	18,051	29·86	33·04	30·62
Total ...	54,277	62,921	58,961	100·00	100·00	100·00

It is usual for the largest number of births to be registered in the 4th quarter and the lowest in the 1st quarter every year. This is noticeable for the year under review. It will be seen from the above statement that there has been a fall in the number of births recorded during the 4th quarter of the year under report when compared to births in the same period in the previous two years.

The number of births and the birth rates among the principal communities were as follows :

Community	No. of births registered	Rate per 1000 of population (census) in each community
European.	23	15·00
Anglo-Indian	297	22·42
Indian Christian	2,450	25.68
Muslim	4,495	32·03
Hindu	47,000	40·67
Others	12	1·22
Total	54,277	35·20

Still births :

The number of still births registered during the year was 1,406 against 1,612 in 1952, giving a rate 25·25 per 1000 births (live and still) against 25·00 in the previous year. The average quinquennium rate was 28·10.

Deaths

43,753 deaths (excluding still births) were registered during the year against 43,207 deaths in the previous year. The presence of various hospitals, nursing homes and clinics attracts a larger number of patients from the mofussil parts for treatment and the deaths among them are registered in the city and taken into account for purposes of the vital statistics records of the city. Deaths occurring among cases of infectious diseases admitted from the Chingleput District are also registered in the city.

Calculated on the mid-year population, the death rate was 28·37 as compared with 29·03 in the preceding year, the quinquennial (1948–1952) average being 31·71.

The death rate recorded for the year under report is the lowest on record since the year 1943.

Year.	Death rate for 1000 of estimated population.
1943 ...	37·59
1944 ...	36·19
1945 ...	32·71
1946 ...	28·71
1947 ...	30·96
1948 ...	31·54
1949 ...	32·71
1950 ...	38·23
1951 ...	29·31
1952 ...	29·03
1953 ..	28·37

An excess of 10,524 births over deaths was recorded during the year. The rate of natural increase per 1,000 of estimated population was 6·82.

Number of deaths recorded during each quarter of the year was as follows :

Quarter.	No. of deaths registered.	Percentage to total deaths.
1st Quarter	10,612	24·25
2nd ,,	8,226	18·80
3rd ,,	10,744	24·56
4th ,,	14,171	32·39
Total ...	43,753	100.00

The number of deaths registered in each division with the death rates is furnished in V. S. Statement No. IV of the appendix.

The principal communities recorded the following deaths and death rates during the year:

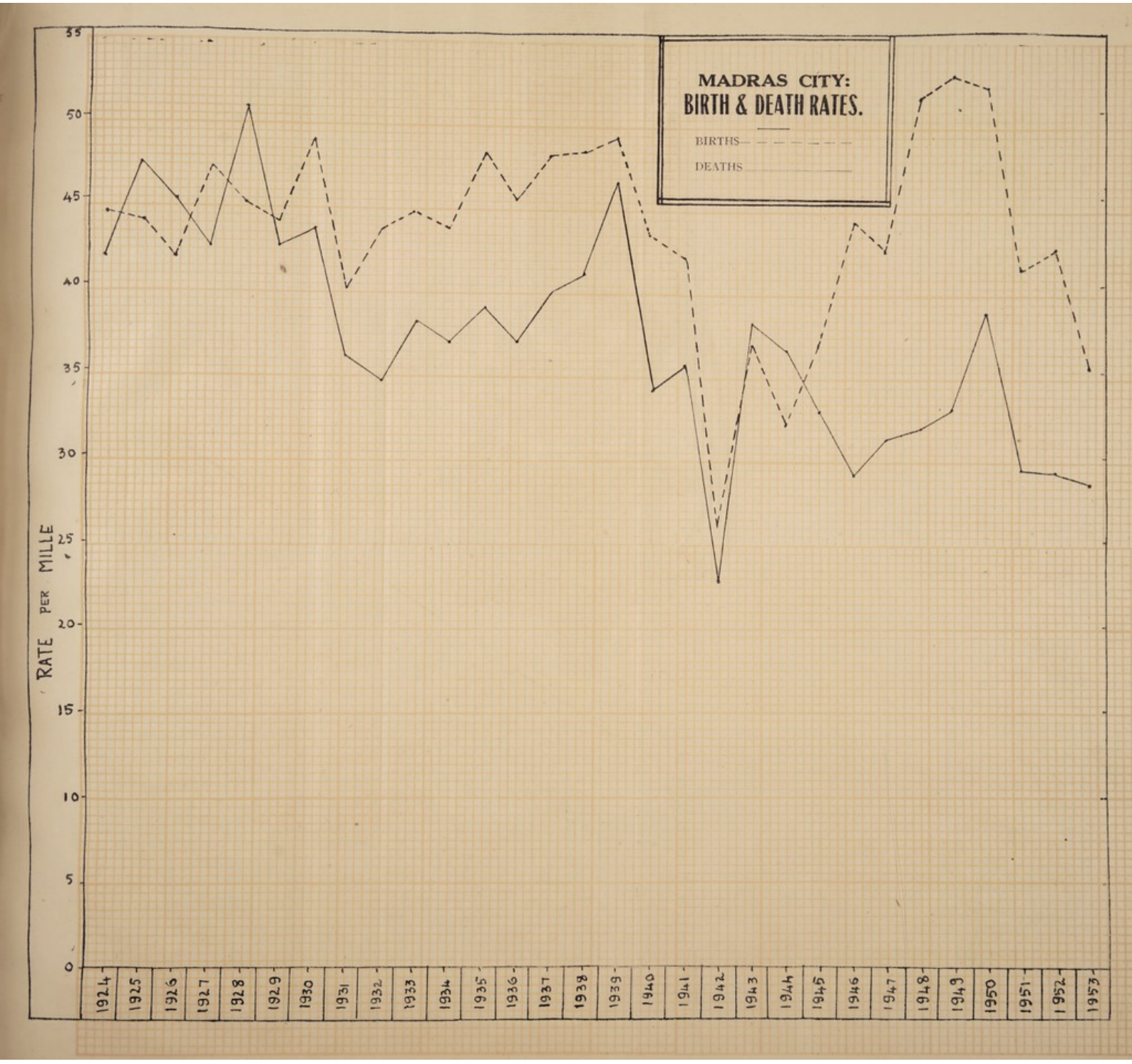
Community	Deaths	Rate per 1000 of census population in each community
European ...	10	6·52
Anglo-Indian ...	212	16·00
Indian Christian ...	1,906	20·00
Muslim ...	4,557	32·48
Hindu ...	37,060	32·07
Others ...	8	0·81
Total ...	43,753	28·37

V. S. Statement No. IX in the appendix furnishes the deaths and death rates among the principal communities in the city during the year as compared with the figures for the previous year.

Of the total deaths registered during the year, 22,396 deaths were among males and 21,357 deaths, among females. As usual, the male deaths predominated over female deaths, the ratio being 105 to 100.

Excess of deaths over births recorded in Dns. 9, 28 & 43 was due to deaths among non-residents in the hospitals in these divisions.

The specific death rate of males and females was 30·39 and 31·45 per mille respectively.


MADRAS CITY:
BIRTH & DEATH RATES.
BIRTHS
DEATHS
RATE PER MILLE
55
50
45
40
35
30
25
20
15
10
5
0
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953

RATE PER MILLE
0
5
10
15
20
25
30
35
40
45
50
55

The statement furnished below gives the number of deaths at the various age-periods and the percentage of deaths to the total mortality in each age-period :

Age period	No. of deaths	Percentage to total deaths
Under one year ...	9,785	22·4
1 to 5 years. ...	10,105	23·1
5 to 10 „ ...	2,156	4·9
10 to 15 „ ...	754	1·7
15 to 20 „ ...	841	1·9
20 to 30 „ ...	3,035	6·9
30 to 40 „ ...	3,023	6·9
40 to 50 „ ...	3,059	7·0
50 to 60 „ ...	3,285	7·6
60 years and above ...	7,710	17·6
Total ...	43,753	100·0

V. S. Statement No. VI of the appendix to the report gives the Number of deaths classified according to sex and age recorded in each of the divisions during the year.

Infant Mortality :

During the year 9,785 infant deaths were registered in the City giving an infant mortality rate of 180·28 against 10,308 infant deaths and a rate of 163·82 in the previous year. The quinquennial average rate was 166·54. The infant deaths accounted for 22·4 percent of the total deaths in 1953 against 23·85 per cent in 1952.

The average infant mortality rates recorded for the past five decades are furnished below :

Years	Average infant mortality rate
1903–1912 ...	296·4
1913–1922 ...	298·4
1923–1932 ...	258·6
1933–1942 ...	222·9
1943–1952 ...	195·7
1953 ...	180·3

It will be seen that the infant mortality rate has decreased progressively in the previous five decades. The infant mortality according to different age-periods under one year during the year was as follows :

Age-period	No. of infant deaths	Percentage to total infant deaths
Under 7 days ...	1,987	20·31
7 days and under one month	1,208	12·34
One month and under 6 months	3,368	34·42
6 months and under 1 year ...	3,222	32·93
Total ...	9,785	100·00

The principal causes of infant deaths under different age-periods are furnished in V. S. Statement No. XI appended to the report.

The infant mortality and the rates among the principal communities are furnished below :

Community	No. of births registered	No. of infant deaths	Mortality rate per 1000 live births registered
European ...	23	1	43·50
Anglo-Indian ...	297	33	111·11
Indian Christian ...	2,450	350	142·90
Muslim ...	4,495	1,031	229·40
Hindu	47,000	8,370	178·10
Others ...	12	—	—
Total ...	54,277	9,785	180·28

V. S. Statement No. VIII in the appendix gives in detail the number of infant deaths with rates according to months as compared with 1952. The number of infantile deaths registered in each division with the infant mortality rates is furnished in V. S. Statement No. IV in the appendix. High death rates occurred in divisions which are congested and contain the poorer classes.

Deaths from principal causes :

The table below furnishes the mortality figures with the death rates under the principal causes of deaths recorded in 1953 and 1952 and the average rates for the quinquennium (1948–1952).

Causes of deaths	No. of deaths in 1952	1953	Difference	Death rate per 1000 of population in 1952	1953	1948 to 1952
Cholera ...	182	709	+527	0·12	0·46	0·15
Smallpox ...	127	98	− 29	0·09	0·06	0·30
Enteric fever ...	276	215	− 61	0·19	0·14	0·19
Malaria ...	75	96	+ 21	0·05	0·06	0·06
Other fevers ...	3,823	4,684	+861	2·57	3·04	2·50
Dysentery and Diarrhoea.	6,614	6,191	−423	4·44	4·02	3·88
General Respiratory diseases.	10,137	10,010	−127	6·81	6·50	7·50
Tuberculosis including Tubercle of Lungs.	627	471	−156	0·42	0·31	0·62
Deaths from child birth	155	155	−	0·10	0·10	0·12

Compared with the previous year the mortality from the principal causes was less under the heads smallpox, enteric fever, dysentery and diarrhoea, respiratory disease and tuberculosis. It will also be seen that the death rates from the principal causes except under cholera and "other fevers" were less than the average rates for the quinquennium 1948–52.

Plague : The City continued to be free from plague.

Cholera :

The infection that was prevalent in the previous year during November and December, continued its incidence in January of the year under review and showed signs of abatement from February onwards and the city was practically free from cholera during the following months till August 1953.

Just about the second week of August of the year there was a sudden incidence of cholera in two hutting grounds in Saidapet. The infection was found to be imported. Cholera was then prevalent in the outlying areas surrounding the City.

Anticipating increased incidence in the City, all the usual control measures were adopted promptly. The local health staff was alerted and strengthened. A mobile ambulance unit was stationed in the infected area to give saline transfusion to severe cases immediately and then transfer them to the Infectious Diseases Hospital, Tondiarpet, for further care. The staff in the hospital and in the field was strengthened to the extent necessary to meet the situation. As Saidapet does not have the benefit of protected water supply to all its inhabitants, arrangements were immediately made to supply safe water to deficient localities through lorries and the wells in such areas were periodically chlorinated by a special staff appointed for the purpose.

The public were informed through the press of the prevalance of cholera and advised on the preventive measures to be taken.

During the subsequent three weeks, the incidence continued to be fairly high in this area and sporadic cases were reported from Triplicane and North Madras area. Precautionary measures were immediately adopted in these areas to prevent the spread of infection.

By the middle of September of the year, cholera was prevalent in an epidemic form on the borders of the City, particularly in Villiwakkam, Viriambakkam, and Tambaram within the jurisdiction of the Chingleput District. Many cases from these areas were removed to and treated at the Infectious Diseases Hospital. Increased incidence was noticed at this time in the city also. Preventive measures were tightened and the health staff was mobilised for preventive work. Accommodation at the hospital was increased by putting up temporary sheds on cement concrete platforms and additional staff was appointed to cope with the increased number of cases admitted in the hospital. The field staff also was augmented. Additional Sanitary Inspectors were appointed to intensify preventive measures in infected areas. Additional thozilalis and maistries for intensifying cleansing and to assist in the disinfection of infected houses and areas were also entertained. The drive against the sale of foods exposed to dust and flies was intensified and on an average about 2½ to 3 tons of unwholesome foodstuff were seized and destroyed every week. Preventive inoculation was also stepped up by diverting qualified Sanitary Inspectors among the vaccination staff as also the Medical Inspectors of schools to carry out inoculations in conjunction with other preventive staff wherever required. Ambulance service had to be augmented to meet the increased calls. The citizens were educated on the preventive measures by tom-tom, pamphlets, house to house visits etc. Inoculations against cholera continued to be compulsory in the city under section 76 (2) of the M. P. H. Act. Inoculations were also done after dusk, in hutting grounds, to reach those workmen who were not available during the day. Nearly 7 lakhs of persons were inoculated in the city. At our request the United States Information Services kindly loaned their mobile projection unit and it was used for exhibiting our film " Fight against Cholera " in the city. The traffic control van of the City Police Department was utilised for giving talks on preventive measures. The Government and the Director of Public Health were kept informed of the day to day situation of the incidence of cholera in the city. In all cases of imported infection, intimations were sent to the health authorities concerned for information and necessary action.

The statement below furnishes details of attacks and deaths from cholera registered during each month in the city and of cases from the adjoining district of Chingleput admitted in the Infectious Diseases Hospital:

Month	Attacks and deaths recorded in the City		Cases brought from the adjoining district of Chingleput	
	Attacks	Deaths	Attacks	Deaths
January ...	297	63	124	26
February ...	38	9	16	0
March ...	5	0	12	2
April ...	5	0	12	0
May ...	...	...	...	...
June ...	...	...	...	...
July ...	8	0	...	...
August ...	194	27	8	1
September ...	857	116	138	14
October ...	1,755	257	252	25
November ...	614	118	176	26
December ...	99	12	73	13
Total ..	3,872	602	811	107

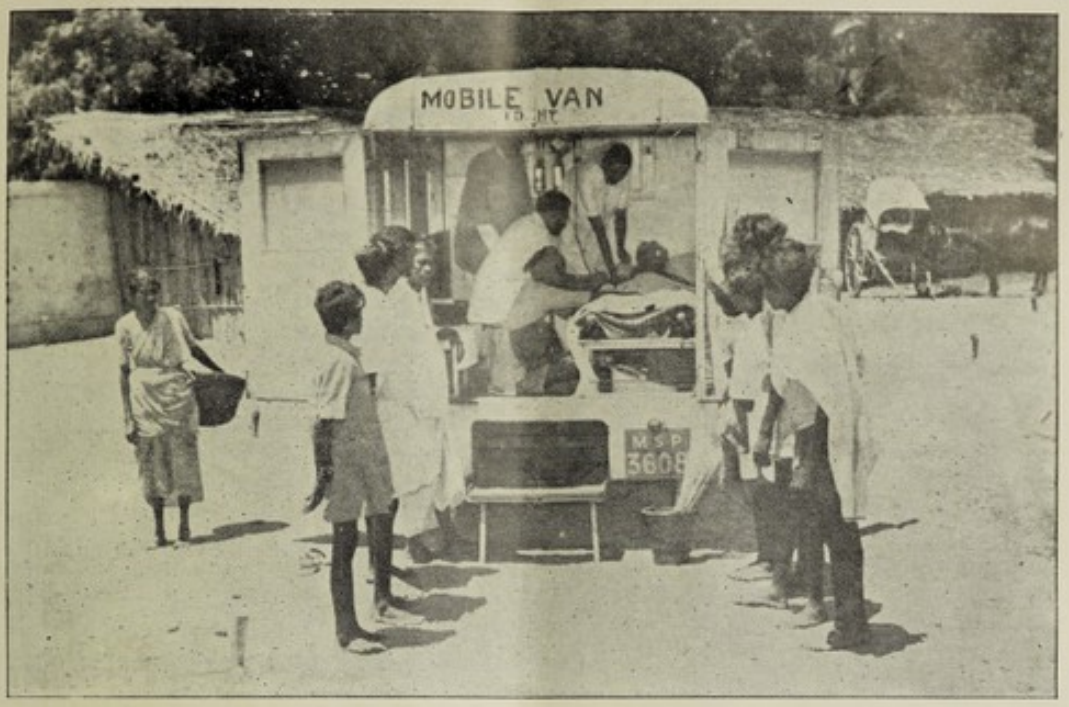
In all 3,872 attacks and 602 deaths from cholera were registered in th city during the year against 975 attacks and 160 deaths recorded in th previous year. The death rate calculated on the mid-year population was 0·39 against 0·11 in 1952, the quinquennial average rate being 0·13 for the city.

During the year about 1,200 cases were admitted to the Infectious Diseases Hospital, Tondiarpet, for suspected cholera from the adjoining district of Chingleput of which 811 cases proved positive. As stated previously, the incidence of cholera in the city always follows the usual trend in the state. When there is a heavy rush for admissions within the city much difficulty is felt in sending the ambulance to far off places outside the city for the removal of cases to the hospital in the city. Sometimes patients from outside seek admission into the hospital by using private conveyances and sometimes by public buses, while some walk the entire distance, thus spreading infection to others. This is also one of the causes for the spread of infection in the city. It is therefore once again stressed that the district health authorities and the Government might take immediate steps to make arrangements for the isolation of cases within the district in the interest of public health.

Smallpox:

The disease was prevalent in the city throughaut the year but in a sporadic form except in December 53 when the incidence was high. Attacks and deaths recorded in the city during each quarter of the year are furnished below:

Quarter	City		Cases admitted from the adjoining district of Chingleput for isolation and treatment	
	Attacks	Deaths	Attacks	Deaths
1st Quarter ...	128	22	5	1
2nd „ ...	103	16	1	0
3rd. „ ...	77	18	4	0
4th. „ ...	209	40	7	1
Total ...	517	96	17	2



Saline Transfusion for cases of Cholera - prior to transfer to Infectious Diseases Hospital

Medical Relief Work in outlying Villages

517 attacks and 96 deaths from smallpox were registered in the city with a death rate of 0·06 per mille of the estimated population as compared with 647 attacks and 122 deaths with a death rate of 0·08 per mille in the previous year, the quinquennial average rate being 0·30 per mille.

All cases notified or detected were immediately removed to the Infectious Diseases Hospital. The Sanitary Inspectors examined all the contacts daily till the end of the incubation period after carrying out necessary disinfection and revaccination in the infected houses and their surroundings. Intensive house to house inspections were made throughout the city for the vaccination and revaccination of un-protected childern and adults. Mass revaccination was also performed in all hutting grounds, slums, kuppams, markets, lodging houses, hostels, bazaars etc., with a view to deal with the incoming population. Vaccination was also done after dusk in hutting grounds, slums and other infected areas to get at the labouring classes Revaccination was conducted in public institutions, such as offices, firms, factories, companies, colleges, schools, banks and mills. Intimations were sent to the health authorities concerned in all cases of imported infection. The public were educated by press notifications and lectures in the infected areas and their surroundings about the prevalence of the disease and the precautionary measures to be taken to arrest the spread of the disease.

Vaccinations and revaccinations performed during the year are given in a separate report.

Measles :

During the year 148 cases of measles were reported and there was no death.

Typhiod or Enteric Fever :

Enteric fever was reported almost in all the divisions in the city during the year. There were in all 1,064 cases, of which 186 proved fatal as compared with 955 cases with 235 deaths in the previous year. The death rate calculated on the estimated mid-year population was 0·12 per mille against 0·16 in 1952, the quinquennial average rate being 0·16 per mille. Prompt preventive measures were adopted in all cases notified. Over 10,000 inoculations against typhoid were performed in the city during the year.

Under the provisions of the Madras Public Health Act, medical practitioners are required to give information of enteric cases of which they are cognizant. but the response from them still continues to be unsatisfactory.

Malaria :

96 deaths from malaria were registered in the city during the year against 75 deaths in the previous year. The death rate was 0·06 per mille as compared with 0·05 in 1952, the quiquennial average rate being 0·06. Malaria had caused only 0·2 per cent of the total deaths in the city.

Details of work done by the Anti-malarial staff are given in a separate report.

Kala-azar :

During the year 41 deaths from Kalaazar were registered in the city with a death rate of 0·03 per mille. Of these 41 deaths, 13 deaths were among patients admitted into the State hospitals for treatement from outside the city.

Other Fevers :

During the year 4,684 deaths from "Other Fevers" were registered in in the city with a death rate of 3·04 per mille as compared with 3,823 deaths

and a death rate of 2.57 in 1952. The quinquennial average rate was 2.50 per mille.

Dysentery and Diarrhoea:

6,191 deaths from dysentery and diarrhoea were registered in the city during the year against 6,614 deaths in the previous year. The death rate calculated on the estimated mid-year population was 4·04 against 4.44 in the previous year, the quiquennial average being 3·88 per mille.

Tuberculosis:

There were 471 deaths from this disease during the year with a death rate of 0·31 per mille as compared with 627 deaths with a death rate of 0·42 per mille in the previous year. The quiquennial average rate was 0·62.

Deaths from tuberculosis represent one per cent of the total mortality during the year. Cases notified were immediately referred to the Divisional Health Staff for taking necessary preventive measures. The staff attached to the various clinics visited the infected houses and instructed the patients and those living there about the need for effective home isolation and prevailed upon the contacts to get themselves examined and treated. Though tuberculosis is a notifiable disease under the Madras Public Health Act, notification by Medical Practitioners continued to be very poor.

Details of cases treated at the Corporation Tuberculosis Hospital and at the various clinics are furnished separately in the appendix.

Respiratory Diseases:

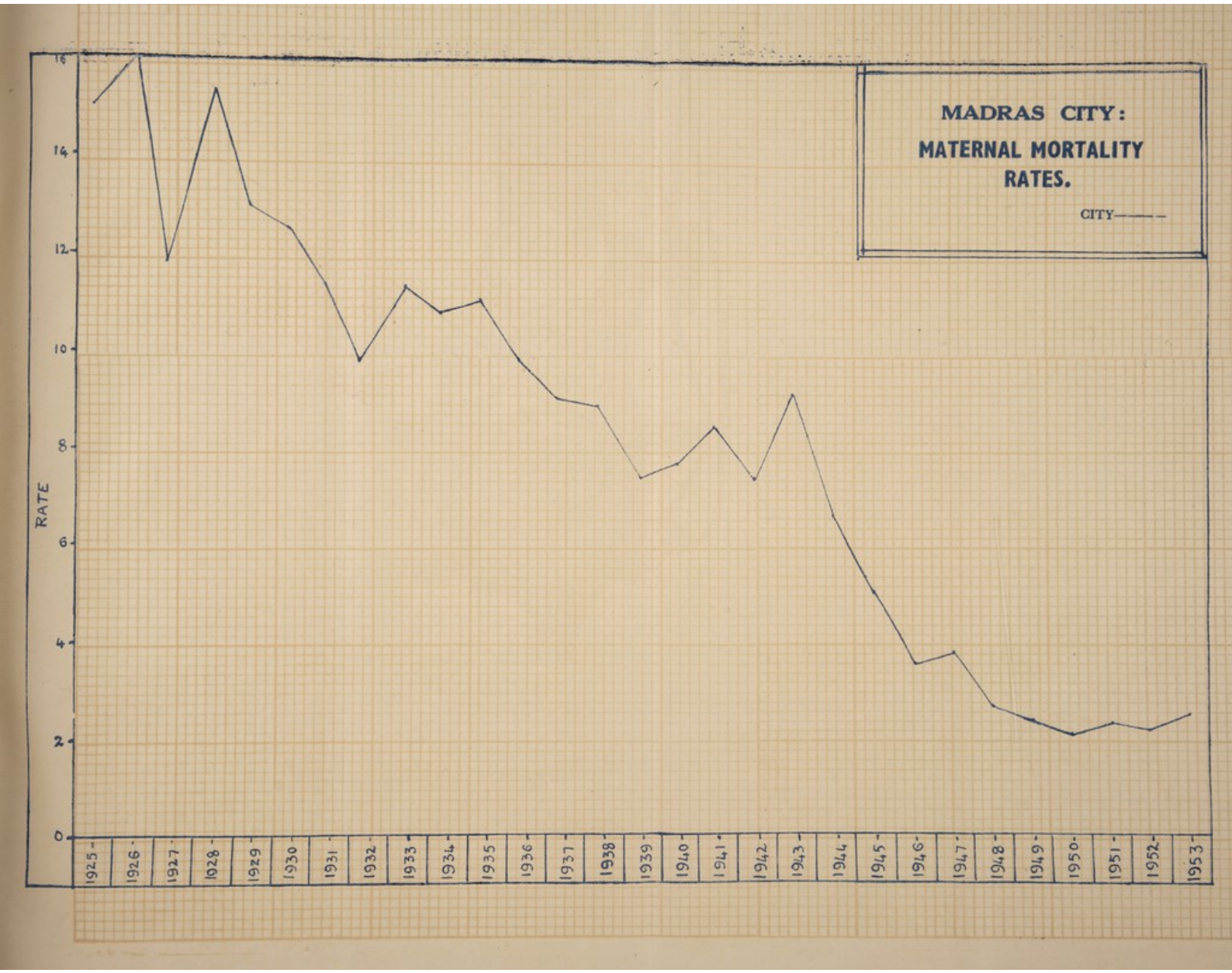
The number of deaths registered under this group of diseases totalled 10,010 in 1953 representing a rate of 6·50 per mille against 10,137 in 1952 with a rate of 6·81. The quinquennial average rate was 7·50 per mille. The death rate under this cause during the year is the lowest since 1947.

Maternal Mortality:

155 mothers died during the year as a result of child birth against the same number in the previous year. The respective maternal mortality rates were 2·78 and 2·40 per 1,000 births (live and still). The quinquennial average rate was 2·50.

The statement furnished below classifies maternal deaths according to age-periods and principal causes of deaths :

Causes of death	Under 20 Yrs	20 Years and under 30 years	30 years and under 40 years	40 years and above	Total deaths	Percentage to total deaths from child birth
Puerperal sepsis..	6	18	7	—	31	20.0
Abortion ..	3	10	2	1	16	10.3
Other accidents or diseases of pregnancy ..	17	53	29	9	108	69.7
Total ..	26	81	38	10	155	100.0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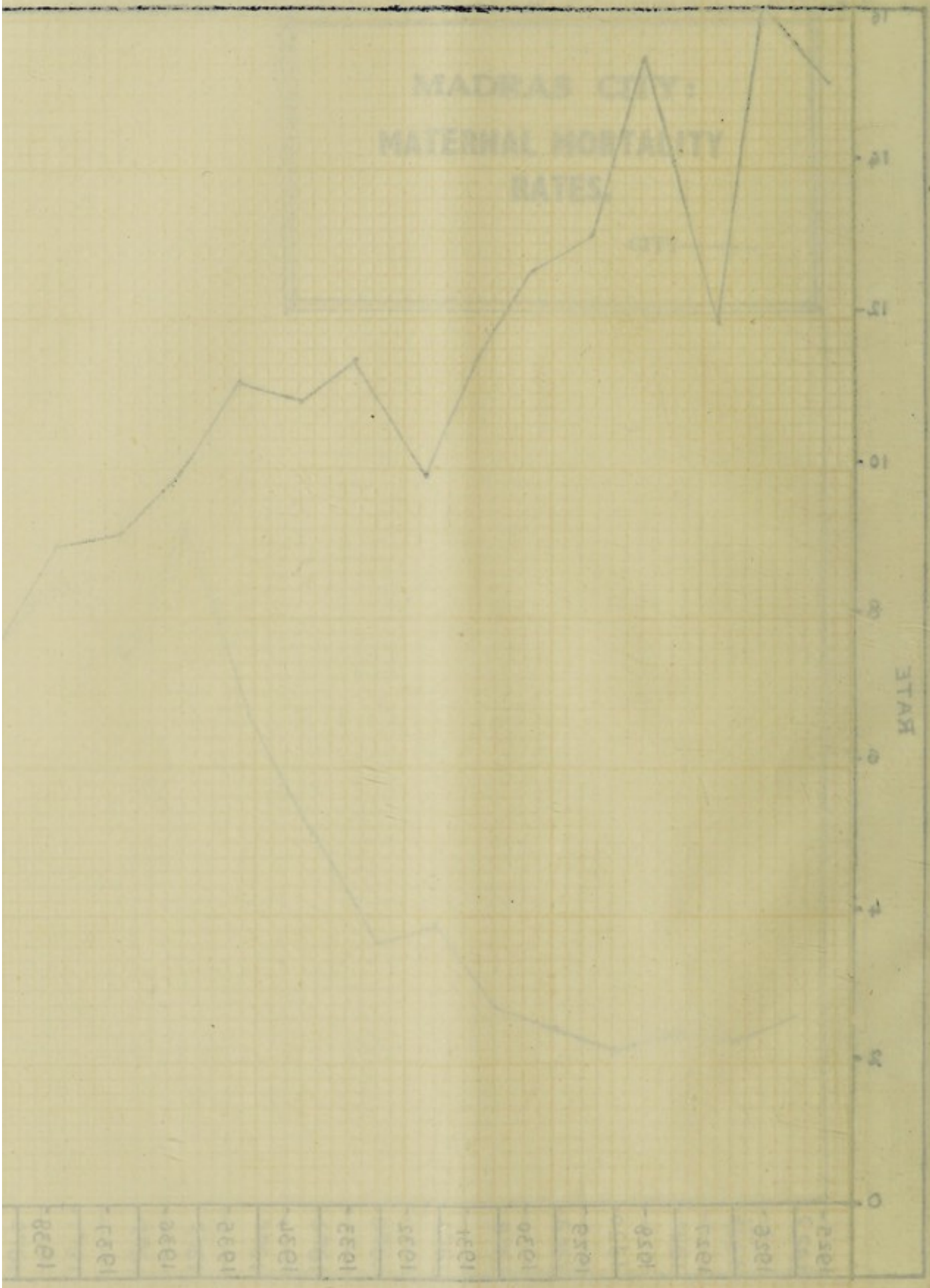
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VACCINATION

Vaccinations and Registration of Births and Deaths were under the immediate supervision of ten Medical Officers each in charge of five divisions with an aggregate staff of 80 vaccinators including 8 Lady vaccinators and 27 Birth and Death Registration clerks. The latter were also trained in vaccination work and performed vaccinations at the vaccination Depots whenever necessary during the absence of the vaccinators from the Depots. Vaccination was also made available at the Corporation Dispensaries and schools and at the Child Welfare Centres. Sanitary Inspectors helped in the vaccination of contacts of small pox cases and were responsible for the protection of those employed in licensable trades. Vaccinations and inoculations were also done at the Ripon Buildings between the hours of 11 A.M. and 5 P.M. on working days for the convenience of those who required them urgently during non-working hours of Vaccination Depots.

During the year, the vaccination staff contacted the parents of all babies born in the City and under one year of age for the purpose of compulsory vaccination under the By-laws framed under Section 349 (26) of the Madras City Municipal Act. By intensive house to house inspection, they were also able to detect 12,973 babies born in Moffusal and brought to the City without being vaccinated.

51,193 primary vaccinations were performed during the year against 52,518 primary vaccinations performed during the previous year. The success rate under primary vaccination during the year was 99.9%

2,22,504 revaccinations were performed during the year against 2,37,951 revaccinations in 1952. The success rate under revaccination was 5.2%

The fall in the number of vaccinations during the year was due to the diversion of most of the vaccination Inspectors who are qualified Sanitary Inspectors for preventive work against Cholera during September and October 1953.

The results of 42,540 primary vaccinations and 82,168 revaccinations were verified by Inspecting Officers during the year. The remaining cases were verified by the Vaccination Inspectors themselves.

239 persons were prosecuted under Section 349 (26) of the Madras City Municipal Act during the year for failure to get their children vaccinated and 53 persons for failure to get themselves revaccinated.

The vaccinal conditions of small pox cases recorded by the Health Staff are tabulated below:—

Age Periods	Vaccinated as evidenced by at least one mark		Not vaccinated and vaccinated during incubation period and said to have been vaccinated without marks		Case Fatality rate percent	
	Attacks	Deaths	Attacks	Deaths	Vaccinated	Unvaccinated
Under one year ...	...	...	34	20	...	59
1– 5 Years ...	10	1	54	24	10	44
5–10 „ ...	24	2	35	8	8	23
10–15 „ ...	21	2	16	6	10	37
15–20 „ ...	82	3	25	8	4	32
20–25 „ ...	52	3	6	3	6	50
25–30 „ ...	56	3	5	1	5	20
30–35 „ ...	29	2	7	2	7	28
35–40 „ ...	19	1	3	3	5	100
40–45 „ ...	16	...	1	...	...	...
45–50 „ ...	5	1	3	2	20	66
50 Years & above ...	10	1	4	2	10	50
Total ...	324	19	193	79	6	41

Students of the Sanitary Inspector course of the Madras Medical College and of the Government Stanley Medical College, Apprentice Physicians and Village Vaidya Trainees of the College of Indigenous Medicine, Kilpauk and the Students of the Christian Medical College, Vellore were given training in vaccination during the year.

MEDICAL RELIEF

General: There are 33 general dispensaries distributed throughout the city affording treatment for the minor ailments of the citizens. Of these, 25 are of the modern medicine and 8 of the indigenous system. 5 special clinics attend to cases of Tuberculosis, 2, to Leprosy and one, to Venereal diseases. The hospital in Tondiarpet attends to the treatment of Infectious diseases and that in Otteri, to Tuberculosis cases.

The Public Health Laboratory situated behind Ripon Buildings continued to record steady progress during the year. The Health and Recreation Centre completed its fifth year of useful service.

General Dispensaries: 22,93,076 prescriptions were dispensed during the year in the dispensaries. 12,349 minor operations were performed. The services of the Public Health Laboratory were utilised in diagnosing cases attending the dispensaries. Advanced cases which could not be treated at the dispensaries were advised to go to the State hospitals. Many of the outlying areas in the city are not within easily accessible distances from dispensaries and the poorer sections of the population in these areas could not avail themselves of the free medical facilities provided at the general dispensaries. With a view to afford free medical facilities to such residents, a scheme of service by a mobile unit was inaugurated in April 1953. The van was gifted by the "Motor Spare Parts Dealers' Association" and the unit is serving the needs of the citizens in the South Madras area. It visits three selected areas, each twice a week and affords facilities near the residences of the patients. Over 16,000 prescriptions were dispensed during the year.

SPECIAL CLINICS

Leprosy Clinics :

1. Besant Road, Triplicane.

   Started : 1934.

   Staff : 1 Medical Officer, 1 Health Visitor.

2. Hope Lodge, Vyasarpady.

   Started in 1931 as part of the general dispensary and organised as separate Unit in 1949.

   Staff : 1 Medical Officer, 1 Health Visitor.

The two leprosy clinics continued to function in the City pursuant to the Anti-Leprosy Scheme.

During the year, the clinics registered a total attendance of 59,283 inclusive of 14,651 new cases of skin and leprosy. Of these, 1,695 were new cases of leprosy. 331 cases representing 19·5 % were infective. 25,358 injections for cases of leprosy and 1,602 for skin cases were given. The average monthly attendance at the clinics was 5,000.

Many of the cases were detected during the regular survey work carried out by the staff. The Medical Officers carry out the survey work with the assistance of the Health Visitors. The Health Visitors contact the irregular patients in their homes and impress on them the need for sustained and regular treatment.

In the case of school children detected to be suffering from leprosy, arrangements were continued for their conveyance to and from the respective clinics and for giving them suitable treatment. In this respect, close co-operation is maintained between the School Medical Service and the Medical Officers in charge of the clinics.

With increased case-finding through survey work, it is found necessary to provide for the segregation of infective cases and especially more so in respect of children and infants, from their parents who are diagnosed as infective. The proposal for the establishment of a Leprosorium for such segregation has not yet materialised. In its absence, the provision of 36 beds in the Government Sanatorium at Tirumani was continued during the year on payment of a capitation charge of Rs. 50 per month per bed so utilised.

Sulphones (D.D.S. Orally), recognised as definite advance in the treatment of leprosy, are administered with advantage to most of the lepromatous cases and a few selected neural cases. Hydrocarpus oil and esters subcutaneously and intradermally in adequate dose is administered to the other cases.

Venereal Clinic :

Established : 1924.

Location : 82–83A, Strahans Road, Perambur.

Staff :

Medical Officers...	Male	1
	Lady	1
Health Visitor ...		1

The clinic is located amidst the industrial population of the Loco Workshop, B. & C. Mills etc. There are two sections, one for men and the other for women and children. A Lady Medical Officer is in charge of the women's section.

3,375 new cases comprising of 2,138 males 1,081 females and 156 children were treated at the clinic. The daily average attendance was 45·54. 1,262 specimens of blood were tested serologically at the Public Health Laboratory and 62 by dark-ground illumination. 895 smears of white discharge were examined for Gonorrhoea. 17 minor operations were done.

The classified details of the diseases treated were as below :

Diseases	Males	Females	Children	Total
Syphilis ...	239	301	45	585
Gonorrhoea ...	496	235	14	745
Chancroid ...	862	...	...	862
Bubo ...	57	4	...	61
Non-Venereal genital lesions ...	484	541	97	1,122
Total ...	2,138	1,081	156	3,375

Syphilis : Each adult patient got a total dosage of 4·8 million units of P.A.M. distributed in 8 doses of 0·6 millions units daily by subcutaneous injections. The dosage in the case of children was slightly varied according to their ages.

31 men and 68 women were available for serological test after treatment. Of these 7 men and 19 women showed negative reactions, 8 men and 15 women showed either doubtful or partially positive reaction and the rest proved still positive.

178 couples were serologically examined and 59 proved positive.

Gonorrhoea : 496 men, 235 women and 14 children were treated with penicillin successfully.

Chancroid cases were treated with clean dressing and cibazol.

The Health Visitor attached to the clinic visited the homes of 651 cases and contacted 408 cases. 114 of these cases responded by continuing the treatment regularly.

Major and Mrs. Senaputra of the Salvation Army visited the clinic at intervals and talked to the patients on the need for taking regular treatment.

TUBERCULOSIS CONTROL

1. Pulianthope High Road : Estd. 1946.

   Staff : 2 Medical Officers, 1 Health visitor.

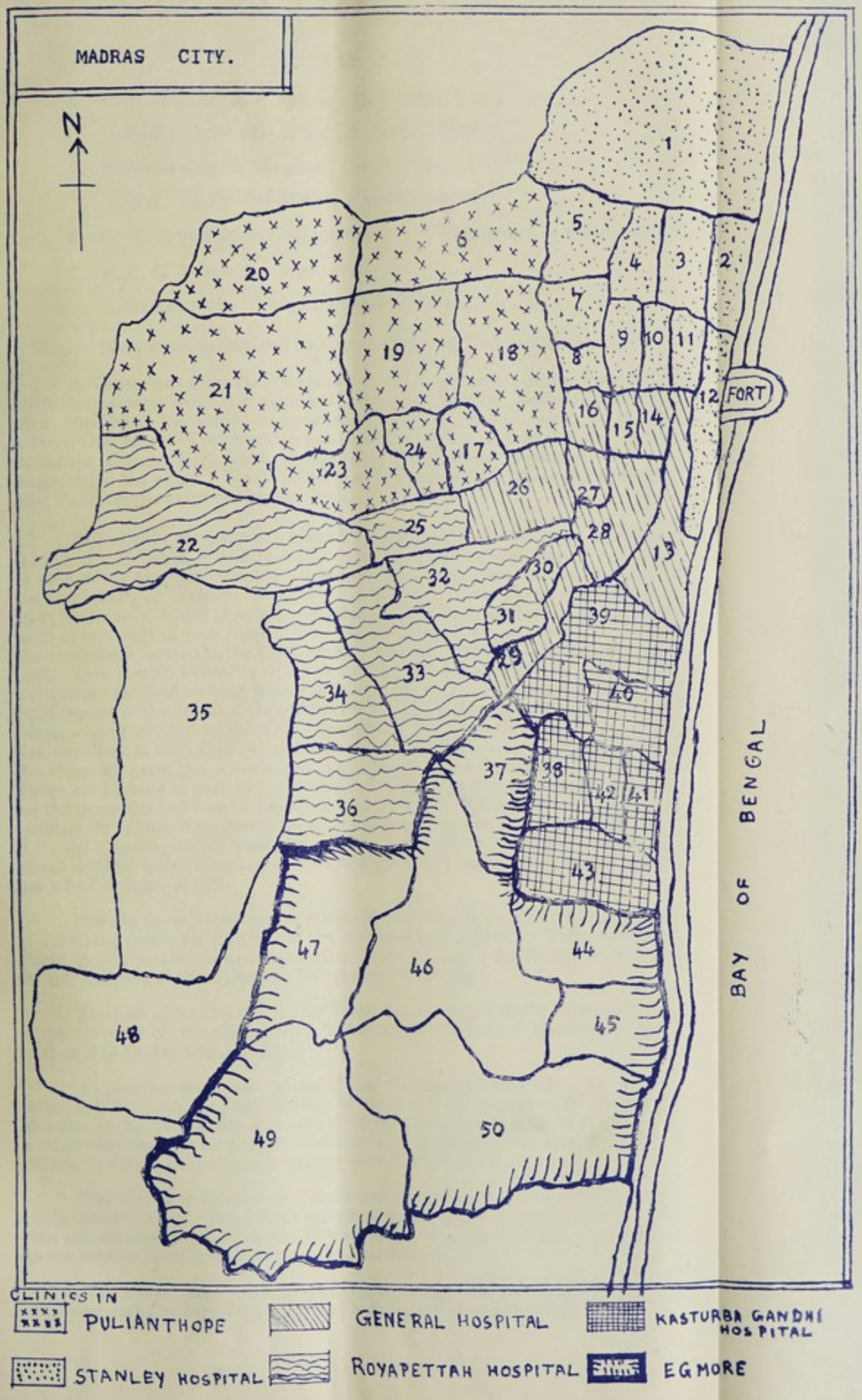
2. Govt. Stanley Hospital : Estd. 1950.

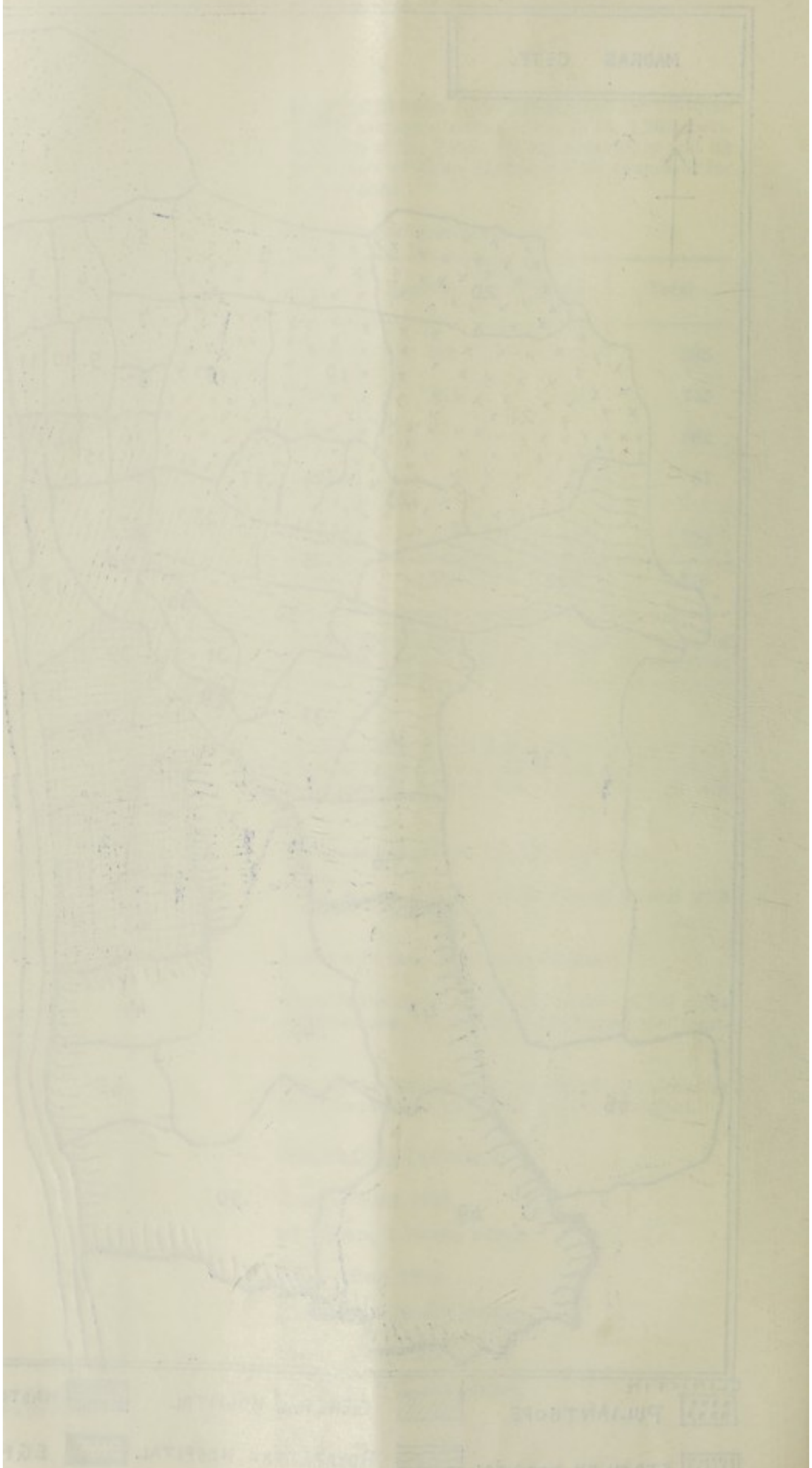
   Staff : 1 Medical Officer, 2 Health visitors.

3. Govt. General Hospital : Estd. 1950.

   Staff : 1 Medical Officer, 2 Health visitors.

Control areas of Tuberculosis Clinics





4. Govt. Royapettah Hospital : Estd. 1950.

Staff : 1 Medical Officer, 1 Health visitor.

5. Kasturba Gandhi Hospital : Estd. 1950.

Staff : 1 Medical Officer, 1 Health visitor.

6. Govt. Tuberculosis Institute Egmore : Maintained by Government.

7. B. C. G. Teams 3 : Estd. 1949.

Staff in each : 1 Medical Officer, 1 Nurse.

(One Team maintained by Corporation and Two by Government).

A Tuberclosis Clinic is maintained by the Corporation in the Pulianthope High Road since 1946. It is equipped with a Laboratory, X-Ray facilities etc., with complete diagnostic appurtenances and is staffed with 2 Medical officers, One Health Visitor and other ancillary staff. A hospital was opened in 1948 in Konnur High Road for affording institutional treatment for cases diagnosed at the clinic. The Hospital is fully equipped for treatment of Pulmonary Tuberculosis cases on modern lines.

With the implementation of the Tuberculosis Control Scheme sanctioned in G.O. No. 809 P.H., dated 14-3-1950, four more clinics were started in the city in 1950 as the first step under the Scheme. The clinics are located, one each in the Govt. Stanley Hospital, Govt. General Hospital, Govt. Royapettah Hospital and Kasturba Gandhi Hospital. A Medical Officer qualified in Tuberculosis work is in charge of each clinic. Two Health Visitors are attached to each of the two clinics located in the Govt. Stanley Hospital and the Govt. General Hospital. One Health Visitor is attached to each of the two clinics in the Govt. Royapettah Hospital and the Kasturba Gandhi Hospital. The expenditure on the employment of the Medical Officer and the Health Visitors is borne by the Corporation while Government meet the expenditure on the employment of one Nurse and one Clerk in each clinic as also the cost of medicines etc. House Surgeons in the Hospitals assist the normal staff in the clinics in the discharge of their duties. There are 18 beds in each of the clinics in the General and Royapettah Hospitals for the reception and care of emergent cases. All the clinics are provided with facilities for routine diagnosis of chest ailments and for special treatment like A.P., P.P., etc. Arrangements have been made for the admission of cases from these clinics needing hospitalisation in the Sanatorium in Tambaram which at present has a bed strength of 529.

Besides these, Government maintain an institute in Egmore which serves as a training centre for students in the post graduate course in Tuberculosis and Public Health as also for undergraduates in Medicine, for the Health Visitors and for the students of the College of Indigenous Medicine.

The four clinics located in the State hospitals are under the supervision of the Director of the Government Tuberculosis Institute at Egmore in regard to their day to-day administration.

As another important phase of the Control of Tuberculosis in the city, three B.G.G. teams are functioning in the city, two sponsored by Goverment and one by the Corporation and each of them is manned by a Medical Officer and a nurse who carry on an intensive field work in controlling the spread of Tuberculosis by vaccinating the susceptibles with BCG Vaccine.

The city is divided into 6 zones and each zone is placed in charge of the clinic located in it. The clinics attend to all the cases resident in their respective control zones and patients resident outside their control zones are directed to the concerned clinic for diagnosis and treatment.

The clinics have been registering a steady increase in attendance year after year and this can only be ascribed to the growing swareness among the public

of the need for the early diagnosis and treatment of this fell disease. Every positive case diagnosed at a clinic is notified to the respective sanitary staff to facilitate the observance of preventive measures at the residences of the patients and their neighbourhood.

The Medical Officers and Health Visitors in each zone visit the houses of open cases and give necessary advice and guidance to the contacts in regard to the isolation of the cases, and the mode of disposing of the sputum. Receptacles for the collection of sputum and disinfectants are supplied free to them.

The provision of easy facilities for the segregation of chronic open cases is an absolute necessity in the city especially in view of the low economic condition of the massess. With a view to meet this need, the city Tuberculosis Association has sponsored a scheme for building a hospital to accommodate 200 patients and intends to collect contributions from large employers of labour and philanthropists, for this purpose. The Corporation is making arrangements for the purchase of a plot of about 2 to 3 acres adjoining the Tuberculosis Hospital.

Cases needing advice on family planning were directed to the Women and Children's Hospital where a family planning clinic is functioning.

211 Pulmonary Tuberculosis cases were admitted in the Emergency Wards attached to the Govt. Royapettah Hospital and 563 emergency cases, in the wards attached to the General Hospital. 5 cases were admitted in the Thiruvotteeswarar Tuberculosis Hospital as an emergency measure.

Detailed statistical report on the work in the six Tuberculosis diagnostic centres in the city are furnished in the Appendix. A brief resume is however given below :

40,750 patients were examined. Of them, 10,327 were diagnosed as pulmonary Tuberculosis and 871 as non-pulmonary Tuberculosis. 348 Artificial Pneumothorax initials and 335 Pneumoperitorium were given. The Health visitors attached to the clinics paid 11,293 visits to the homes of open cases and the medical officers, 2,167 visits. 8,853 contacts were examined and 543 among them were found to be Pulmonary Tuberculosis cases.

BCG Vaccination Work : Since 1949, two teams sponsored by the State Government and one, sponsored by the Corporation, each consisting of one Medical Officer, one Nurse and one Clerk continued to function in the city.

All the contacts of the patients attending the clinics were tuberculin-tested and the susceptables among them, BCG vaccinated. The children studying in the Corporation schools were tested with the consent of the parents and the negative reactors BCG vaccinated. In addition, the teams continued to test medical students, pupil nurses and the other staff in the Hospitals in the city. With the cooperation and help of the World University Service, tuberculin testing of college students was carried out and mass Radiography of the Students of the Women's Christian College, Loyola College etc., was also carried out. All the negative reactors were BCG vaccinated. A classified statement of the work is appended. The two teams sponsored by Government participated in the All India Khadi Swadesi and Industrial Exhibition in 1953–1954 and in the Exhibition in the Government Medical College in September 1953. Educational literature was distributed to the visitors and BCG vaccination given to those exhibiting negative reaction to Manteux test. Special feature broadcasts on BCG were made in English, Tamil and Telugu.

The BCG day was celebrated on 21–2–53 as part of the "All India BCG Day" by press publicity, a press conference by the State Minister of Health and by a public meeting in the evening in the Madras Medical College in which, the Director of Medical Services, Dr. Karl Ewang, Director General of Health Services, Norway, then in Madras as the Vice-Chairman of a World Health Organisation Visiting Medical Team and others participated.

During the year 29 938 tuberculin tests were made and 8,103 of the nagative reactors were BCG vaccinated.

Mass Radiography : Mass Radiography as an aid in the diagnosis of Tuberculosis has been continued to be used in the city among the following groups viz—orphanages, schools, Colleges, contacts of Tuberculosis cases and police personnel, totalling in all 21,544 persons, of whom 0·86% have been detected to be suffering from Pulmonary Tuberculosis. Necessary action has been taken to treat them at the respective clinics.

HOSPITALS

Infectious Diseases Hospital, Thiruvothiyur High Road, Tondiarpet

(Telephone No. 3117)

There were 326 cases in the hospital at the commencement of the year. 11,478 patients from the city and 1,297 from the mofussil were admitted in the hospital during the year. 10,949 were discharged. There were 1,913 deaths. 239 patients remained in the hospital at the end of the year.

Cholera : There were 220 patients in the hospital at the beginning of the year. 3,865 patients from the city and 811 from the mofussil were admitted in the hospital during the year. 4,175 were discharged. 709 died. The mortality was 14%

Smallpox : There were 17 patients in the beginning of the year. 511 from the city and 17 from the mofussil were admitted during the year. 345 were discharged and 94 died. The mortality was 17%.

General : There was an unusually heavy incidence of cholera in the city and the suburbs during the latter half of the year and it was only during the closing stages of the year that the epidemic took a definite down-ward trend. There were heavy admissions and temporary sheds were put up in batches to cope up with the demand for increased accommodation for the patients. Ambulance service was also strengthened to the extent necessary.

For the first time, a filed ambulance equipped with first aid requirements for saline infusion was put in operation for cases coming from the far off southern areas of the city. Patients needing such services were given saline infusion on the spot before removal to the hospital. Such a measure helped many from utter collapse.

The Corporation Sri Tiruvotteeswarar Tuberculosis Hospital :

Started	...	1947
Location	...	Konnur High Road, Madras-12.

The hospital is in its sixth year and has continued to progress in all directions. A Medical Superintendent is in charge, assisted by an assistant. Both are specialised in Tuberculosis. The nursing staff consists of one Ward Sister and seven Nurses.

The hospital has provision for 64 beds (62 for in-patients and two for Emergency cases) and steps are being taken to provide another 16 beds. It is expected that necessary additions to the buildings will be completed in 1954.

The Hospital is well-equipped with a Laboratory, an operation theatre, a X-Ray plant and other clinical appurtenances to treat patients on modern lines. Hospitalisation, diet, and X-Ray are free to indigent patients in the General Wards but patients in the Special wards have to pay stoppage charges according to the prescribed schedule.

Admission to the Hospital is restricted to suitable cases attending the Corporation Tuberculosis Clinic, Pulianthope High Road.

Among the admissions in 1953, there were 8 Central Government Servants, 3 State Government Servants, and 31 Corporation Servants or their dependents. Five patients were admitted during the year as Emergency cases with symptoms of Haemotysis and of Spontaneous Pneumothorax. Statistical details are found in the Appendix.

Details of cases diagnosed at the clinic and admitted in the Hospital during the last six years :

Year	No. diagnosed at the clinic as Tuberculous	No. admitted in the Hospital	No. discharged	No. of treatment improved case
1948 ...	1,189	86	38	12
1949 ..	1,640	140	137	67
1950 ...	1,630	160	152	107
1951 ...	1,396	143	144	104
1952 ..	1,680	164	161	98
1953 ...	1,422 + 140	158	151	114

Artificial Pneumothorax was tried in 31 cases and it was successful in 28 of them. 92 patients received A.P. Treatment. 40 cases were treated with Streptomycin, 77 with P. A. S. and 108 with Isonicotinic Acid Hydrazide. 1,766 cases were examined fluoroscopically and 349 X-Ray skiagramswere taken.

158 cases were discharged during the year. 4 of them were non-tuberculous. 21 cases stayed for less than a month. Of the rest, 79 were positive on admission. At the time of discharge, 9 were negative by smear, 57, negative by concentration and 51, by culture.

Statistical details are found in the Appendix.

PUBLIC HEALTH LABORATORY

Established ... 1946. Telephone No. 2988/Extension 230.

Location .. Behind Ripon Buildings.

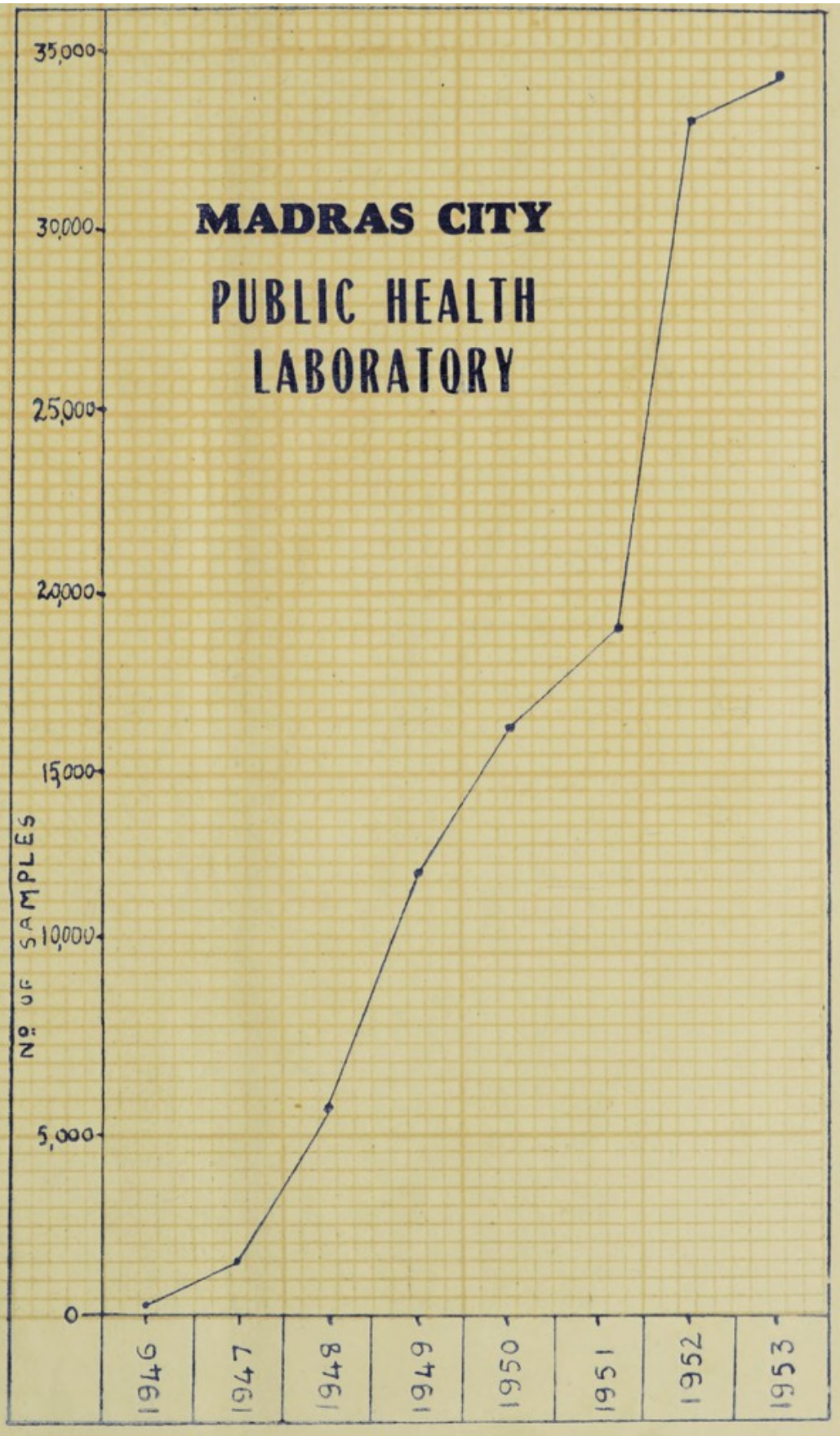
The Laboratory undertakes clinical pathological and bacteriological examination of blood, urine, sputum, motion etc., besides serological testing of blood, including Manicke, Kahn and V.D.R.L. tests.

When the Laboratory was first started in 1946, only 311 specimens were handled. During the year, it handled over 34,000 specimens.

The general practitioners in the city find the Laboratory useful in helping them in confirming their diagnosis. The services of the Laboratory were also availed of by the various institutions maintained by the Corporation.

The scheme of examining expectant mothers attending Child Welfare Scheme serologically was extended to 2 more centres during the year. Over 6,000 samples were tested from 6 Child Welfare Centres so far selected for the purpose.

Detailed Statistics will be found in the Appendix.


MADRAS CITY
PUBLIC HEALTH
LABORATORY
No. OF SAMPLES
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
1946
1947
1948
1949
1950
1951
1952
1953

MADRAS CITY
PUBLIC HEALTH
LABORATORY

ASHOK VIHAR

HEALTH AND RECREATION CENTRE

Started ... May 1948. (Telephone No. 4759.

Location ... People's Park, Madras.

		1953	1952
No. of families on Rolls on 1st January	...	300	264
No. of families enrolled during	...	66	88
No. of families removed during	...	64	52
No. of families on Rolls on 31st December	...	302	300

Since inception, the Centre has served 750 member families each for varying periods ranging from 1 to 5 years.

Social Contract: 176 visits were made to the homes of the member families with a view to studying their individual socio-economic conditions and for assisting them in grappling with their particular problems. The families were advised on domestic and environmental hygiene, education of their children, prevention of communicable disease etc. Sick members needing hospitalisation were assisted in getting necessary facilities at the State hospitals in the city.

Slums not covered by the centre for membership were also regularly visited by the staff along with the members who have had the advantage of experience in welfare work earlier. Such members in their turn, rendered a good account of themselves by actively assisting their brothern in the other slums in tackling problems like environmental hygiene, education of children etc. Advice on family spacing was given in all cases and also on care of children and expectant mothers. Wherever necessary, the facilities available at the Public Health Laboratory were availed of and the patients were either given medicines on a hut-to-hut-visit basis and in severe cases, they were got admitted in the hospitals.

Service at the Centre: Each individual of the member families was given a health check-up. The check-up was carried out by the Doctors on the staff along with the Specialists in Ear, Nose, Throat, Eye and Teeth. Wherever necessary, Pathological investigations and screenings were done. 1,004 members had general check-up, 833 dental, 770, Eye, and 642, Ear, Nose and Throat, 486, Pathological investigations. 38 Screenings were done. 206 cases were referred to the State hospitals. There were several cases of Malnutrition, Anaemia, Round worm infection, refractive errors and Septic tonsils which were attended to successfully. Besides these, there were 4 cases of Tuberculosis, 7 of Syphilis, 2 of Hansens, 2 of Kala Azar and 2 of High Blood Pressure. All of them were treated suitably.

Dispensary: 10,730 prescriptions were dispensed to the members during the year.

The various sections in the Centre continued to function satisfactorily during the year.

Children's Section: (CRECHE):		1953	1952
No. on Rolls on 1st January	...	70	69
No. admitted	...	41	41
No. removed	...	36	40
No. on Rolls on 31st December	...	75	70

There were 2 deaths, one due to measles and the other, to intractable Diarrhoea and both were not admitted in the hospital in spite of advice.

Worms: 57 were treated and 14 proved negative.

Blood Counts 81 were tested and 8 had Eosinophilia and 2 BT Malaria.

Urine Test: 26 tests were done—1 had Catarrhal Jaundice with bile pigments.

Motion: 86 examined—48 negative, 34 positive for Round wormova, 2 for Hook worm and 2 for E. Histolitica.

Preventive Inoculation:

T. A. B.	...	59
Cholera	...	80
Mantoux tested	...	28
„ negative	...	25
BCG Vaccination	...	25
Primary Vaccination	...	9
Revaccination	...	41

The section was very much in demand and several cases were put on the waiting list for admission as and when vacancies arose. The children were looked after at the Centre during the period the mothers were away at work, earning their livelihood. Periodical talks were given to the mothers on the proper care of children. Training in Creche work was given to two attendants from the Mangalapuram Guild of Service Creche and one from Kalyanarama Mica Mines, Nellore.

Youth's Section:

Boys: Average attendance ... 45 on week days.
60 on Public Holidays.

The activities comprised of personal hygiene in the form of attempts at inculcating habits of daily bath, teaching motivated activities like the making of scrap book, pocket note, cardboard boxes etc., and talks on cleanliness, regularity to school, nutrition, ethics and morals through story telling. Excursions were arranged to places of interest in the city. Action songs were also taught. Recreational facilities both indoor and outdoor, were provided.

Girls': Average attendance ... 45 on week days.
70 on Public Holidays.

The activities comprised of all those pertaining to the Boy's Section together with training in mending of clothes, garment cutting and embroidery. Demonstration in cooking was also arranged.

Adults' section:

Women: Average attendance 25 on week days
40 on Public Holidays.

The women comprising the member families availed themselves of the facilities like shower bath, and indoor games. Needle and knitting work and rattan and bamboo work were also taught. Over 200 uniforms belonging to various sections were mended by the members. Besides, articles of apparel like frocks, jackets, skirts, bodices, table cloth and underwear were made by

Medico Social Work in slum areas by Ashok Vihar

Public Health Laboratory

them. The sewing machine provided was in continuous use and as many as 68 women stitched 151 garments and supplemented their incomes.

Talks were held almost every day on personal, domestic and environmental hygiene, nutrition, care of children and expectant mothers, family planning, proper use of leisure etc. They were also persuaded to take to recreational activities provided at the Centre. Several competed in the Annual Sports conducted during the year.

The maternity section continued to serve the members by examining them antenatally and providing them service facilities.

The extent of service provided is detailed below :—

	1953	1952
No. of women examined during the previous year but not delivered ..	26	18
No. of Antenatal cases examined ..	83	94
No. of deliveries conducted in the Centre ..	54	63
No. of deliveries conducted in Child Welfare Centres, hospitals etc. ..	33	18
No. untraceable due to change of residence ..	9	..
No. of women not delivered on 31st December ..	10*	26

Men : Average attendance ... 40 on week days.
70 on Public Holidays.

The members engaged themselves in indoor and outdoor games besides taking part in staging farces and drama. Talks on civic responsibilities were given periodically. It is of interest to note than one member won a championship cup (Paper-weight) in the XV All India Olympics.

Canteen : The canteen catered to the requirements of the members. Snacks and tea were sold to the members at cost price and the total turnover during the year was roughly Rs. 2,000.

Besides serving as a model Public Health Centre as indicated earlier the centre was also useful in affording training opportunities for students from the following medical and nursing institutions in the State :

1. Madras Medical College.
2. Stanley Medical College.
3. College of Indigenous Medicine.
4. Christian Medical College, Vellore.
5. Hope School of Nursing, Madras.
6. Post Graduate nurses from Vellore.

* One died of accidental burns and 2 had abortion. Due to repairing of the roof, the section had to be closed for over 2 months and quite a number had to be sent to the hospital or C.W. Centres. There was no maternal mortality.

Training in Social Welfare Work was also provided and the following availed of the facilities :

1. 2 students from the Madras School of Social Work.
2. 2 students from the Delhi School of Social Work.
3. 1 student from Baroda School of Social Work.

General : Annual Sports were conducted in September and prizes to winners were distributed by the Dy. Mayor during the Annual Celebrations. 14 teams contested in the second Annual Football Tournament. The King Birds' Sports Club, Moolakothalam won the event, and the Worshipful Mayor distributed a Rolling Silver Cup to the winners.

Due to the difficulty of securing transport, excursions could not be arranged. However, the members undertook an excursion to Kovelong, sharing the expenditure themselves.

The Fifth Anniversary Celebrations of the Centre was conducted from 29–10–1953 to 1–11–1953 under the inspiring guidance of the Hon'ble the Chief Minister Sri C. Rajagopalachari. Mimicry, dramas by the Members of Ashok Vihar and the Madras Arts Association and a Baby show formed part of the programme of the celebrations.

43 shows were arranged and 128 films were screened. The Guild of Service allotted a quota of 425 lbs. dry skim milk and it was distributed to 100 children daily for about 3 months. They also allotted 5 parcels of miscellaneous items from the C.A.R.E. besides a cash donation of Rs. 25 as Christmas Gift which was utilited for giving a treat to children.

The Corporation incurred an expenditure of Rs. 100/-for distributing sweets etc., on the Republic day.

Thanks are also due to the All India Women Food Council for giving a treat to 30 of the children in the Creche on the Republic Day ; to the Indian Red Cross Society for 45 packets of sweets distributed on the birth day of its founder and to His Excellency the Governor for giving a treat to the children on the Dipali day.

Thanks are also due to the British Information Service, the British Council and to the United States Information Service for the loan of films and books for use in the Centre.

Visitors : The following among others, visited the institution :

1. Dr. E. F. Warner, M. D.—T. H. Consultant, Ministry of Health of India.
2. Dr. Martha Bronscomb.—U. N. Expert, Chicago.
3. Dr. John Gorden of Harward University.
4. Dr. Karl Evang of Norway.
5. Mr. A. Bevan M. P.—Former Health Minister, England.
6. Miss. Mabel Lee Price—U. N. Medico—Social Worker, Govt. of India.
7. The Mayor of the city of Rangoon.

MEDICAL INSPECTION OF CORPORATION SCHOOLS, 1953–1954

Staff: As in previous years, four Medical Inspectors and three Medical Inspectresses continued to work during the year. No addition to the staff was made. The number of children in the schools has almost doubled itself during the last few years but there has not been any increase in the number of Medical Inspectors in spite of repeated requests.

Routine of work: The revised plan of examining school children at three stages during the elementary school age was continued during the year. Due to the prevalence of Cholera in an epidemic form in the city, Medical Inspection work had to be suspended and the school Medical Officers were engaged in inoculating school children during the months of October, November and December 1953. As a result of this interruption, more schools could not be visited during the year.

Out of 261 elementary schools, 99 were visited and medical examination of children conducted. Treatment was given to the defective children. The total number on Roll in all the schools was 45,859 boys and 35,700 girls. There were 21,183 boys and 13,139 girls on Rolls in the schools visited. The average attendance in the schools visited was 16,654 boys and 11,107 girls. 13,682 boys and 8,793 girls were examined during the year. Out of them, 6,832 boys and 4,568 girls were entrants, the rest of them coming under the two other categories of school stages. 5,080 boys (37·13%) and 3,201 girls (36·40%) were defective and in need of treatment.

Personal Hygiene: 1,084 boys (7·92%) and 121 girls (1·38%) were dirty in their person and clothing. Instructions on personal hygiene were imparted to them personally as well as in the classes by the staff. In schools where water facilities were available dirty children were bathed.

Malnutrition: 1,854 boys (13·55%) and 1,289 girls (14·66%) were under nourished as against (14·07% and 13·42%) respectively in the previous year. Shark Liver Oil and Calcium Lactate were given to them for improving their health. 1,557 boys (11·38%) and 595 girls (6·77%) had dental complaints. 2,418 had stomatitis and were treated at the schools with benefit. 79 children had their caries teeth extracted. 1,228, having enlarged tonsils received appropriate treatment. 70 of them had their tonsils removed by operation as their tonsils were septic and required removal. 7 had their vision corrected by glassess. Others having defects of vision of minor degrees improved with a course of vitamin oil.

174 children received treatment for discharge from the ear. 5 were defective in hearing and were provided seats near the teacher within their range of hearing. 3,822 defective children had courses of vitamin oil and Calcium in the schools. 1,623 children having stomatitis and other allied defects received yeast with benefit.

Circulatory and Respiratory Diseases: 44 boys (0·32%) 155 girls (1·76%) had defects relating to heart and blood. 169 Anaemic children improved with treatment. 8 had enlarged spleen due to Malaria and were suitably treated.

Diseases of Bones and Joints: 670 had deformities of chest due to Rickets in childhood. 17 showed the effects of attack of infantile Paralysis in

childhood., or were suffering from functional disorders of nerves. They were suitably treated.

Infectious & Contagious Diseases : 542 boys (3·96%) and 518 girls (5·89%) had infectious and contagious diseases, the corresponding percentages for the previous year being 3·27 and 5·68 respectively. 687 children were treated for, Scabies. 228 children having signs and symptoms of Hansen infection in early stages were treated at the Corporation skin clinics. There was good improvement in them.

General Preventive Work : Due to the prevalence of Cholera in the city the Medical Inspectors inoculated 28,386 children in the schools. This was in addition to the children inoculated by the divisional health staff. 10,160 children were revaccinated and 366 were inoculated against Typhoid.

Other Diseases and Defects: 3 children underwent operation for Phimosis.

Medical Treatment: Children suffering from Malnutrition and Vitamin deficiencies and other minor ailments were treated at the schools with the assistance of the teachers. Malnourished children were given midday meal, Shark liver oil and Calcium lactate while others received appropriate treatment.

5,332 children having minor ailments were treated at the schools. 729 were sent to the Corporation dispensaries for treatment of ailments that had to be attended to there. 1,270 were sent to the Government Hospitals for receiving attention to some of the more serious ailments.

Reinspections: 444 visits to schools were paid after the routine inspections for treatment and re-examination of the defectives. 12 258 re-examination of children were done during these revisits.

Co-operation of Parents & teachers : 1,337 parents of children were present at the school during the inspection and treatment of their children. Adequate arrangements were made by school staff for the treatment of the ailing and good results were obtained.

School Sanitation: Sanitary Defects in the school building, latrine, playground and watersupply were detected and suggestions were given to remedy them.

Midday Meal: 11,293 Children in 213 schools situated in poor localities were provided with midday meals on school working days. The Medical Inspectors supervised the arrangements made for the distribution of food. In addition to this, 245 nursery school children were given fried-rice powder mixed with milk and sugar in the mornings in the four nursery schools.

Health Education : 139 lectures and 239 talks were arranged in the schools for the benefit of the children. The total attendance at these was 15,540.

Medical Examination of Corporatian Workers: The school Medical Officers and the Sub-assistant Health Officers examined 903 males and 126 female thozhilalis from all departments who appeared for physical fitness or for invalidation during the year and issued appropriate certificates for them.

SANITATION

General: Dr S. E. D. Masilamani continued to be the Health Officer of the City.

The Health administration of the city was in charge of the Health Officer assisted by four Assistant Officers.

Housing: 373 building applications were received in the Department during the year. 302 were recommended for sanction as they satisfied sanitary requirements. 64 were refused. 7 were pending consideration at the end of the year. 179 certificates in regard to satisfactory provision of water supply and drainage facilities for new houses were issued during the year as required under the Public Health Act.

House Inspection: 28,566 houses were inspected during the year. Of these 5,149 were found to be defective in respect of one or other amenity and notices under Sec. 273 M. C. M. Act were issued for rectification of defects. 655 houses had no proper drainage arrangements. 718 houses had no adequate latrine accommodation. 527 were defective in water supply. There was not sufficient ventilation in respect of 577 houses. About 3,000 houses were found to be otherwise defective. As a result of the notices issued, defects were rectified in 4,315 houses. Prosecutions were launched in respect of 540 houses for failure to carry out the improvements suggested. 27 of the prosecutions were later withdrawn on the parties complying with the terms of the notices issued to them. 814 houses were inspected on complaints from parties.

Sewers and F. O. L.'s: Till the end of 1952, about 390 miles of Sewers have been laid in the city. During the year 12·12 more miles have been laid bringing the total length of Sewers in the city to over 402 miles.

There were 202 Public Conveniences in the City at the end of 1952. Four more were thrown open for use during the year.

Cattle Yards: 1,275 cases were dealt with during the year involving just over 10,000 heads of cattle. 1,193 cattle yards were licensed. Licences were refused in respect of 54 cattle yards. 28 cases were pending consideration at the end of the year. Action continued to be taken under the provisions of the bylaws to enforce sanitation in the cattle yards. 673 prosecutions were launched for failure to comply with the terms of the licences issued. The four cattle yards located as detailed below were maintained by the Corporation in a satisfactory condition.

Basin Road	...	101 stalls for 264 animals.
Kosapet	...	35 „ „ 70 „
Chintadripet	...	29 „ „ 58 „
Triplicane	...	10 „ „ 20 „

Offensive Trades: 11,364 applications for offensive trades were received during the year. 10,740 cases were licensed during the year. 416 cases were refused licence. 203 cases were pending consideration at the end of the year.

Dhoby Khanas: The Corporation maintained all the six Dhoby khanas in

1. Robinson Park.
2. Conran Smith Nagar.
3. Suryanarayana Chetty Street.
4. Venkatadri Naicken Street.
5. Chetput.
6. Kosapet.

in a satisfactory condition. There are 280 washing stones in these Dhobykhanas.

Food Control: There were 7 Public and 43 Private markets in the City. Superintendents were in charge of the sanitation of the Moore Market and Fruit Market. The concerned divisional staff looked after the sanitation of the other markets. Private markets were subjected to rigorous inspection periodically and stringent measures were taken more especially during the prevalence of Cholera, to prevent fly nuisance. DDT was sprayed frequently. Sanitation was ensured by repeated visits by divisional staff. Food stuffs were periodically inspected for destroying those found unwholesome. Regular drives were launched against wayside vending of edibles and drinks and over 17½ tons of exposed or unwholesome foods were seized and destroyed. During the prevalance of Cholera, the Food Inspectors were specially detailed for this work. Glass cases were insisted upon for the storage for sale of edibles to avoid flies, insects and dust. A tearing educational work was carried on throughout the city with the aid of slides, films, literature and loudspeaker on the need for observing the elementary principles of hygiene in respect of exposed food stuffs. Suitable action was taken in over 500 cases to enforce the conditions of licence in food establishments in regard to tinning of vessels, maintenance of the laws of sanitation etc.,

Meat Supply: The primary purpose of meat hygiene is to prevent transmission of disease to man through meat. The supply of clean, wholesome and nutritious meat was ensured by passing on carcasses of such animals as stood a critical ante and post-mortem examination by experienced Veterinary Asst. Surgeons. Such carcasses as were found wholesome were stamped with indelible ink and passed on to the market for sale to the public.

The out turn of work in the Slaughter Houses was as follows :

Slaughter Houses	No. of animals brought for slaughter	No. condemned after ante-mortem examination	No. of animals slaughtered	No. of carcasses condemned after Post-mortem Examination		No. of organs condemned after Post-mortem Examination
				Whole	Part	
Sheep slaughter house, Perambur ...	4,46,913	3,564	4,43,349	7	1,350	16,593
Sheep slaughter house, Saidapet.	...	...	47,551	...	12	572
Bullock slaughter house, Perambur ...	29,209	519	28,690	...	654	13,844
Pig slaughter house, Basin Bridge ...	633	24	609	2	202	434

During the year 92 stray pigs were caught. They were slaughtered in the pig slaughter house and the carcasses were returned to the owners after collecting the prescribed penalty.

Rabies Control: As a measure of controlling rabies, stray unlicensed dogs in the city were rounded up by 8 experienced licensed dog-catchers. Two motor vans with specially built in wiremeshed cages were in commission for this work. Details of the work of this section were as follows :

1. No. of dogs on 31-12-1952 (carried over to 1-1-1953) ... 132
2. No. of dogs caught ... 24,724

3.	No. of dogs electrocuted in the lethal chamber ...	21,956
4.	No. of dogs claimed back by owners ...	2,160
5.	No. of dogs given to the Medical College for experimental purposes ...	612
6.	No. of dogs alive on 31-12-1953 (to be carried over to 1954) ...	121
7.	No. of rabid dogs among those mentioned in col. 2 above ...	210

Disposal of the Dead: The proposal for removing all burial grounds out of the city is still under consideration. The existing burial grounds are distributed unevenly all over the city and consequently long distances have sometimes to be covered for disposing of the dead. With a view to afford facilities for the quick transport of the dead to the places of their ultimate disposal, a skeleton motor service was started in February 1952. A fee of Rs. 5 was charged for the transport within the city limits and an extra As. 8 per mile from the outskirts, if the coffin had to be moved out of the city. The service is available from 6-30 A.M. to 8-30 P.M. on all days and may be contacted by Telephone (No. 3457). During the year, an income of Rs. 4,308 was realised as the charge for the services rendered. The expenditure incurred on the service was Rs. 5,500.

Extracts of Births and Deaths: Applications from the public for extracts from the birth and death Registers were attended to promptly. During the year 3,018 applications were received. 2,449 extracts were issued. 473 applications could not be furnished with extracts either because the data furnished were inaccurate or the birth or death could not be traced in the Registers. 96 applications were pending disposal at the end of the year.

ZOOLOGICAL GARDENS 1953-1954

Location: People's Park, Madras. (Telephone No. 55314)

Staff — Superintendent 1; Asst. „ 1

Situated amidst ideal surroundings and far removed from the din and bustle of the city, the Zoo continues to attract the young and old alike and serves as the study centre on animal life.

During the year, many gifts were acquired and the strength of the existing species was augmented. The majestic Rhino "Kushol" gifted by the Chief Minister of Assam, was one of the major additions to the Zoo. It is housed in a specially constructed spacious enclosure.

The Chief Conservator of Forests, the Principal of the Madras Veterinary College, Sri A. A. Nair, Mr. C. E. Holland and Sri P. V. Ramanujam Chettiar continued to be the Honorary Visitors to the Zoo.

Detailed statement of the live stock in the Zoo during the year was as follows:

Class	No. at the beginning of the year	Additions				Disposals			No. at the end
		Gift	Exchange	Purchase	Birth	Sale	Death	Exchange	
Mammals ...	187	7	...	4	14	11	13	2	186
Birds ...	446	5	3	8	50	10	23	8	471
Reptiles ...	21	1	...	...	...	...	...	...	22
Total ...	654	13	3	12	64	21	36	10	679

Acquisitions :

Purchases	Gifts	Exchange	Births and Hatches
Brown bear 1 pair	One civet cat	Kalpliji Pheasants one pair	2 Albino bucks
Sussex Cockeral one	One pair canaries		6 Guinea pigs
Plymouthrock pullet one	One four horned antelope	One old Chakkur Partridge	1 Spotted deer
Sonnerati Jungle Fowl 3 pairs	One pair Geese		2 Sambur deer
	Two Leapord cubs		2 Tiger cubs
Racoon 1 pair	One Cockatoo		1 Yellow baboon
	One Pythose		3 Austrolops
	One Rhino		1 Silver pheasant
	One Stom Bear		16 Manilla ducks
	One Tiger Cub		30 Pigeons of sorts

Disposals :

Deaths (5·3%)	Exchanges	Presents
2 Black bucks	1 Nilgai female	1 pair Budgerigars
1 Chackma baboon	1 Arabian baboon female	3 Fantail pigeon
2 Jungle cats	2 Pairs Manilla ducks	
2 Donkeys		
1 Leapord		
1 Langur grey		
1 Mouse deer		
1 Spotted deer		
1 Wallaby		
1 Zebra		
1 Adjutant stork		
1 Light sussex		
2 Turkey		
19 Finches and allied birds		

The Superintendent of the slaughter house, a qualified Veterinary Asst. Surgeon continued to be in charge for the treatment of the sick live stock.

Visitors ; There has been a steady rise in the number of visitors to the Zoo for some years now.

Improvements ; A spacious combined enclosure for Rhino and Hippo was put up. An additional separate run was erected in the poultry section for the Barred Plymouthrocks. Trap doors for monkey house were repaired and wherever necessary replaced. Snake enclosures were improved by putting up glass panes sided by wiremesh and lighted by sky lines. A shed was put up for the bison. Construction of an " utility enclosure " for the Racoons was in progress.

Amenities : The elephant calf Rasha was trained for giving rides to children. Rides on elephants, camels and ponies were arranged on holidays at scheduled rates.

Revenue : The right of collecting fee for admissions to the Zoo and for use of cycle stand was leased out for Rs. 1,03,000. A sum of Rs. 300 per month

was fixed as the additional lease amount from the date of opening of the Rhino enclosure.

Boating: Boating was provided in the lake. 7 boats were in use and the right of boating was leased out for Rs. 3,600 for the year. The lake was cleared of weeds to facilitate free movement of boats.

Canteen: The canteen catered light refreshment. It was leased out for Rs. 3,200 for the financial year under report.

Other Receipts:

	Rs.	A.	P.
Sale of animals ..	131	0	0
Sale of elephant dung ..	180	0	0
Admission of still camera ..	383	0	0
Joy rides on camels ..	36	0	0
Sale of fowl eggs ..	268	0	0
Hire of animals ..	3,592	0	0
Joy rides on pony ..	127	12	0
Admission of cine camera ..	30	0	0
Stallage of animals ..	21	0	0
Joy rides on elephants ..	414	12	0
Sale of Zoo guide ..	235	0	0
Total ...	5,418	8	0

HEALTH EDUCATION

The city is divided into two areas, North and South for purposes of health education, each in charge of a partime Medical Officer. Education of the citizens on matters of Public Health was carried on, on an intensive scale by talks by the health staff, lantern lectures, tom tom, etc. During the period of cholera, this year the work was further strengthened by utilising the City Police Traffic Van for giving short lectures and talks to the residents in congested areas and in slums on methods of avoiding infection and the need for inoculation. Such talks carried to their very doors through mobile units proved helpful in educating the vulnerable section on the methods of dealing with infection. The film on fight against epidemics referred to in my last report was exhibited in several slum areas in the city. My thanks are due to the USIS for the ready and willing co-operation they extended to us in loaning us the use of their mobile projection unit for this purpose. Arrangements are underway for putting to use a mobile projection unit for screening films on Public Health in the various areas of the city. Leaflets were printed in regional languages and circulated to the citizens.

CARE OF DESTITUTES

The diseased, the infirm and the homeless were taken care of by the Corporation in the institutions maintained for the purpose viz:

1. Special Home for the diseased and the infirm.
2. Work House for the ablebodied.
3. Poor House.
4. Orphanage.
5. Homes for the Homeless.

1. Special Home—(1953-54)

Location: Krishnampet (Tel. No. 86377)

Established 1924.

The report on the working of the institution in 1953-54 as submitted to Government is reproduced below:

The year 1953-54 opened with 354 inmates in the Special Home. 351 inmates were newly admitted. 44 of the admissions were cases transferred from the Corporation Work House. There were 425 disposals. 337 inmates who had served their detention period were discharged; 83 were released before the expiry of detention period under Rule 32A; 2 inmates escaped and 53 died. The particulars are tabulated and given below:

Particulars	Males	Females	Total
Strength on 1-4-53 ...	285	69	354
No. admitted during 1953-54 ...	265	42	307
„ transferred from Work House ...	35	9	44
„ discharged on expiry of detention period .	277	60	337
„ released under Rule 32-A ...	27	6	33
„ escaped ...	2	...	2
„ died ...	41	12	53
Strength on 31-3-54 ...	238	42	280

The com nittal period of the newly admitted cases ranged from 2 months to 2 years. 43 ex-inmates of the Home have been committed again. The ages of the inmates ranged from 16 to 84. The districts which the inmates stated they came from, are as follows:—

Madras city		...	110
Chengleput District		...	76
S. Arcot	„	...	31
N. Arcot	„	...	14
Tanjore	„	...	4
Trichy	„	...	8

Madura	,, ...	6
Ramnad	,, ...	6
Tinnevelly	,, ...	4
Chittoor	,, ...	1
Malabar	,, ...	7
Coimbatore	,, ...	2
Salem	,, ...	5
Nellore	,, ...	1
Other Districts and part B States	...	76
	Total ...	351

The nature of diseases and infirmities of the 351 cases admitted during the year is given below :

	Leprosy.		Respiratory diseases.		Alimentary diseases.			Genito-urinary diseases.			Nervous diseases.			Circulatory system-Disease of	Cirrhosis of liver	Malignant disease	Special organs-Diseases	Other diseases	Infirm and crippled
	Infective	Non-infective	T. B.	Others	Dysentery	Diarrhoea	Others	Brights Disease	Venereal	Others	Paralysis	Epilepsy	Mental neurosis						
Males ...	38	30	9	7	3	5	7	3	1	7	12	3	10	17	1	1	35	80	31
Fmales ...	5	—	2	—	—	—	—	—	—	—	2	2	2	4	—	1	8	11	14
Total ...	43	30	11	7	3	5	7	3	1	7	14	5	12	21	1	2	43	91	45

Almost all the cases admitted into the Home were in a very bad state. They were extremely emaciated on account of starvation and malnutrition and many were suffering from chronic incurable diseases. Cases of leprosy were treated with biweekly injection of Oleum Hydnocarpus and Sulphones and their ulcers were dressed daily. The rest of the diseases were suitably treated. Cases requiring specialised medical attention were referred to the following medical institutions.

Name of hospital	No. ot cases treated
Government Royapettah Hospital ...	19
do Kasturba Hospital ...	7
do General Hospital ...	4
Corporation Infectious Diseases Hospital ...	12
Total	42

Most of the inmates improved in their general health and appearance and put on weights upto 37 lbs.

Disposals : After completion of the detention period, 337 inmates were discharged. Remissions were granted for work and good conduct. At the instance of the Superintendent, the police in the city and the revenue authorities

in the mofussil followed up the discharged inmates and the result of these enquiries has shown that 8 of them have taken to avocations like cultivation, cooly work, gardening, dhoby-work and weaving.

Escapes: 2 inmates escaped during the year and their escape was intimated to the police authorities.

Deaths: There were 32 deaths among the residual cases of 354 and 15 out of the 351 admitted during the year. Six of the deaths occurred in the hospitals while undergoing treatment there. The rate of mortality works upto 6·5 per cent. The causes for the death of the 57 cases in the home are as follows:

	Males	Females	Total
Tuberculosis of lungs ...	8	1	9
Other respiratory diseases ...	1	—	1
Dysentery ...	5	—	5
Diarrhoea ...	7	4	11
Cirrhosis of liver ...	2	0	2
Diseases of circulatory system ...	4	2	6
Brights disease ...	5	—	5
Malignant disease ...	1	1	2
Leprosy ...	1	—	1
Pyaemic abcess ...	2	1	3
Senility ...	1	1	2
Total ...	37	10	47

The staff of the institution consisted of the following :—

Superintendent-Cum-Medical Officer ...	1
Nurses ...	4
Clerk ...	1
Compounder ...	1
First grade warder ...	1
Second grade warders ...	13
Male Ward Attendants ...	4
Female Ward Attendants ...	5
Peons ...	3
Cooks ...	4
Barbers ...	2
Gardener ...	1
Dhobies ...	3
Male thoties ...	8
Female thoties ...	5

Visitors: Besides the official, non-official and exofficio visitors who inspected the Home regularly, His Excellency the Governor of Madras visited the Home on 12—4—53 and a party of Christa Seva Vidyalaya students on 3—8—53.

Free gifts and festivities: Particulars of gifts donated by the public to the inmates of the Home are furnished below:

S. No.	Name of donor.	Nature of gift.	Date and occasion.
1	Sowcar Indrachand Galada ...	2 iddlies with chutney to each inmate	11-4-53 Periodical
2	do ...	Coffee	13-4-53 Tamil New Year Day
3	Sowcar Khevraj Chordia ...	Bonda, Pongal	do
4	Superintendent ...	Tomato patchidi	do
5	Sowcar Indrachand Galada ...	2 iddlies with chutney	16-4-53 Periodical
6	do ...	do	22-4-53 do
7	Sowcar Khevraj Chordia ...	One laddu each and ingredients for vadai	28-4-53 Chitra Pournami
8	Superintendent ...	Ingredients for preparation of vadai and coffee	do
9	Sowcar Khevaraj Chordia ...	Sundal	28-7-53 Periodical
10	do ...	115 lbs. wheat for uppuma, 10 lbs. dholl for vadai	15-8-53 Independence Day
11	Sri S. K. Sundaram ...	Masala ingredients for uppuma and vadai at Rs.7-8-0	do
12	Sri Asaldoss Anandajee ...	Halva for all inmates	21-9-53 Jain Festival
13	do ...	Sakkara-pongal	23-9-53 do
14	Council, Corporation of Madras.	Rs. 65 donated for preparation of wheat halva, vadai, appalam, sweet patchidi	29-9-53 Corporation Inaugration Day
15	Sowcar Kudumchand Galada ...	40 plaintains, 80 iddlies and curd rice	7-10-53 In memory of late Indrachand Galada

S. No.	Name of donor.	Name of gift.	Date and occasion.
16	Superintendent ...	Ingredients for the preparation of pulav	5-11-53 Deepavali
17	Sri Sukulal Jeevanchand ...	Sweet boondi	23-11-53 Jain Festival
18	Sri Hirachand Nahirumull ...	2 iddlies with sambar to each inmate	30-12-53 Death anniversary of brother
19	Sri Kudumchand Galada ...	do	5-1-54 In memory of Indrachand Galada
20	Rev. J. E. M. Wilde ...	Rs. 25 for the preparation of Sakkara pongal, puliyotharai and ordinary pongal	14-1-54 Pongal Day
21	Sri Kudumchand Galada ...	2 iddlies with chutney to each inmate	20-2-54 Death anniversary of Indrachand Galada
22	do ...	2 iddlies with sambar to each inmate	5-3-54 Birth day of son

Occupational Therapy; Cloth weaving and mat weaving kept the inmates engaged. During the year under report the following articles were produced in the Home and were made use of in the Home itself:

—	Cost of raw materials used	Market value
	Rs. A. P.	Rs. A. P.
1683 yards bandage cloth ...	255 13 2	571 3 6
516 towels ...	284 14 8	516 0 0
15 Corah mats ...	16 5 9	30 0 0
200 yards twill ...	81 13 8	150 0 0
Total ...	588 15 3	1,267 3 6

Gardening: Open spaces in the Home were utilised for the production of vegetables like plantains, brinjals, tomatoes and gourds and various greens. During the year, 6,961 lbs. of vegetables were produced replacing the contractor's supply on 110 occasions.

The expenditure incurred by the Corporation on the maintenance of this nstitution was Rs. 1,11,172.

2. *Work House—(1953—54)*

Location: Suryanarayana Chetty Street, Royapuram.

Started: 1926.

(Tel. No. 3550).

The report on the working of the institution in 1953–54 as submitted to Government is reproduced below:

The strength of the Work House on 1–4–1953 was 179. During the year, there were 313 admissions including those under remand and 305 cases including those under remand were discharged. Among the admissions were 8 children committed with their mothers. Among those discharged, 9 inmates (8 males and 1 female) were released on the orders of the Commissioner, Corporation of Madras, under Rule 35-A of the Work House Rules and one male inmate released on the orders of the VIII Presidency Magistrate. 44 inmates were transferred to the Corporation Special Home with the orders of the Magistrate. 4 inmates (3 males and 1 female) escaped and of these, 3 males escaped from the Government Stanley Hospital where they were undergoing treatment. The escape of these inmates was reported to the police for necessary action. One child committed to the home with its mother died in the Government Stanley Hospital.

A statement of admissions and disposals according to sexes is given below:

—	Males	Females	Children	Total
Strength on 1–4–1953 ...	152	20	7	179
No. admitted during the year including those kept under remand ...	263	42	8	313
No. released during the year including those kept under remand ...	269	29	7	305
No. escaped during the year ...	3	1	...	4
No. died during the year ...	..	...	1	1
No. transferred to Special Home ...	35	9	...	44
Strength on 31–3–1954 ...	108	23	7	138

The committal periods of the inmates ranged from 2 months to 2 years.

	2 months	3 months	4 months	6 months	1 year	2 years
Males ...	77	22	8	67	74	8
Females ...	5	...	..	16	19	1

The average weight of the inmates at the time of admission was 92 lbs. and the average weight for those released was 100 lbs.

The ages of the inmates varied from 15 to 75.

There are two sick wards—one for men and the other for women. Minor ailments are treated in the Work House iteself by the Superintendent.

11 cases requiring specialised attention were treated at the Government Stanley Hospital.

Able-bodied beggars committed to the Home get training in textile weaving, rope making, mat weaving, tag making and gardening. Cooking and washing of clothes are done by the inmates themselves.

The statement below shows the number of inmates trained in the various sections:

	Males	Females
Weaving ...	69	Nil
Rope-making ...	160	26
Mat weaving ...	2	Nil
Tag-making ...	4	Nil
Gardening ...	13	1
Cooking ...	2	Nil

There are two gardens in the Work House, one in the male's Section and the other in the female's section- Various kinds of vegetables were grown in these gardens and the total production came to 15979¼ lbs. These vegetables were used in the Poor House, the Work House and the Orphanage.

	Quantity of vegetables used		Cost		
	Lbs.	Ozs.	Rs.	A.	P.
Poor House ..	4,665	4	497	2	3
Work House ...	10,128	8	1,079	5	1
Orphanage ...	1.185	8	126	5	3
Total ...	15,979	4	1.702	12	9

Seeds worth Rs. 7-0-3 were purchased and vegetables worth Rs. 1,702-12-7 were produced and consumed.

Statement showing the cost of raw materials purchased, the value of articles produced and proceeds from the sale of finished articles is given below:

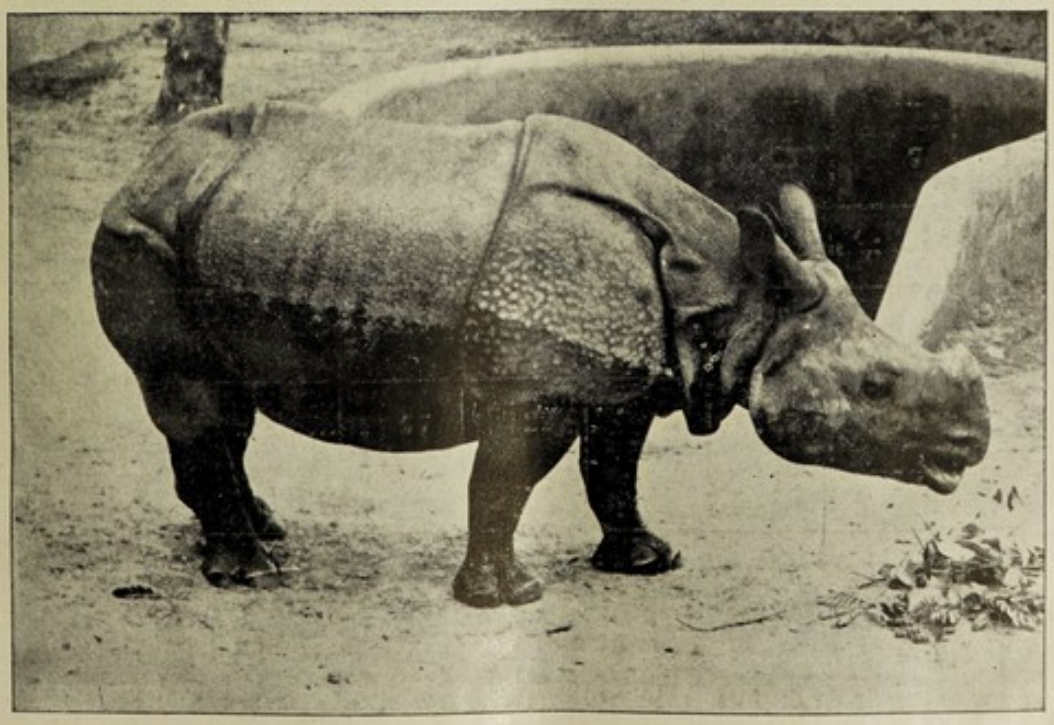
	Rs.	A.	P.
Cost of raw materials purchased ...	16,155	10	0
The value of finished articles ...	44,959	4	0
Proceeds from the sale of finished articles ...	43,223	0	11

Cash collections amounting to Rs. 464-10-9 were realised by the sale of finished articles to the visitors who came to the institution during the year. Articles worth Rs. 42,758-6-9 were supplied to the various departmets of the Corporation.

Free supply of beedies and snuff for the use of inmates was continued this year also by the various philanthropic beedi and snuff manufacturers. Those addicted to chewing were supplied with half-anna worth betelnut per head every day.

Periodical inspections were made by the Assistant Health Officer, Health Officer and the Commissioner. Corporation of Madras. The Collector of Madras, the Inspector General of Prisons, the Commissioner of Police, and the Deputy

Looms at work in the Corporation Work House for able-bodied beggars



Rhino "Khusol". Latest addition to the Zoo

Commissioner of Police, who are official visitors and the non-official visitors appointed by the Council of the Corporation visited the institution and recorded their suggestions in the Visitor's Book.

The following distinguished persons paid visits to the institution during the year:

(1) His Excellency the Governor of Madras.

(2) The Chairman of the Women's Council (Gt. Britain), for India, Pakistan and Ceylon.

(3) Teritorial Commander, Southern Area, Madras.

(4 The Mayor of Bangalore.

(5) Chairman, Tirunelveli Municipality.

(6) Social Workers from Madya Pradesh.

The expenditure incurred by the Corporation during the year under report on the maintenance of this institution was Rs. 81,413.

Poor House

Location :—Suryanarayana Chetty Street, Royapuram.

Established :—1924.

(Tel. No. 3550).

		Males	Females	Total
No. of inmates on 1-1-53	..	98	49	147
Admission during 1953	..	73	40	113
Discharged „	..	59	27	86
Deaths „	..	16	10	26
Left „	...	..	1	1
No of inmates on 31-12-'53	...	96	51	147

The poor house is a voluntary home for the care of the old and infirm of either sex. The Medical Superintendent in charge of the work-house holds additional charge of the Poor House as well.

Minor ailments of the inmates were attended to by the Superintendent himself and whenever necessary inmates are referred to the State Hospitals for specialised services.

The inmates are provided with food and clothing free. Special dishes were provided on all major Hindu Festival days out of the interest accruing on special endowments.

Periodicals were provided for the inmates from the nearest Corporation Free Reading Room. A radio provided entertainment.

Orphanage

Location :—Suryanarayan Chetty Street, Royapuram

(Telephone No. 3550)

No. of children on 1-1-'53	..	49
No. admitted during 1953	...	19
No. discharged	...	14
No. absconded	...	3
No. died	...	1
No. of children on 31-12-'53	...	50

The Orphanage has accommodation for 50 orphan boys between 5 and 12 years of age. Boys are retained in the orphanage only upto their 14th year.

A recognised elementary school is maintained for the benefit of the children.

The Medical Superintendent in charge of the work house looks after the children. Minor ailments of the children are treated by the Superintendent and wherever necessary, reference is made to the concerned state hospitals for any specialised services required.

Home for the Homeless :—Six homes for the homeless are maintained in various parts of the city. They afforded shelter to about 235 families.

CONSERVANCY

As referred to in my previous report, Conservancy which was part of this Department was, on our recommendation separated and constituted into a separate Department from 1-8-1953 consequent on the decision of the Council and placed temporarily in charge of the Mechanical Engineer designated also as Cleansing Officer, as an experimental measure.

As desired by the Council, the services of a Senior Assistant Health Officer have been spared from this Department to guide the Mechanical Engineer and Conservancy Officer during the experimental period. The report on Conservancy will be found in the Administration Report of the Commissioner as the Cleansing Officer desires that the report should find place there instead of in this report.

ANTI-MALARIAL OPERATIONS

Anti-malarial Operations were directed against mosquitœs in general and particularly against the Malaria-carrying species. The entire operations were in charge of a Medical Officer with Public Health Qualification and with special training in Anti-Malaria Operations. He was assisted by 5 trained supervisors. The city was divided into 5 ranges and each range was placed in charge of a supervisor. The supervisors were trained in anti-malarial operations in the Central Malaria Laboratory. The operational personnel consisted of 8 stegomia Overseers, 50 Maistries and 313 Thozilalies. On an average, six thozhilalies were allotted to each division. The work comprised of cleaning drains, ponds and tanks, introduction of larvicidal fish in wells, ponds and tanks and house inspection for eleminatinge breeding in particular areas.

The species of Mosquitœs found in the city fall under 3 categories (1) Stephansi and A-culifacis Vectors of Mallents. (2) Subpictus with nuisance value. (3) Culicines, a nuisance to human comforts and Filarial-carrier.

The malaria-carrying species A stephansi was invariably found to breed in wells mostly in the heart of the city. The species were found in places of low temperature and high humidity in crevices in the wells. The internal surfaces of the wells were sprayed completely with D.D.T. and trap doors were provided. About 22,500 wells spread all over the city were inspected by the gangs and attempts were made to eliminate breedings even in the larval stages with 0·5% D.D.T. Solution. Larvicidal fish were introduced in such wells later. Malaria-carriers (A-stephansi) could be detected even in over-head tanks of buildings. Necessary measures were taken to destroy them.

A culicificis were prevalent mostly in the outskirts of the city. They breed even in clean ponds amidst steady vegetations and at the edges as also

in cultivated fields especially during rains. Such breedings in larval stages as could be located were arrested from further growth by suspension of D. D. T. and Gemaxine.

A subpictus though not a carrier of malaria in the city has its own nuisance value but not to the same extent as culicines. A subpictus generally breed in almost all stagnant pools after rains and at the edges of the three water ways in the city—The Adayar, The Coovum River, and the Buckingham Canal. They breed amidst moss and netted weeds where larvicidal fish could not feed on them. Gangs were therefore concentrated to deweed the water-ways and to remove the floating moss so that they may be destroyed biologically by facilitating free movements for fish to feed on them.

Culicines culex was another species found in the city. It breeds in stagnant cess pools and stagnant drains and especially in the outskirts of the city in unsewered areas. The breedings were arrested in the larval stage by patrolising the drains and by introducing saw-dust balls, saturated with diesel oil and kerosene mixture and fortified with 2% D. D. T. When introduced in cess pools these balls gradually liberate oil to form a thin film over the surface of the cess pools preventing the growth of the breedings and also to serve as a repellant to the female mosquitoes from laying eggs.

70 Lorry loads of silt were removed from cess pools in the extended areas. Another breeding place of culex was the area of the water ways just at the points where the waterways were contaminated with the inflowing sullage. In such places, breedings were sought to be eliminated by spraying 5% D. D. T. solution after removing the floating algae. They breed in almost all the storm water drains and in the pumping station wells. The drains in the city were cleaned, brushed and oiled twice a week.

The area half a mile around the Port received particular attention with regard to prevention of Ades stegomyia. The area was divided into 8 sectors and each was placed in the charge of an overseer with full equipments for inspecting every premises in his area and for eliminating not only stegomia breedings in particular but also other species in general. The stegomiya index has been brought down gradually to as low a figure as 0·01% in the year under report as against 5·9% when the survey was first started in 1936.

In addition to larvicidal measures insecticidal measures against adult mosquitoes irrespective of species or genus were also instituted. Spraying of D. D. T. solution 5% strength against Anopheline species and 10% strength against culicines on the wall surfaces whenever required by members of the public was undertaken. Such facilities were provided on payment of a fee of Rs. 5 per 1000 sq. ft. of spraying surface. The income under this head was Rs. 1,475 during the year.

Nuisance from other insects like cockroaches, bugs, fleas, and flies complained of by the citizens was also attended to by spraying D.D.T. solution at the rates prescribed.

11,984 gallons of liquid fuel, 2,054 gallons of kerosine oil, 751 gallons of Aromax 3,353 lbs. of D. D. T., 98 lbs. of D. D. T. geigy, 267 lbs. of soft soap were used during the year, both for Antimosquito and insecticidal work.

REPORT OF THE WATER ANALYST, 1953

Introduction: The year under report differs markedly from the previous years in several respects. The water supply to the city smelt very strongly of sulphuretted hydrogen and also contained appreciable amounts of iron which imparted both an inky and foul odour for the major portion of the year. The dose of chlorine added to filtered water was as high as 4·95 p.p.m. (average) during the month of September when not even a single sample of the chlorinated filtered water taken from the test tap at the Kilpauk Water Works was of satisfactory bacteriological quality. The percentage of first class samples from the test tap was also very low in the months of May, June, July, and August.

The above defects were due to the bad situation at the Head Works. The chlorinated raw water from the Red Hills Reservoir feeding the sand filters became worse chemically and bacteriologically after passing through the sand filters, each containing about 6" of fine sand and working with no fixed rate of filtration. H_2S was produced in enormous amounts in the filtrate which therefore became not chlorinatable.

But when the same system of indifferent filtration with no fixed rate of filtration as it exists now was first introduced in 1933, the Director, King Institute, Guindy, commented very favourably on it in his periodical report dated 30–5–1933. He then wrote that "For the first time for many years sulphuretted hyrogen was not present in the effluent of any of the filter beds during this season. This fact has helped to make post filtration chlorination a practical proposition." During the interval of twenty years which have now elapsed, the method of working the same system of purification had deteriorated to such an extent that the filtered water required a dose of nearly 5·0 p.p.m. of chlorine this year as against 0·72 p.p.m. in 1933. Even after the addition of such a heavy dose of chlorine the bacteriological results during the year were extremely unsatisfactory. It is therefore urgent that an investigation into the *modus operandi* of the sand filters should be undertaken with a view to producing an easily chlorinatable filtrate.

The Government Committee on Water and Sewage Purification came to the definite conclusion in 1923 that slow sand filters were not suited to Red Hills reservoir water, and that rapid, mechanical filtration was the only method of purifying it. It is now 30 years and rapid mechanical filtration has not yet been introduced. But experiments of the Government Committee are being continued with the Red Hills water. The results of the committee's latest experiments published in G.O. Ms. No. 787, Health, dated 11–3–1952 and in G.O. No. Ms., 2725, Health dated 21–8–1952 show that sand filters are suited to the reservoir water, if the raw water feeding the sand filters are chlorinated by the break point method or chloraminated. It is for testing the validity of the above finding under actual field conditions that the Government Committee had requested the Corporation to place one battery of seven filters at its disposal. The results of this large scale experiments are awaited with interest.

Scientific: Water for the city is drawn from two main systems :—(a) the Kortalayar river system and (b) the infiltration gallery wells at Saidapet and Sembiam. The physical, chemical and bacteriological conditions of the water at different situations are briefly recorded below :

(a) *The Kortalayar River System*: The river Kortalayar is dammed at Poondi. 32 miles away from the city and is converted into the Satyamurthi Sagar. Water is let down through the river bed and another channel into the Sholavaram reservoir and again through a second channel into the Red Hills reservoir. The Red Hills reservoir constitutes the source of raw water supply to the water works at Kilpauk. The three sources were visited once a month and the results of examination of water samples collected are shown in tables III, IV and V.

Water Analyst's Laboratory

Maternity Ward - Kodambakkam

(I) *The Sources of Raw Water Supply*: (*a*) Satyamurthi Sagar (Table III): The total yearly rainfall at Poondi was 31·89″ as against 45·46″ last year. The highest rainfall of 15·06′ was recorded in October. In January to May and in December, there was practically no rainfall. The monthly average water level varied from a minimum of 126·02′ in August to a maximum of 134·96′ in November. Compared with last year, the reservoir held more water throughout the year in spite of the lesser rainfall (Table II).

It will be seen from Table III that the water was coloured slightly yellowish during the first half and whitish during the rest of the year. Its transparency varied from 4·0 to 19·0 cm. and the temperature from 27·0° to 36·0°C.

Chemically, the total solids varied from a minimum of 18·0 parts in March to a maximum of 32·0 parts in May, p.H. from 7·3 in January to 8·6 in May, dissolved oxygen from 3·9 c.c./l in May to 6·2 c.c./l in September; organic matter (Tidy's) from a minimum of 0·103 parts in September to a maximum of 0·296 parts in June 1953; albuminoid nitrogen from a minimum of 0·014 parts in December to maximum of 0·040 parts in February and March; and the total hardness varied from a minimum of 4·1 parts to a maximum of 8·4 parts. Nitrites were generally found in minute traces and nitrates were absent. Phosphates were found to vary from nil to 0·001 part; silicates from 0·04 to 1·3 parts and iron from 0·002 parts to 0·050 parts per 100,000.

Coliform bacteria were found mostly in volumes of 1·0 c.c. and upwards.

(b) *Sholavaram Reservoir* (*Table IV*): The total annual rainfall recorded in the catchment area of this reservoir was 32·60″ as against 44·78″ in the previous year. The maximum of 15·97″ was recorded in October. There was practically no rainfall from January to June and in December. The monthly average level varied from a minimum of 49·97′ in August to a maximumof 60·12′ in January, showing that the reservoir had retained more water this year than in the previous year.

The water was coloured slightly yellowish throughout the year. The transparency varied from a minimum of 15·0 c.m. in October to a maximum of >30·0 c.m. in December. The temperature of water varied from a minimum of 27·0° in December to a maximum of 34·1° C in May. The following quantities of water were let into the Red Hills reservoir:

Months	Quantity in million cubic feet.
January	325·57
February	238·72
March	216·49
April	246·85
May	52·09
June	Nil
July	,,
August	123·24
September	Nil
October	1077·31
November	967·80
December	420·91
Total ...	3668·98

Chemically, the total solids varied from a minimum of 10·8 parts in October to a maximum of 33·6 parts in June. pH varied from 8·0 to 9·2 units; dissolved oxygen from 4·9 to 6·8 parts; chlorides from 2·0 to 4·0 parts; organic matter (Tidy's) from 0·155 parts to 0·324 parts; and albuminoid nitrogen from 0·010 parts to 0·044 parts. Nitrites were found in minute traces and nitrates were not found. Phosphates were found in traces. Silicates varied from a minimum of 0·4 parts in December to a maximum of 1·2 parts in February. Iron varied from a minimum of 0·003 parts in April to a maximum of 0·010 parts in October. Total hardness varied from a minimum of 3·9 parts in December to a maximum of 8·4 parts in February and June.

Coliform organisms were generally present in 1·0 c. c. and upwards.

(i) *Red Hills Reservoir* (*Table V*): In the catchment area of this reservoir, the total annual precipitation was 32·34" as against 48·25" in the previous year. A maximum of 13·18" was recorded in October. There was practically no rainfall from January to May and in December. The monthly average level varied from a minimum of 37·17′ in September to a maximum of 45·81′ in January. Compared with last year (29·88′ to 42·22′) there was more water in the reservoir throughout the year.

The colour of water varied from yellowish to greenish and its transparancy from 11·35 cm. to 30·0 cm. The temperature of water varied from 28·0 to 32·0°c.

Chemically, total solids varied from a minimum of 17·6 parts in March to a maximum of 36·4 parts in June; pH. from 7·7 in September to 8·5 in April; dissolved Oxygen from 1·4 cc/l in September to 5·7 cc/l in February, and April. Chlorides varied from 1·9 parts in January to a maximum of 3·4 parts in July. Organic matter (Tidy's) varied from a minimum of 0·179 parts in April to a maximum of 0·358 parts in June. Albuminoid nitrogen varied from 0·016 parts in April to 0·056 parts in March, July and September. Nitrates and phosphates were not found. Iron varied from a minimum of 0·002 parts to a maximum of 0·008 parts and total hardness varied from minimum of 3·3 parts in December to a maximum of 8·2 parts in March.

Coliform organisms were found in volumes of 1·0 and 5·0 ccs.

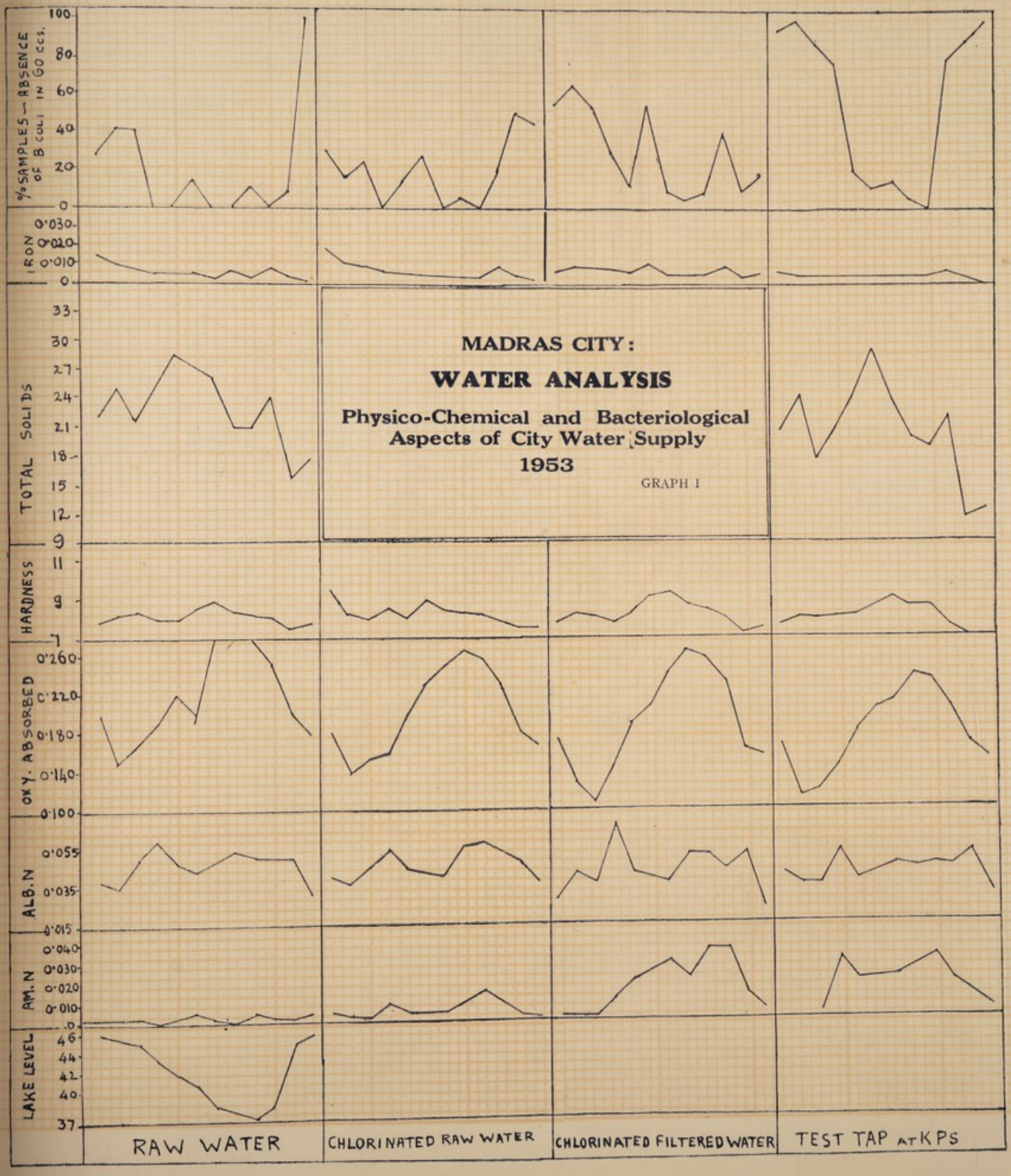
2. *Raw water at the Kilpauk end.*

Samples of water were drawn every day fron one of the raw water conduits before chlorination, and the weekly averages for some of the important tests are shown in table VI and chart I. The range of variations of some of the important results is as below:

Albuminoid N	...	0·022 to 0·068
Oxygen absorbed	...	0·114 to 0·324
Total hardness	...	7·1 to 8·9
Iron	...	0·001 to 0·025
%of samples showing B· Coli 5 c.c. and upwards	...	0· to 100

3. *Chlorinated raw water*: The raw water reaching Kilpauk was chlorinated with gaseous chlorine just a few minutes before reaching the filters. The seasonal changes in some of the important physico-chemical results of tests are shown in Table VII and chart I. The dose of chlorine ranged from a minimum of 0·76 p.p.m. in February to a maximum of 3·66 p.p.m. in November. The percentage of samples showing absence of B. Coli. in 60 ccs. varied from nil to 50% indicating that the process of chlorination was inefficient as in the previous year.

4. *Sand filters and filtration*: (Tables VIII & IX): There are 17 sand filters of which 10 to 13 beds were in commission daily. They were worked with



MADRAS CITY:

WATER ANALYSIS

Physico-Chemical and Bacteriological Aspects of City Water Supply

1953

GRAPH I

MADRAS CITY
WATER ANALY
Physico-Chemical and Ba
Aspects of City Water
1953
RAW WATER
CHLORINATED RAW WATER

no fixed rate of filtration. The quantity of water thus strained varied from a minimum of 17·66 m. g .d. in August to a maximum of 24·66 m. g. d. in April. Results of some of the important tests are given below from Table IX for the test tap :

	Range
Ammoniacal N ..	Trace to 0·034 parts per 100.000
Albuminoid N ..	0·022 to 0·051 do.
Oxygen absorbed (Tidy's) ..	0·108 to 0·238 do.
Total hardness ..	6·7 to 8·8 do.
Iron ..	0·001 to 0·007 do.
Dose of chlorine ..	0·97 to 5·38 do. Million
% of samples showing absence of B. Coli. in 60 c.cs. ..	0 to 100

In September not even one sample was of satisfactory bacterial quality although the dose of chlorine applied was reported to range between 3·61 and 5·20 p.p.m. The application of such a heavy dose was due to the production of H_2S in enormous amounts in the filters. Nearly 50 lbs. of chlorine per hour were accordingly used without any satisfactory bacteriological result at the test tap and in the distributory system. The Director, King Institute in his report dated 16th July 1953 confirmed the above findings. He wrote that the sample of filtered and chlorinated water taken from the test tap at the pumping station showed the presence of coliform organisms in 10 c.c. volumes and that it was considerably short of the accepted bacteriological standard for a filtered and chlorinated protected water supply.

5. *Distribution System* : Tables XI, XII, XIII & XIV show the results of analysis of samples drawn from the high pressure, low pressure and booster areas of the city distribution system. The range of variations in some of the important results is given below :

	High Pressure	Low Pressure	Booster
Ammoniacal N.	Nil to 0·046	0·001 to 0·060	Nil to 0·048
Albuminoid N.	0.023 to 0·048	0·029 to 0.091	0·020 to 0·052
Oxygen absorbed (Tidy's)	0·109 to 0·253	0·111 to 0·234	0·105 to 0·241
Total hardness	7·2 to 8·6	7·6 to 11·5	7·6 to 9·2
Iron	0·001 to 0·021	0·005 to 0·024	·005 to 0·011
% of samples showing absence of B. Coli in 60 c.c	Nil to 100	Nil to 68	Nil to 90

With a view to determine the probable causes for the poor results, the conditions of existence in the pipe lines was investigated for a year by studying (1) the water temperature, and (2) amount of chloramine compounds in the

water. These factors are correlated with the B. Coli. results month-war below :

(a) *High pressure areas* (*Divisions* 21 *to* 25)

Months	No of samples	Range of water temperature (C°)	Range of Chloramine compounds (p.p.m)	% Samples B. Coli none in 60 cc.
(1)	(2)	(3)	(4)	(5)
February ..	10	28·8—30·4	<0·1 to 0·12	50
March ...	20	30·1—31·9	<0·1 to 0·15	60
April ...	24	32·0—34·0	<0·1 — 0·21	5
May ...	20	32·0—34·2	<0·1 — 0·25	0
June ...	17	28·8—34·5	·0 — <0·1	6
July ...	20	30·5—32·0	<0·1	0
August ...	10	30·0—32·0	<0·1	0
September ...	20	30·5—31·0	0 — <0·1	0
October ...	12	28·7—30·0	Nil	0
November ...	10	28·5—30·5	<0·1	80
December ...	10	27·5—28·0	<0·1—0·2	100

(b) *Low pressure areas* (*Divisions* 1 *to* 18, 26 *to* 40 & 42 *to* 47)

February ...	164	28·0—31·2	<0·1	42
March ...	132	30·4—32·8	<0·1	29
April ...	152	31·0—35·0	<0·1	5
May ...	173	32·0—36·0	<0·1	1
June ...	143	29·0—36·6	<0·1	0
July ...	148	29·5—34·5	Nil—<0·1	0
August ...	96	30·0—34·0	Nil—<0·1	1
September ...	115	31·0—32·0	Nil—<0·1	0
October ...	82	28·5—32·0	Nil	13
November ...	17	29·5—31·0	Nil	29
December ..	44	27·0—28·2	0·1—0·2	44

(c) *Booster areas* (*Divisions* 41, 45 & 50)

February ...	4	28·5—31·0	<0·1	50
March ...	10	31·1—32·1	<0·1	0
April ...	10	31·5—34·0	Nil to <0·1	0
May ...	16	33·3—36·0	<0·1 — 0·1	0
June ...	10	30·5—35·5	Nil — <0·1	0
July ...	12	30·5—34·0	,,	0
August ...	8	30·0—32·0	,,	0
September ...	6	31·0	Nil	0
October ...	6	31·5—32·0	,,	0
November ...	6	30·0—31·0	,,	0
December ...	4	29·0	<0·1	0

It will be seen from the above that the temperature of water is generally very high during March to September and comparatively higher especially in the low pressure areas. During this period the quantity of chloramine compounds in the distributed water is either nil or below 0·1 p.p.m., andthe

percentage of first class samples is practically nil. It would appear therefore that on account of the higher range of temperature of water inside the pipe lines during the hot weather and south west monsoon seasons, there appears to be increased biological activity resulting in the destruction of chloramine compounds and in the poor bacteriological results. Therefore it is very necessary to remove the accumulation of organic deposits and incructations inside the pipe lines which seem to afford the necessary pabulum for bacterial growths.

(B) *Infiltration gallery wells at Sembiam and Saidapet (Tables XV, XVI & XVII)*

Sembiam, Saidapet and Guindy are being supplied with water from the two infiltration galleries at Sembiam and Saidapet and the well at Richard's Park, Saidapet. While the Saidapet gallery water was always good chemically, the Sembiam gallery water contained iron which varied from 0·004 to 0·065 parts per 100,000. It was treated with lime for the removal of iron. Both were chlorinated at the source and the water as distributed was of fairly satisfactory quality.

(C) *Sterilization of water mains for the removal of growths and deposits in the city distributory system*

The work done in this connection is briefly stated below and in Table XVIII. This work was done at nights.

		From 5-8-51 to 31-3-53	From 1-4-53 to 31-3-54
1.	Total No. of days, the mains were sterilized ...	380	285
2.	Quantity of chlorine used ...	9136·75	4032
3.	Length of mains treated ...	17 miles & 6 fur.	5 miles & 5 fur.
4.	Details of mains treated :		
	(*a*) Main No. ...	7	2
	(*b*) Length ..	9 miles & 7 fur.	3 miles.
	(*c*) Days ...	153	124
	(*d*) Chlorine (lbs.) ...	..	1734
5.	No. of samples examined :		
	(*a*) Before sterilization ...	353	28
	(*b*) % Samples showing absence of B. Coli. in 60 c.c. ...	43	23
	(*c*) After sterilization ...	379	285
	(*d*) % Samples showing absence of B. Coli. in 60 c.c. ...	89	78

6. Effect of the addition of chlorine on the distribution system (Table XVIII) :

(*a*) Brownish, flocculent, soft deposits were dislodged from the sterilized portion of the mains when scoured. These deposits consisted essentially of ferric oxide, organic matter and the iron bacterium *Siderocapsa sp.* and *Leptothrix Ochracea.*

(*b*) An increase in the iron content immediately after sterilization and thereafter a reduction.

(*c*) An increase in the phosphate content.

(*d*) Bacteriologically considerable improvement after sterilization.

From the foregoing it will be seen that there is no doubt about the beneficial effect of sterilization of water mains in improving the general quality of water as supplied to the city. The incrustations in the pipe lines are several decades old and therefore patient and persistent treatment is required to bring about a radical change. The staff employed for this important purpose will have to be continued on a permanent basis as the progress of work has to be necessarily slow and as the progress of work has to be necessarily slow and as the incrustations respond to treatment only at the end of a week of heavy and continuous application of chlorine.

(*D*) *Researches on Red Hills Reservoir Water.*

1. A summary of the research reports of the Government Committee on water and sewage purification for the year ending 31-12-1953 is given below :

(a) The committee considered at length the deterioration in the bacteriological and physical qualities of the water supplied to the Madras City in recent years and recommended certain immediate remedial measures. They were :—(1) More effiicient control of chlorination of the raw and filtered waters ; (2) Closer association of the Corporation Water Analyst with the entire operation in regard to filtration ; (3) More efficient scouring of distribution system reach by reach ; and (4) Chloramination of the filtered water instead of mere chlorination as this is likely to yield better results and ensure a more satisfactory supply to the consumers.

(b) *Treatment of the raw water with chlorine by the break-point method followed by slow sand filtration*

(i Break-point dose varied from 4·5 to 9·0 p.p.m. and was highest in the month of August and lowest in December.

(ii) A sand filter receiving chlorinated raw water by this method worked for 169 days with an average length of 34 days per run.

(iii) Reduction in turbidity ranged from 6·2 to 10·3%.

(iv) Bacteriological improvement varied between 97% to 100% over raw water.

(v) There was no production of H_2S.

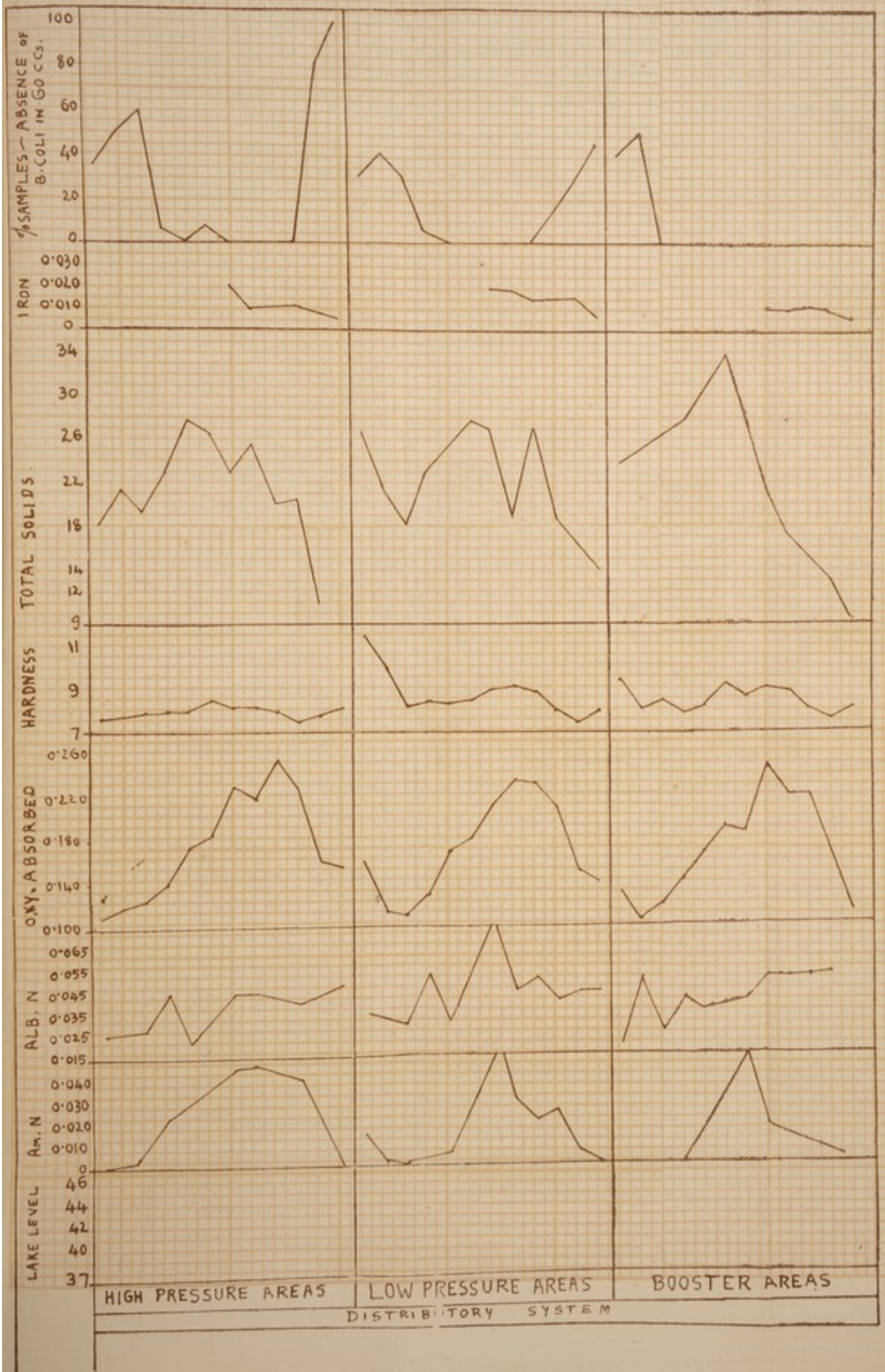
(vi) Retained oxygen in small amounts.

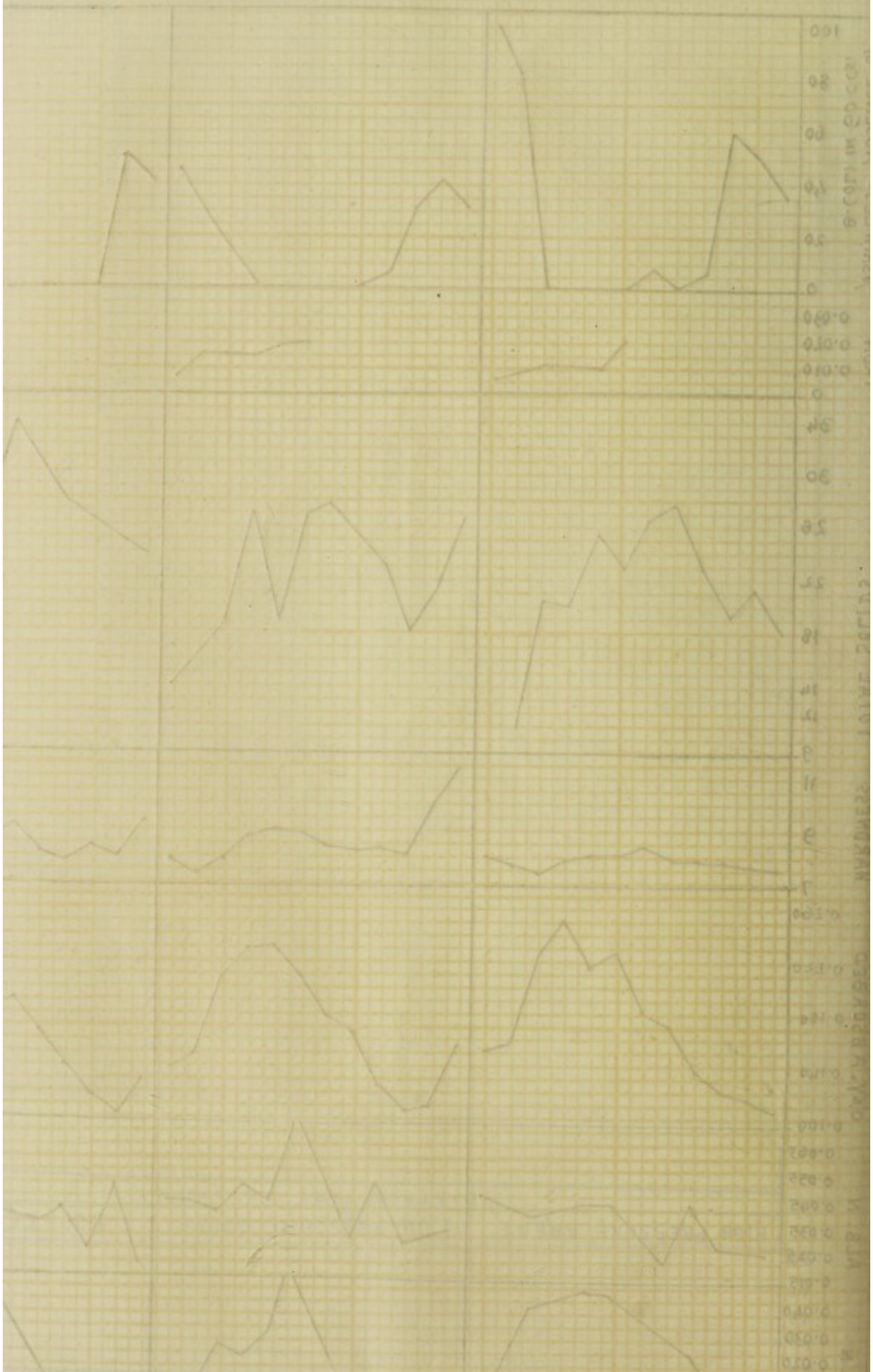
(vii) Reduction of organic matter : (A) the figures for oxygen absorbed were reduced by 27·7 to 34·1% ; (B) albuminoid nitrogen by 0 to 14%.

MADRAS CITY: WATER ANALYSIS

Physico-Chemical and Bacteriological Aspects of City Water Supply
1953

GRAPH II





(c) *Treatment of the raw water with chloramine followed by slow sand filtration.*

(i) The dose of chloramine applied to the water was 0·5 p.p.m. of ammonia N and 1·5 p.p.m. of chlorine.

(ii) A sand filter receiving chloraminated raw water worked for 194 days with an average length of 65 days per run.

(iii) Reduction in turbidity ranged from 5·8 to 14·9%.

(iv) Bacteriological improvement varied between 99·7 and 100%.

(v) There was no production of H_2S except on one occasion when the bed gave a minute trace of it with the filter run prolonged to 50 days.

(vi) Retained oxygen in small amounts.

(vii) Reduction of organic matter:—(1) The figures for oxygen absorbed were reduced by 6·3 to 22·2%; (b) albuminoid N by 1·1· to 32·1%.

So, the Government Committee concluded that chloramination as a pre-treatment procedure would cost less than break-point chlorination and that the former had the additional advantage of longer persistence in the treated water than free chlorine residuals especially under conditions of exposure to sunlight. In the light of these encouraging results, the committee had already recommended to the Madras Corporation that these treatment measures should be carried out on plant scale on a battery of seven sand filter beds at the Kilpauk Water Works.

2. Weekly determinations of the break.point dose of chlorine of raw and filtered water during different seasons of the year were made in the Corporation Laboratory (Tables 19 and 20).

In Tables 19 & 20 are shown the results of weekly determinations of the break-point dose, the applied dose and some of the important physico-chemical factors such as temperature, organic matter and PH. The monthly variations in the break-point dose for raw and filtered water are compared below with the respective applied dose.

Month	Raw water (p.pm.)		Filtered water (p.p.m.)	
	B.P. dose	Applied dose	B.P. Dose	Applied dose
January ...	1·0 —1·5	0·68—1·39	1·0 —1·50	1·36—1·68
February ...	0·75 1·0	0·76 —1·25	1·0 —2·00	1·16—1·42
March ...	0·75—1·25	1·05—1·77	1·0 —2·50	1·12—1·47
April ...	0·75—1·25	1·07—1·31	2·0 —2·75	1·20 —1·52
May ...	1·5	1·22—1·89	2·0 —2·50	1·10—1·98
June ...	1·5 —2·0	1·00—1·82	3·5 —5·00	2·23—2·28
July ...	2·0 —2·75	1·0 —1·84	3·5 —6·00	2·19—4·47
August ...	2·0 —2·75	1·33—1·87	3·75—8·00	4·00—4·80
September ...	3·0 —3·50	2.25—2·80	6·0 —8·5	3·61—4·76
October ...	1·50—3·0	3·66—3·77	5·50—7·00	4·02—5·10
November ...	1·25—1·50	1·13—1·77	1·5 —3·50	1·66—3·02
December ...	1·00—1·75	0·74—2·32	0·75—1·50	1·62—2·36

3. Estimation " free chlorine " and chlorine compounds in the raw and filtered water:

During the weekly determinatiou of the break-point doses of raw and filtered water, the dosages experimented varied from 1·0 to 5·0 p.p.m. for the former and 1·0 to 10·0 p.p.m. for the latter. Making use of Palin's latest F.A.S. method, the several chlorine compounds and free chlorine were determined for each dose. The results of this investigation are shown in Tables 21 and 22.

S. V. GANAPATI, B.A., M.SC., A.R.I.C.
Water Analyst.

REPORT OF THE PUBLIC ANALYST FOR THE CITY OF MADRAS FOR 1953

The number of samples analysed in the Public Analyst's Laboratory during the year was 6,166 as against 5,223 in 1952. Among these samples, 5,735 were samples analysed under the Madras Prevention of Adulteration Act, 1918 as against 4,827 in 1952. For the first time since the laboratory started functioning in 1933, the number of samples analysed in the laboratory has exceeded 6,000 samples per annum.

Of the 5,735 samples analysed under the provisions of the Madras Prevention of Adulteration Act, 1918, 3,164 samples were genuine and the remaining 2,571 samples were found to be adulterated. The percentage of adulterated samples for the year 1953 was 44·8 against 54·8 in 1952.

The samples consisted of milk, butter, ghee, gingelly oil, groundnut oil, cocoanut oil, coffee powder, tea, ghee substitutes, turmeric, arrowroot, and other articles. A statement of the samples analysed in 1953 and in the five previous years is given in the Appendix (Food Analysis—Statement No. 1). A graph showing the number of samples analysed and the percentage of adulteration, each year from 1933 is also appended to this report.

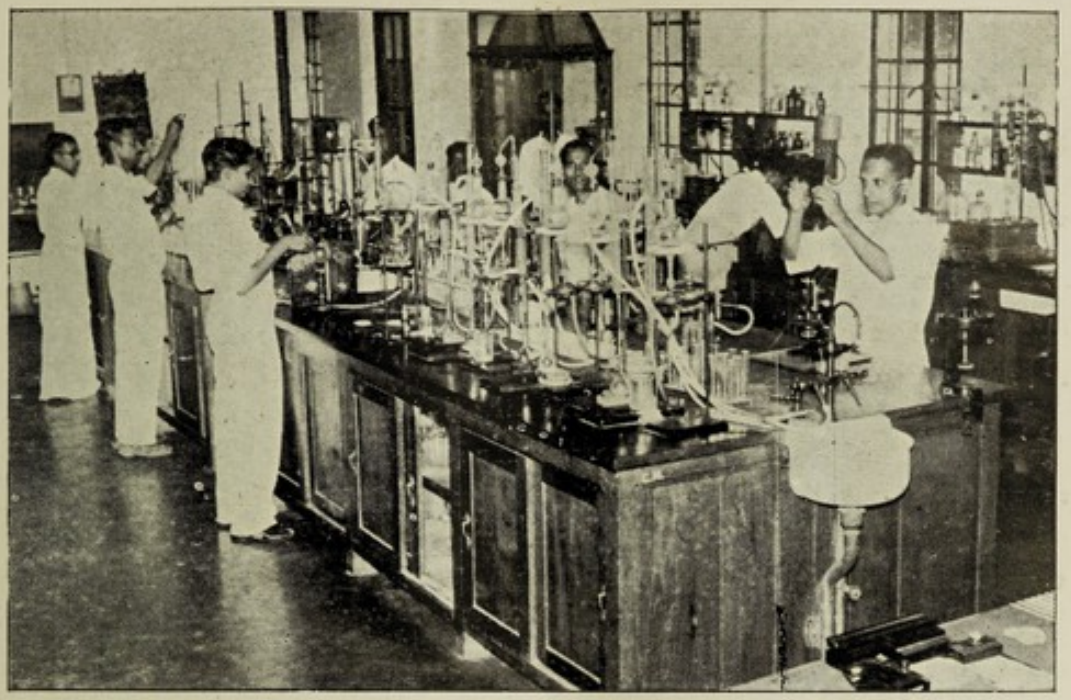
It would be seen from Statement No. 1 that the percentage of adulterated samples had been rising steadily from 1948 onwards with the peak level of 54·8. The period of this steep rise in the percentage of adulteration has to some extent synchronised with the period of very severe drought conditions in Madras State and the consequent serious shortage of foodstuffs rose to phenomenally high levels. The scarcity of foods and the consequent abnormally high prices always tempt the adulterater to increase his activity. With welcome rains in 1952 and the consequent easing of the food situation, a decrease in this unsocial activity could naturally be expected.

After reaching a peak figure 54·8 in 1952, the percentage of adulteration has fallen to 44·8 in 1953. Though this decrease is quite welcome, the figure of 44·8 for the percentage of adulteration is still too high to be tolerated by any organised and civilised community.

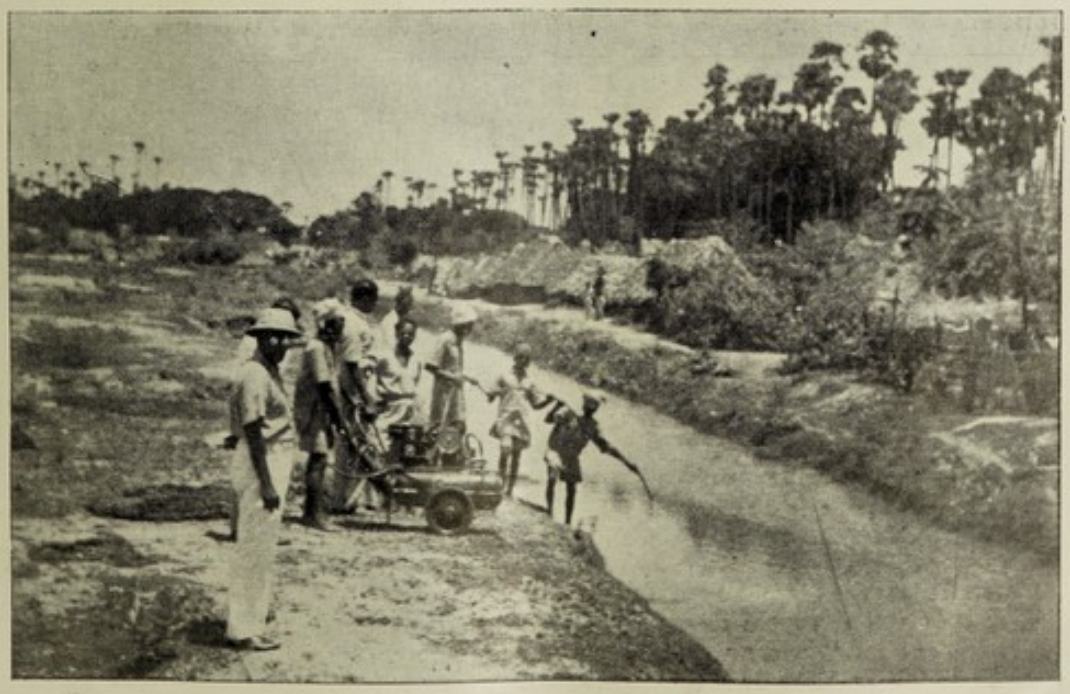
As in previous years, milk had again recorded the highest figure for adulteration. As I have pointed out more than once in my previous reports, the bulk of the samples taken for analysis by the Corporation is milk and unlike the other articles of food, the bulk of the milk trade in the City of Madras is still in the hands of small cattle-owners of the city and the itinerant milk vendors from outside. The remedy for this is to remove the cattle-yards from the city and strictly enforce the licensing provisions in relation to milk-dealers. It would be advisable to confine the issue of licences for selling milk in the city to Co-operative milk societies. The smaller milk-dealers and cattle-yard owners have perforce to become members of such milk societies. Such milk societies would not only feel their responsibilities and duties to the public, but would be much easier of control by the authorities enforcing the Food Adulteration Laws.

As appreciable degree of adulteration has also been noticed in butter, ghee, and coffee powder, though the situation in the case of these articles is far better than that of milk.

60·7 percent of the milk samples were adulterated in 1953 against 72·5 in 1952. Though there has been a fall in the adulteration of milk during the year under report as compared with 1952, it still continues to be high in spite of the fact that the Corporation is at present taking more than 3,000 samples of milk per annum. As pointed out in my previous reports, so long as the price of milk is high and so long as the fines levied by the Magistrates are not sufficiently deterrent, the temptation to make easy profits by adulteration would continue.



Food Analysis Laboratory



Larvicidal measures-power spraying

The percentage of adulteration of butter in 1953 was lower than in 1952, the respective figures being 30·3 and 39·1. The adulteration of ghee also showed a decrease during the year 1953, the percentage of adulteration in 1953 being 19·3 against 31·3 in the previous year. The percentage of adulteration of gingelly oil in 1953 was 14·5 against 19·3 in 1952. The adulteration of groundnut oil, which has always been low showed a slight increase during the year under report, the percentage of adulteration in 1953 and 1952 being 3·3 and 2·8 respectively. The adulteration of cocoanut oil also decreased from 6·4 per cent in 1952 to 2·8 percent during the year. There was one case of adulteration of cocoanut oil with mineral oil. Adulteration of edible oils with mineral oil is detrimental to health, but this serious adulteration had been completely stamped out by the year 1951 due to the vigorous steps taken by the Corporation. Only one sample of cocoanut oil out of 143 contained Mineral Oil and therefore it is to be presumed that it might be a case of stray accidental adulteration and not a practice systematically, adopted by the cocoanut oil dealers. The adulteration of coffee powder has shown a considerable decrease during the year under report, the percentage of adulteration being 32·3 against 55·6 in 1952. Tea was the only article continuously free from adulteration since 1933 except in a few samples in 1951. Out of the 29 samples of Turmeric, only two contained lead in excess of the prescribed limit.

The analysis of samples of arrowroot was continued during the year under report. In commerce the term Arrowroot includes a number of starches besides the genuine arrowroot (starch of Maranta arundinacea) each of these subtitutes starches having a seperate geographical prefex to the term arrowroot. Under the new rules regarding arrowroot, the sale of any starch other than that of Maranta is permissible only if the term ' Arrowroot ' is followed by the words ' Not recommended for invalid diet '. Not a single sample amongst the 38 samples of Arrowroot analysed was genuine arrowroot and none of the samples had a label as per the labelling rules regarding the sale of arrowroot substitutes.

The details regarding the various articles of food analysed during the year under report are given below :

Milk : 3,338 samples of milk were analysed. Of these, 1,087 samples were Cow's Milk, 1,312 were Buffalo's Milk, 4 samples were Goat's Milk, 834 samples were sold under the description of Mixture of Cow's and Buffalo's Milk, 76 samples were described as Milk without the qualification of Cow's or Buffalo's, 23 samples were described as Reconstituted Milk and 2 samples were described as Powder Milk.

Of the 1,087 samples of Cow's Milk 395 were genuine and 692 were adulterated. Among the adulterated samples, 580 contained Added Water ranging from 1 to 80 per cent. There was deficiency in fat in 30 samples to the extent of from 14 to 97 percent and 82 samples were deficient in fat in addition to containing added water. The average values of fat and solids-not-fat for the 395 genuine samples of Cow's Milk were 5·1 percent and 9·2 per cent respectively as against the average values of 5·0 per cent fat and 9·1 per cent solids-not-fat in 1952. One of the adulterated samples of milk contained 1·0 percent cane sugar besides containing 31 per cent Added Water and being deficient in fat to the extent of 12 per cent.

Of the 1,312 samples of Buffalo's Milk, 537 were genuine and 775 were adulterated. Among the adulterated samples, 636 contained added water ranging from 1 to 78 per cent, 56 samples were deficient in fat to the extent of from 13 to 93 per cent, and 83 samples were deficient in fat besides containing added water. The average values of fat and solids-not-fat for 537 genuine samples of Buffalo's Milk were 6·8 and 9·7 per cent respectively as against the average values of 6·7 per cent fat and 9·6 per cent solids-not-fat in 1952.

Of the 4 samples of Goat's Milk, one sample was adulterated and was deficient in fat besides containing added water.

Among the 834 samples of mixture of Cow's and Buffalo's Milk 331 were genuine and 503 were adulterated. Among the adulterated samples, 462 contained added water ranging from 1 to 72 per cent, 20 samples were deficient in fat to the extent of from 13 to 97 per cent and 21 samples were deficient in fast besides containing added water.

Of the 76 samples described as Milk without any qualification, 42 were genuine and 34 were adulterated. 18 of the adulterated samples contained added water ranging from 2 to 53 per cent, two samples were deficient in fat and the remaining 14 samples contained added water and were also deficient in fat.

23 samples of Reconstituted Milk were analysed and the samples which did not satisfy the prescribed standards of purity for Cow's Milk were reported as adulterated. 17 of the 23 samples were accordingly reported as adulterated. Among the adulterated samples, there was fat deficienly to the extent of 40 per cent in one sample, deficiency in solids-not-fat from 6 to 11 per cent in 9 samples, 7 samples were deficient in both fat and solids-not-fat. Of the two samples described as Powder Milk one was deficient in solids-not-fat and the other deficient in both Fat and Solids-not-fat.

Among the 3, 313 milk samples of all the above categories except 23 Reconstituted Milk and 2 Powder Milk, 1,897 samples contained added water and the average content of added water in these 1,897 samples was 22 per cent as against 25 per cent during the year 1952.

Butter: 680 samples were analysed, of which 474 samples were genuine and 206 were adulterated. In 152 of the adulterated samples the water content ranged from 21·6 to 75·7 per cent, the prescribed maximum limit for water being 20 per cent. 30 of these 152 adulterated samples also contained fat other than milk-fat besides containing excess water. The remaining 54 adulterated samples of butter had a water content within the prescribed maximum limit, but however adulterated with foreign fat. The extent of adulteration among the 84 samples of butter which contained Foreign Fat ranged from 7 to 88 per cent.

The average water content of the 474 genuine samples of butter was 17·7 against 17·4 during 1952 and the average water content of the 152 samples which contained excess water was 45·2 as against 40·9 in 1952. Among the 84 samples of butter which contained foreign fat, the average percentage of foreign fat was 37 as against 35 in 1952.

It has to be mentioned that the adulteration of butter with foreign fat which was non-existent for nearly two decades has been very much on the increase during the years 1952 and 1953. Therefore the general impression among the public that they could get pure ghee by buying butter and melting it into ghee is erroneous.

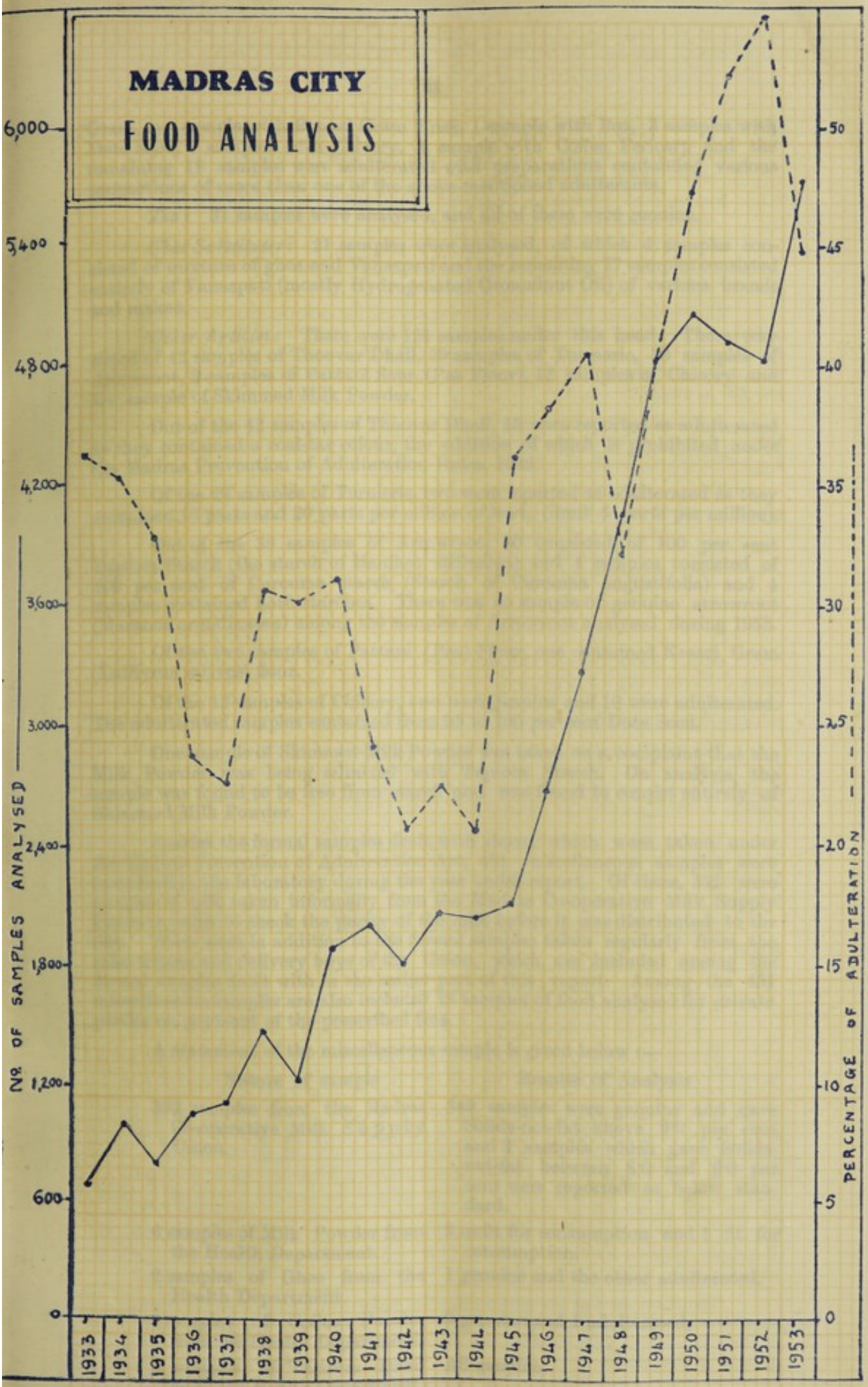
Ghee: 910 samples were analysed. Of these, 176 samples were adulterated with fat other than milk-fat, the common foreign fat used for the adulteration of these samples being Vanaspati (mostly hydrogenated groundnut oil). The extent of adulteration ranged from 7 per cent to entire substitution. The average admixture of foreign fat in the adulterated samples was 64 per cent.

Gingelly Oil: 331 samples were analysed, of which 48 were adulterated with groundnut oil to the extent of from 10 to 85 per cent.

Groundnut Oil: 30 samples were analysed, of which one sample was reported as adulterated as it contained 55 per cent gingelly oil.

Cocoanut Oil: 143 samples were analysed and 3 of them were adulterated with groundnut oil to the extent of from 10 to 35 per cent and 1 sample contained 25 per cent Mineral Oil.

Coffee Powder: 127 samples were analysed, of which 41 were adulterated. Of the adulterated samples, 10 samples were adulterated with Bengal


MADRAS CITY
FOOD ANALYSIS
No. OF SAMPLES ANALYSED
PERCENTAGE OF ADULTERATION
6,000
5,400
4,800
4,200
3,600
3,000
2,400
1,800
1,200
600
0
50
45
40
35
30
25
20
15
10
5
0
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953

MADRAS CITY
FOOD ANALYSIS

Gram, one sample with Bengal Gram Husk, 1 sample with Pea, 3 samples with Date Seed, 7 samples with Chicory, 1 sample with Coffee Pericarp and the remaining 18 samples were adulterated with preparations containing various proportions of more than one of the above-mentioned adulterants.

Tea: 31 samples were analysed, and all of them were genuine.

Ghee Substitutes: 21 samples were analysed, of which 4 samples consisted of mixture of ghee and Vanaspati and the remaining 17 samples consisted entirely of Vanaspati (mostly Hydrogenated Groundnut Oil) of various brands and makes.

Other Articles: There were 124 samples under this head. These consisted of 42 samples of Thoovar Dhall, 29 samples of Turmeric, 38 samples of Arrowroot, 2 samples of Pattani flour (Pea Flour), 12 samples of Chicory and one sample of Skimmed Milk Powder.

Out of the 42 samples of Thoovar Dhall, 15 were reported as adulterated as they contained a coal-tar colour, the addition of which is prohibited under the Madras Prevention of Adulteration Rules, 1932.

Of the 29 samples of Turmeric, two were reported as adulterated as they contained 18 parts and 20 parts per million of lead, (limit 5 parts per million).

Out of the 38 samples of Arrowroot, 30 consisted of 100 per cent Tapioca Starch (the starch of Manihot utilissima) and 4 samples consisted of 100 per cent of Curcuma starch (Starch of Curcuma angustifolia) and 4 samples contained both starches. There was no sample of genuine arrowroot (Maranta arundinacea) among the samples of Arrowroot analysed during 1953.

Of the two samples of Pattani (Pea) Flour, one contained Kesari Gram (Lathyrus sativus) flour.

Of the 12 samples of Chicory, two were genuine and 10 were adulterated. The adulterated samples contained from 95 to 100 per cent Date Seed.

One sample of Skimmed Milk Powder was taken on a complaint that the Milk Powder was being admixed with Tapioca Starch. On analysis, the sample was found to be free from starch and was found to consist entirely of Skimmed Milk Powder.

Besides the formal samples dealt with above, which were taken under the Madras Prevention of Adulteration Act, 431 miscellaneous samples were examined in the laboratory during the year under report. Of these, 352 were samples of milk taken informally from the Madras Co-operative Milk Supply Union in order to check the purity of the milk before it was distributed to the city. These were in addition to the formal samples taken regularly from the sales depots and delivery boys of the Union, which are included among the formal samples dealt with in the earlier part of this report. Among the 431 miscellaneous samples are also included 19 samples of food analysed for private parties on payment of the prescribed fees.

A statement of the miscellaneous sample is given below :—

Nature of sample	Results of Analysis
352 samples from the Madras Co-operative Milk Supply Union.	349 samples were genuine and gave Solids-not-fat above 9·0 per cent and 3 samples which gave Solids-not-fat between 8·0 and 9·0 per cent were reported as below standard.
6 samples of Milk Powder from the Health Department.	5 unfit for consumption and 1 fit for consumption.
2 samples of Ghee from the Health Department.	1 genuine and the other adulterated.
4 samples of Coffee Powder from the Health Department.	3 genuine and 1 adulterated.
2 samples of Thoovar Dhall from the Health Department.	All genuine.

Nature of sample	Results of Analysis
1 sample of Boiled Rice from the Health Department.	Fit for consumption.
1 sample of Bleaching Powder from the Health Department.	Contained 6·2 available Chlorine.
44 samples of Transformer Oils from the Electrical Department.	Reports on the inorganic and organic acidities were made.

The remaining 19 samples were analysed for private parties on payment of fees and these consisted of 8 samples of Milk, 7 samples of Ghee, one sample of Gingelly Oil, 1 sample of Cocoanut Oil and 2 samples of Curry Powder. The amount of fees collected during the year under report was Rs. 125 against Rs. 290 in 1952.

A Tabular Statement on the action taken on the adulterated samples of 1953 and those of 1952 pending disposal on 1st January 1953 is given in the Appendix (Food Analysis—Statement No. II).

The number of samples reported as adulterated during the year under report was 2,571. Action taken in respect of these samples is given below :

Warning of Vendors in cases where adulteration was slight.	...	126
Prosecution of Vendors.	...	2,445
Total	...	2,571

Of the 2,445 prosecutions instituted, convictions were obtained in 1,247 cases. There were 3 withdrawals and 2 acquittals and the remaining 1,193 cases were pending disposal on 31st December 1953. Among the 3,093 cases relating to the period prior to 1st January 1953, 928 convictions were obtained.

The total number of convictions for the sale of adulterated articles of food in 1953 was 2,175 as against 1,606 in 1952. The amount of fines imposed in 1953 was Rs. 44,786 against Rs. 49,757 in 1952. The average fine per conviction in 1953 was Rs. 21 against Rs. 31 in 1952.

During the year under report, there were 5 convictions under Section 14 (3) of the Madras Prevention of Adulteration Act for preventing the food Inspectors from taking samples under Section 14 (1) of the Act and the fines imposed amounted to Rs. 70.

The following persons continued as my assistants during the year under report :

1. Sri. S. Sundaram, M.A.
2. Sri. R. Ramalingam, M.Sc.
3. Sri. V. V. Ramana Rao, M.Sc.
4. Sri. C. Rajaganapathi, B.Sc.

Before concluding, I have most regretfully to point out that the most precipitous fall in the fines imposed in Food Adulteration cases has occurred during the year under report. The average fine per conviction during 1953 was Rs. 21 as against Rs. 31 in 1952 and the peak figure of Rs. 59 in 1944. One would naturally have expected the Magistrates to take a more serious view of offences under the Food Adulteration Act, the longer the Act has been in force. Instead, within a decade, the fines have fallen to nearly one-third of what it was in.1944. No wonder that in spite of the greatly increased number of samples analysed in the Public Analyst's Laboratory, the improvement noticed in the purity of food-stuffs sold to the public has been very small. Repeated appeals made by me in successive Annual Reports for the imposition of sufficiently deterrent fines have had no response from the Magistrates.

The sheet-anchor for success in the enforcement of the Prevention of Adulteration Act is deterrent fines and without deterrent fines, all the efforts of the Corporation cannot yield the desired results in the matter of suppresion of food adulteration.

V. VENKATACHALAM, M.A., A.R.I.C.,
Public Analyst.

MADRAS CITY
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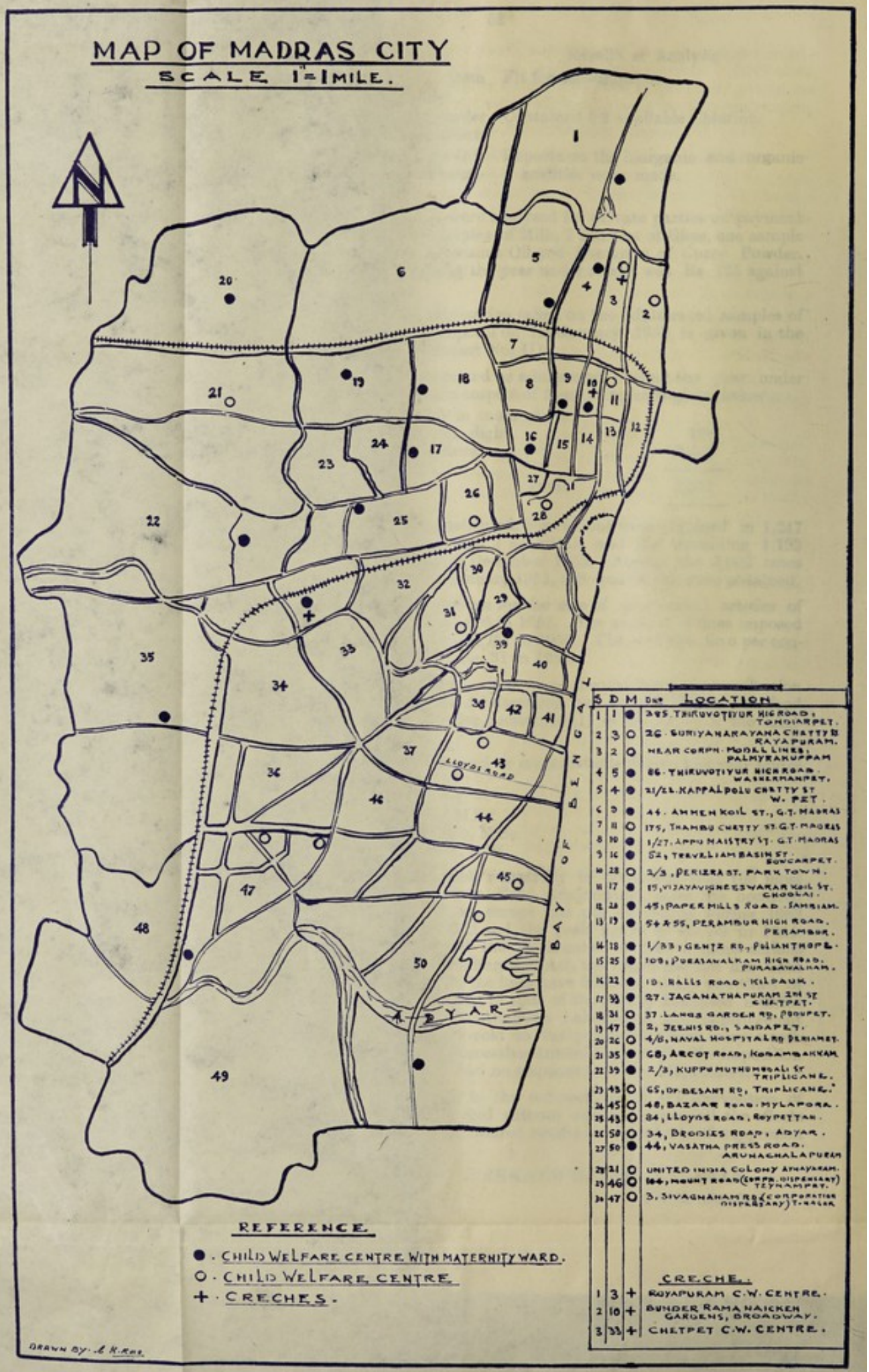
Locations of Childwelfare Institutions



S	D	M	Dist	LOCATION
1	1	●		385. THIRUVOTTIYUR HIG ROAD, TONDIARPET.
2	3	○		26. SUNIYANARAYANA CHETTY ST RAYAPURAM.
3	2	○		NEAR CORPN. MODEL LINES, PALMYRAPUPPAM
4	5	●		86. THIRUVOTTIYUR HIGH ROAD. WASHERMANPET.
5	4	●		21/22. KAPPALPOLU CHETTY ST W. PET.
6	9	●		44. AMMEN KOIL ST., G.T. MADRAS
7	11	○		175, THAMBU CHETTY ST. G.T. MADRAS
8	10	●		1/27. APPU MAISTRY ST. G.T. MADRAS
9	16	●		52, TREVELLIAM BASIN ST. ROYAPET.
10	28	○		2/3, PERIERA ST. PARK TOWN.
11	17	●		19, VIJAYAVIGNESWARAR KOIL ST. CHOOLAI.
12	24	●		45, PAPER MILLS ROAD. SAMBIAM.
13	19	●		54 & 55, PERAMBUR HIGH ROAD. PERAMBUR.
14	18	●		1/33, GENTZ RD., PULIANTHOPE.
15	25	●		109, PURASAWALKAM HIGH ROAD. PURASAWALKAM.
16	22	●		10. BALLS ROAD, KILPAUK.
17	33	●		27. JAGANATHAPURAM 2ND ST CHETPET.
18	31	○		37. LANGS GARDEN RD, EGMORE.
19	47	●		2, JENNIS RD., SAIDAPET.
20	26	○		4/6, NAVAL HOSPITAL RD PERIAMET.
21	35	●		68, ARCOT ROAD, KOSAMBAKKAM.
22	39	●		2/3, KUPPU MUTHUMUDALI ST TRIPLICANE.
23	43	○		65, DR. BESANT RD, TRIPLICANE.
24	45	○		48, BAZAAR ROAD. MYLAPORE.
25	43	○		84, LLOYDS ROAD, ROYPETTAH.
26	50	○		34, BRODIES ROAD, ADYAR.
27	50	●		44, VASATHA PRESS ROAD. ARUNACHALAPURAM
28	21	○		UNITED INDIA COLONY ANNAYAKAM.
29	46	○		104, MOUNT ROAD (CORPN. DISPENSARY) TEYNAMPET.
30	47	○		3, SIVAGNANAM RD (CORPORATION DISPENSARY) T. NAGAR.

			CRECHE.
1	3	+	ROYAPURAM C.W. CENTRE.
2	10	+	BUNDER RAMA NAICKEN GARDENS, BROADWAY.
3	33	+	CHETPET C.W. CENTRE.

REPORT ON CHILD WELFARE SCHEME FOR 1953

The Child Welfare Scheme continued to serve the expectant and nursing mothers during the year under report. Two more centres viz. Pulianthope and Washermanpet were started for examining blood of ante-natal cases in May 1953, bringing the total number of centres conducting blood examination to 6.

Serological examination of blood of ante-natal cases: The total number of blood samples examined, number of positive cases that took full course, partial treatment, treatment after persuasion by staff etc. during the year 1953 are given below:

Total number of samples examined	Number of positive cases	Number of positive cases that took full course of treatment	Number of positive cases that took partial treatment	Number of positive cases that had taken the treatment after persuasion by the staff	Number of positive cases that did not turn up for treatment in spite of persuasion by the staff
10,128	679	259	95	307	325

Maternity and Child Welfare Centres: During the year, there were 27 child welfare centres, 3 sub-centres, 17 maternity wards and 3 creches under the control of the Child Welfare Scheme. The number of beds in the Maternity wards was reduced from 223 to 218 consequent on the closure of one ward at Periamet Centre. The cases relating to this division are now dealt with in the Ashok Vihar. The creches at Broadway, Royapuram, and Chetpet which are intended for the benefit of working mothers continued to be popular. But want of accommodation in the creches, prevent us from taking in more children. The children are given necessary toilet, change of clothing, nourishing food, adequate rest, games and nursery education during their stay in the creche from 8 A.M. to 5 P.M. Action songs, story telling, moral instructions, handicraft and prayer are being taught by the nursery trained teacher. All ailments of the child are attended to by the doctor in charge and treated immediately. The average number of children looked after daily in Broadway, Royapuram and Chetpet creches is 46, 27 and 24 respectively. The expenditure incurred by the Corporation on the maintenance of the creches for the year 1953-54 was Rs. 16,993.

Staff: Captain (Miss) C. N. Rukmini, M.B.B.S., Lady Superintendent, was in charge of the Scheme during the year. There were 29 assistant surgeons including one relieving assistant surgeon, 31 qualified health visitors, 8 general trained nurses, 225 midwives and 25 compounders under the Scheme.

Pre-natal clinics: The Assistant Surgeons conducted pre-natal clinics thrice a week regularly in each centre. The health visitor and midwives during their home visits advised expectant mothers to attend the clinics. 36,185 new expectant mothers attended the clinics and were given medical advice and treatment by the assistant surgeons against 41,430 in 1952. The health visitors registered 37,289 expectant mothers in the houses of the patients against 42,208 registered in the previous year. The patients were advised by the assistant surgeons and followed up by the health visitors till their confinement. A good number of mothers were benefited by the instructions, advice and treatment given at these centres.

Maternity service: The total number of births is the City for the year was 54,277 against 62,921 in the previous year. The number of labour

cases that came under the care and observation of the Scheme was 27,218 against 32,264 in the previous year. 12, 389 births were conducted in the Corporation maternity wards during the year against 13,982 in the previous year. The midwives paid 2,24,385 visits, health visitors 1,42,877 visits and the assistant surgeons 20,275 visits to the houses of the patients against 2,66,200 visits, 1,20,121 visits and 28,304 visits respectively in the previous year. Among births there were 218 twins and 706 still births. The percentage of still births works out at 2.6.

A sum of Rs. 15,702-12-0 was collected during the year as fees for maternity services rendered to patients against Rs. 15,983-12-0 in 1952. The fall in collection is due to (1) raising of the income level of free service from Rs. 81|- to Rs. 100 and (2) the reduction of maternity fees from Rs. 25|- to Rs. 15|- for the income group from Rs. 101|- to Rs. 200|-.

Maternal Mortality: Out of 27,218 cases of labour that came under the care of the Scheme, 48 cases of maternal mortality were recorded as noted below against 56 in the previous year. The maternal mortality rate works out to 1.76 per mille against 1.73 per mille in 1952.

	Maternal Deaths	
	1953	1952
Child Welfare Scheme	4	2
Hospitals	43	49
Private Doctors	1	4
Vaidyans	...	1
	48	56

Infant Mortality: Out of 32,264 births in the year 1952, 894 were still-births. The remaining 31,370 babies were kept under observation during the first year of life in 1953 against 29,023 babies kept under observation during 1952. The mortality among live births was 2,305, against 3,291 in the previous year. 2,439 babies left the City or were otherwise not traceable against 2,786 in the previous year. The infant mortality is 114.23 per mille against 125.43 in 1952.

Out patient clinics: The assistant surgeons conducted out-patient clinics in all the centres as usual. Infants, pre-school children, and expectant and nursing mothers were examined, advised and treated for minor ailments. 64,473 infants, 35,991 toddlers, 67,811 nursing mothers and 36,185 expectant mothers represent the new cases that were treated and advised. The total number of new cases that attended the clinics was 2,04,460 and the number of old cases was 4,96,096 making a total of 7,00,556 cases.

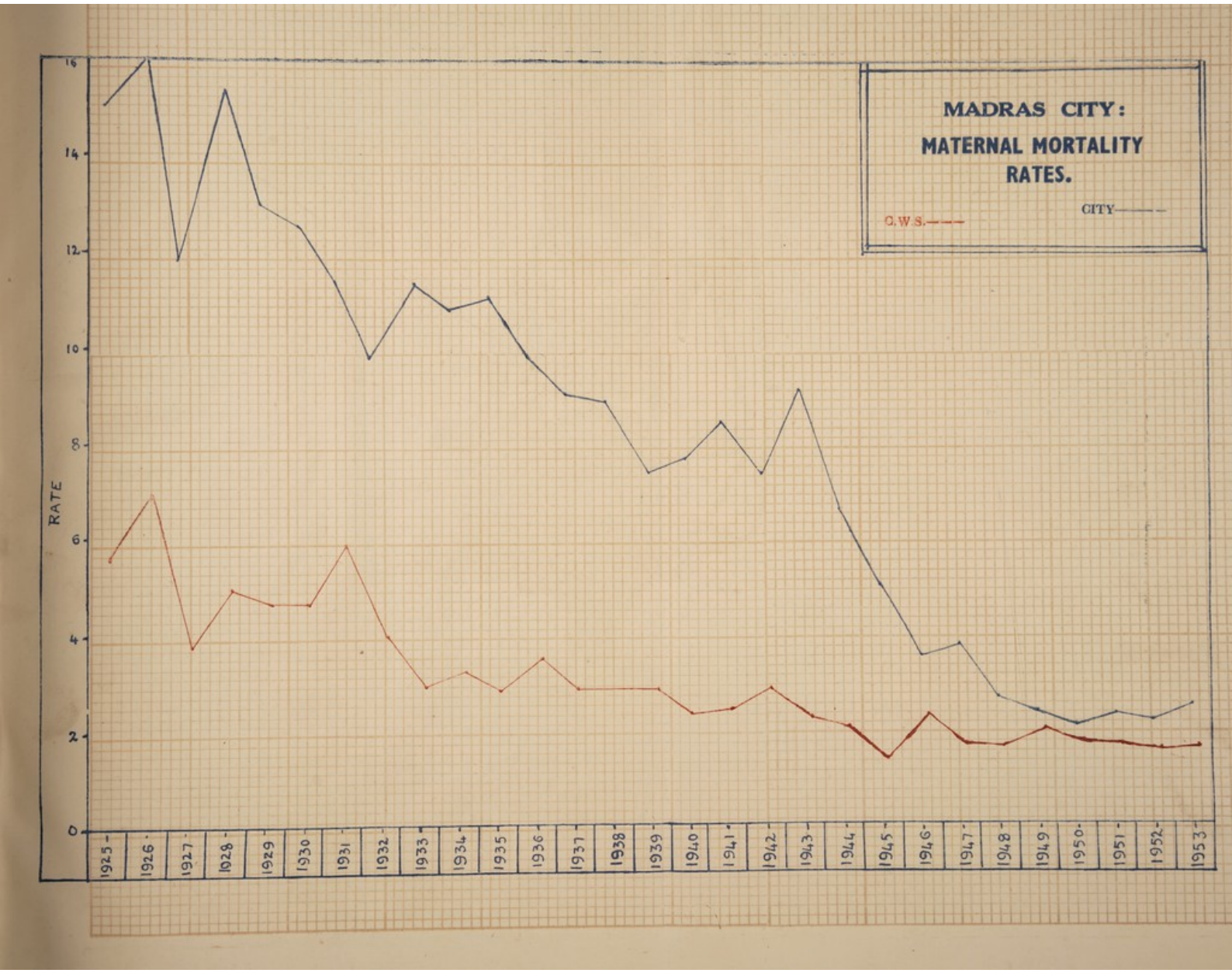
Family Planning Clinics: In the 3 Family Planning Clinics at Choolai Maternity Home, Washermanpet and George Town Child Welfare Centres advice to multiparous women were given in 227 cases. Contraceptives were supplied in 86 cases.

Ambulance: Two ambulance vans were actually used in Child Welfare Scheme while the third was engaged at the Infectious Diseases Hospital. The number of emergent cases which were transported by these vans to the various hospitals in the City during the year was 1,809.

Milk supply: Cow's milk was supplied free of cost to deserving children during the year at 4 measures per day per Centre (i.e.) two measures in the morning and two measures in the evening. The total number of children supplied with milk was 2,841.

C. N. Rukmini,

Lady Superintendent,
Child Welfare Scheme.


MADRAS CITY:
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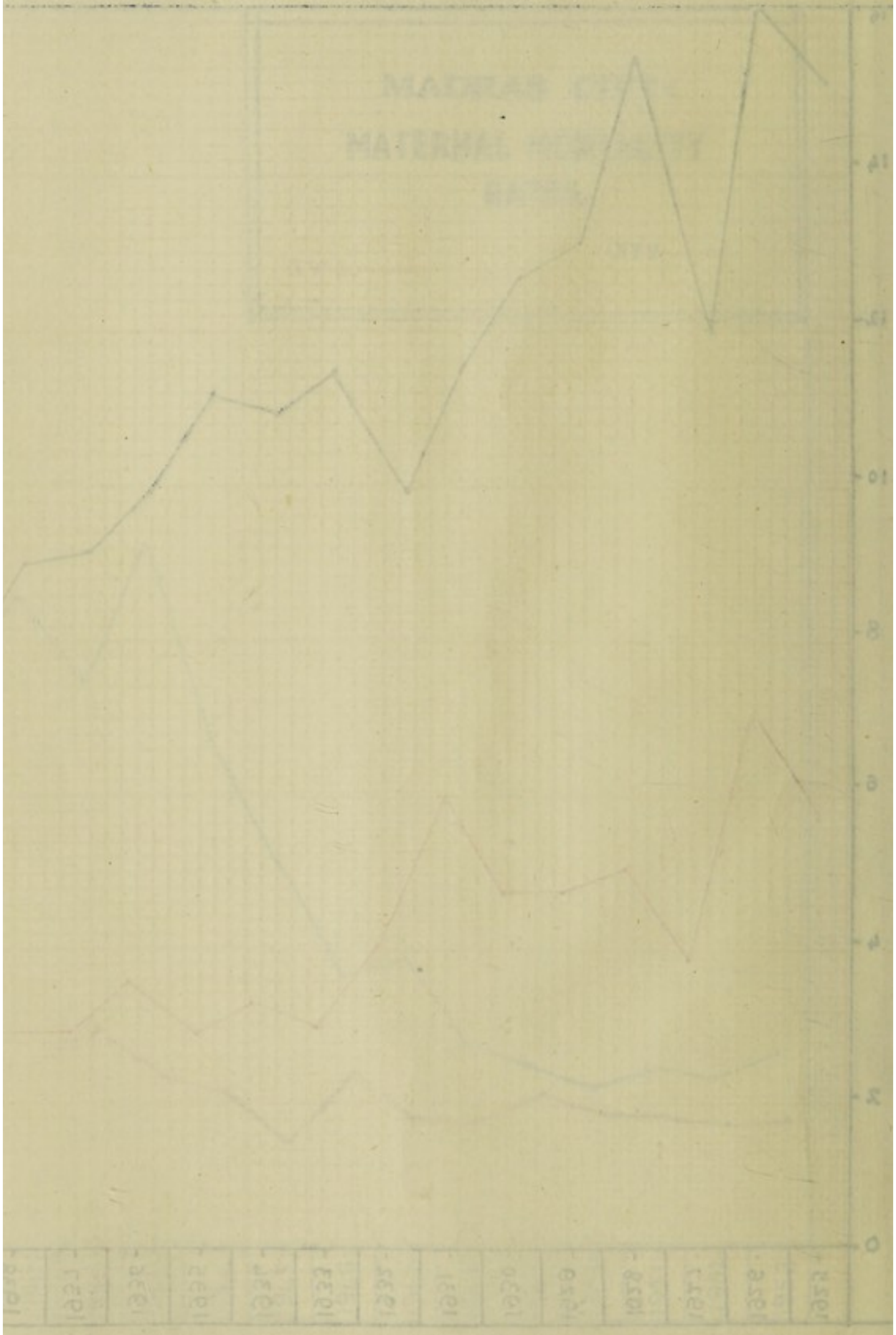

SUMMARY OF ANNUAL REPORT OF THE PORT HEALTH OFFICER, MADRAS 1953

1. 586 vessels with 37,084 crew and 27,701 passengers were inspected on arrival during the year. None of the vessels were infected.

Out of 586 vessels leaving this port during the year, 390 vessels with 28,784 crew and 43,787 passengers were inspected at the time of departure for foreign ports.

2. Six cases of second hand imported clothing and blankets were disinfected before release by the Customs Authorities.

Bedding, clothing etc., of 1,078 new crew were inspected and disinfected before being taken on board.

3. Lascars' provisions of 65 vessels and 156 tins of ghee were inspected and sealed before being taken on board. In all, 5 samples of ghee were collected and one of the samples indicated high acid value on analysis by the Chemical Examiner and immediate action was taken to replace the entire lot from which the sample was collected. A stock of Atta (flour) on board a vessel was inspected on receipt of a complaint and replaced by fresh stock on being found unfit for consumption.

4. Unclaimed articles and food stuffs were inspected at the request of the Chairman, Madras Port Trust. These consisted mostly of damaged stuff lying unclaimed for long time. The following were examined during the year:

(i) 154 lots of unclaimed articles were examined and only 62 lots were found fit for human consumption.

(ii) 1 consignment of hide was advised to be destroyed since it was creating nuisance by emitting bad smell.

(iii) 150 boxes of damaged smoked fish were examined and advised to be destroyed as unfit for human consumption.

(iv) 70 cases of medicines and food stuffs damaged by fire on board a ship were declared unfit for use as medicine or food.

5. 260 seamen trainees, seamen for continuous certificate of discharge and other candidates for employment as seamen, were medically examined and certificates of fitness or otherwise issued.

6. On receipt of radio messages from the Masters of eight vessels at sea seeking medical advice in connection with sickness on board the vessels, necessary advices were sent immediately to the Masters concerned.

7. Sanitation of the Port area was looked after by the Madras Port Trust and maintained satisfactorily. Storage tanks of water supply of the port area, were cleaned regularly and water from these sources was analysed at regular intervals. Measures were taken to rectify defects when noticed.

8. With effect from 17—8—1953 the Port of Madras has been authorised to issue deratting Exemption Certificates only. Since then, 5 such certificates were issued, collecting an amount of Rs 307 as fees.

INSTITUTIONS UNDER THE DEPARTMENT

Offices for Registration of Births and Deaths

Serial No.	Divisions Served	Location
1	1, 2 & 3	87, Suryanarayana Chetty St., Rayapuram
2	4 & 5	546, Thiruvottiyur High Road, Washermenpet
3	6	55, Madhavaram High Road
4	7,8 9 & 10	244, Mint Street
5	11, 12 & 13	47, Linghi Chetty Street
6	14, 15	161, Govindappa Naicken Street
7	16	183, Walltax Road
8	17	Rotler Street, Vepery
9	18 & 19	55, Pulianthope High Road
10	20	23, Paper Mills Road, Sembiam
11	21	127, Konnur High Road, Ayanavaram
12	22-A	65. Poonnamallee High Road, Near Spur Tank
13	22-B & 35-B	100 do. Aminjikarai
14	23, 24 & 25	6, Gangadareswarar Koil, Street, Purasawalkam
15	26	69, Maddox Street, Vepery
16	27 & 28	23, Kolandai Street, Park Town
17	29 & 30	3/61 Arunachala Naicken Street, Chintadripet
18	31 & 32	34, Poosala Gengu Reddy Street, Egmore
19	33 & 34	15, Noor Veerasami Iyer St., Nugambakkam
20	35-A	68, Arcot Road, Kodambakkam
21	36 & 47-A	3, Sivagnanam Road, T'Nagar
22	37, 38, 39, & 40	369, Pycrofts Road, Pudupakkam
23	41 & 42	25, Pycrofts Road, Triplicane
24	7 & 4	25, Barbers Bridge Road
25	43	25, Barber's Bridge Road
26	44	101, Katcheri Road, Mylapore
27	45 & 50-A	63, do.
28	46	104, Mount Road, Teynampet
29	47-B & 48	No. 1, Karneeswaran Koil Street, Saidapet
30	49	32/5 Velacheri Road, Guindy
31	50-B	12,[Bridge Road, Adyar

Offices of Sanitary Inspectors

Divn. No.	Location
1	21/22, Kappal Polu Chetty Street
2	Kalmandapam Road
3	Robinson Park
4	546, Thiruvottiyur High Road, Washermenpet
5	do.
6	Hope Lodge, Gantz Road
7	Model Cattle Yard, Basin Bridge Road
8	244, Mint Street
9	do.
10	Junction of Monegar Choultry Rd. & Ebramji Sahid St.
11	1/32, do. do.
12	6/17, Adam St., Harbour

Divn. No.	Location
13	47, Linghi Chetty Street
14	3/48, Thatha Muthiyappan Street
15	183, Wall Tax Road
16	do. do.
17-A	39, Veda Vinayagar Road
17-B	do.
18	55, Puliantope High Road
19	1-B, Bashyam Reddy Street
20	25, Paper Mills Road, Sembiam
21	39, Konnur High Road, Ayanavaram
22-A	65, Poonamallee High Road, Kilpauk
22-B	100, do· Aminjikarai
23	6, Gangadareswarar Koil Road
24	39, Vedavinayagar Road
25	65, Poonamallee High Road
26	66, Maddox St., Vepery
27	26, Nannian St., Park Town
28	23, Kolandai Street
29	Adikesavalu St., Chintadripet
30	72, Kalavai Chetty St., Chintadripet
31	83, Harris Road
32	34, Gengu Reddy St., Egmore
33	16-A, Nungambakkam High Road
34	21, Village Road
35-A	68, Arcot Rd., Kodambakkam
35-B	100, Poonamallee High Road, Aminjikarai
36	3, Sivagnanam Rd., T'Nagar
37	868/369, Pycrofts Road
38	do.
39	102, Thayar Sahib Street
40	21, Pycrofts Road
41	do.
42	22, Chengalroya Mudaly Street, Triplicane
43	25, Barbers Bridge Road
44	101, Katcheri Road, Mylapore
45	do. do.
46	104, Mount Road, Teynampet
47-A	3, Sivagnanam Road
47-B	2, Jeenis Road, Saidapet
48-A	32, Razack Market, Saidapet
48-B	2, Jeenis Road, Saidapet
49	16, Velacheri Road, Guindy
50-A	Mandavali, St., Mylapore
50-B	Bridge Road, Adyar

Dispensaries

Serial No.	Divn. No.	Name	Location
1	1	Rayapuram Disp	87, Suryanarayana Chetty St.
2	5	Washermenpet ,,	85, Tiruvottiyur High Road

Serial No.	Divn. No.	Name		Location
3	6	Vyasarpady	Disp	Hope Lodge, Gantz Road
4	6	Perambur	,,	55, Madavaram High Road
5	8	Mint	,,	244, Mint Street
6	11	Harbour	,,	6/7, Adam Street
7	14	Mafuzkhan Garden	,,	55, Thatha Muthiappen Street
8	16	Trevelyan Basin	,,	17, Trevelyan Basin Water Works Street
9	17	Baliah Naidu	,,	Rotler Street
10	20	Sembiam	,,	Paper Mills Road
11	21	Ayanavaram	,,	39, Konnur High Road
12	23	Kilpauk	,,	6, Gangadareswarar Koil Street
13	24	Kosapet	,,	8, Chellappa Mudali Street
14	29	Chintadripet	,,	2-61, Arunachala Naick Street
15	32	Egmore	,,	34, Gengu Reddy Street
16	34	Nungambakkam	,,	11, Veerasamy Iyer Street
17	35	Kodambakkam	,,	68, Arcot Road
18	37	Pudupakkam	,,	367, Pycrofts Road
19	41	Triplicane	,,	21, do
20	43	Krishnampet	,,	25, Barbers Bridge Road
21	45	Mylapore	,,	101, Katcheri Road
22	46	Teynampet	,,	104, Mount Road
23	47	T'Nagar	,,	3, Sivagnanam Road
24	50	Adyar	,,	Lattice Bridge Road
25	33	Ayurvedic	,,	Model School Street, Thonsaud Lights
26	13	Mannady Unani		47, Linghi Chetty St.
27	18	Puliantope	,,	55, Puliantope High Road
28	31	Pudupet	,,	1, Venkatachala Achari St.
29	39	Thiruvateeswaranpet Unani		130, Thyar Sahib Street
30	3	Royapuram Siddha		102, Adam Sahib Street
31	17	Choolai	,,	16, Alathooor Subramania Achari
32	19	Otteri	,,	1-B Bashyam Reddy 1st St. [St.
33	2	Palmyrah Kuppam		Near Corporation Model Lines

Clinics

Venereal clinic	82/83, Strahans Road, Perambur
Leprosy clinics	Ice House Road (Besant Road) Triplicane
	Hope Lodge, Vyasarpady
T. B. Clinics	Puliantope High Road
	Government General Hospital
	Government Stanley Hospital
	Government Royapettah Hospital
	Kasturba Gandhi Hospital

Laboratories

Public Health Clinical Laboratory,
Ripon Buildings (Tel. No. 2988/50)

Public Analyst's Laboratory,
Ripon Buildings (Tel. No. 2988/55)

Water Analyst's Laboratory,
Kilpauk Water Works (Tel. No. 2202)

Malaria Laboratory
17, Trevelyan Basin Water Works Street

Hospital

Infectious Diseases Hospital
Tiruvottiyur High Road, Tondiarpet
(Tel. No. 3117)

Sri Tiruvotteeswar Tuberculosis Hospital
391, Konnur High Road (Tel. No. 4827)

Ashok Vihar Health & Recreation Centre, People's Park Tel. No. 4754)

Zoological Gardens, Peoples Park (Tel. No. 55314)

Lethal Chamber, Basin Road

Hearse :—Corporation Lorry Station Tel. No. 3457.

Poor Relief

Work House for able bodied beggars
Poor House
Orphanage
} Suryanarayana Chetty Street
Royapuram
(Tel. No. 3550)

Special Home for the diseased and infirm } Krishnampet

Mid-day meals centres (Tel. No. 86377)

Basin Road-Kondithope-North Range

Iyah Mudaly Street-Chintadripet Central Range
(Tel. No. 85763)

Conran Smith Road, Gopalapuram-South Range

Veterinery Dispensaries

Basin Road, Konditope

Barbers Bridge Road, Krishnampet

Prasanna Vinayagar Temple Road, Mylapore

Corporation Cattle Yards

Basin Road, Kondithope

Singanna Chetty Street, Chintadripet

Vinaithirta Vinayaga Mudali Street, Kosapet

Venkatarangam Pillai St., Saidapet

Slaughter Houses

Sheep and Cattle

Alandur { Gantz Road—Perambur Barracks Road—Saidapet

Pigs

Junction of Basin Rd. and Pulianthope High Road

CHILD WELFARE CENTRES

S. No.		Location	Phone No.
1	*Tondiarpet ...	385, Tiruvottiyur High Road ...	4615
2	Royapuram ...	26, Suryanarayana Chetty St. ...	2146
3	Palmyrah kuppam. ...	Near Corpn. Model Line ...	2780
4	*Washermenpet ...	86, Thiruvottiyur High Rd ...	3258
5	*Sanjiviroyanpet ...	21/22, Kappal Polu Chetty St....	2819
6	*George Town ...	44, Ammen Koil St. ...	3697
7	Muthialpet ...	175, Thambu Chetty St. ...	3121
8	*Kothwal Bazaar ...	1/27, Appu Maistry St. ...	4616
9	*Trevelyan Basin ...	52, Trevelyan Basin St. ...	3128
10	Park Town ...	2/3, Pereira St ...	4522
11	*Choolai ...	15, Vijaya Vigneswarar Koil St.	4617
12	*Sembium ...	45, Paper Mills Road ...	2606
13	North Perambur ...	54 & 55, Perambur High Rd. ...	4523
14	*Puliantope ...	1/33 Gantz Road ...	3880
15	*Purasawalkam ...	109, Purasawalkam High Rd. ...	3035
16	*Kilpauk ...	19, Halls Road ...	55446
17	*Chetpet ...	27, Jaganathapuram 2nd St. ...	8199
18	Egmore ...	37, Langs Garden Road ...	86519
19	*Saidapet ...	Jeenis Road ...	88265
20	Periamet ...	4/8, Naval Hospital Road ...	4341
21	*Kodambakkam ...	68, Arcot Road ...	88469
22	*Triplicane ...	2/3,.Kuppu Muthu MudalySt. ...	86505
23	Mirsahibpet ...	65, Dr. Besant Road ...	86947
24	Mylapore	48, Bazaar Road ...	86570
25	Royapettah ...	84, Lloyds Road ...	86644
26	Mandaveli ...	34, Brodies Road ...	86614
27	*Adyar ...	44, Vasantha Press Road ...	85427
28	Ayanavaram ...	7, Guruvappa Maistry St. ...	2788
29	Teynampet ...	104, Mount Road ...	88158
30	T. Nagar ...	3, Sivagnanam Road ...	...
31	Nammalwarpet ...	14, Subbaraya Chetty St. ...	...
32	Napier Park ...	Arunachala Nacken St. ...	...
33	Peddunaickenpet ...	18, Zindah Sahib St. ...	...
34	*Vyasarpadi ...	Bharati Road ...	...

CRECHES

1	Broadway ...	Bunder Rama Naicken Garden ...	4614
2	Royapuram ...	Child Welfare Centre ...	2146
3	Chetput ...	Child Welfare Centre ...	8166

* Maternity Ward attached.

Burial & Burning Grounds

S. No.	Dn. No.	Name of burial ground	Location
1	1	Kasimode Burial and Burning Ground	Suryanarayana Chetty Street, Royapuram.
2	6	Melpattadai Ponnappa Mudali St. Burial and Burning Ground	Melpattadai Ponnappa Mudal Street, Perambur.
3	6	Manali Road Burial and Burning Ground	Manali Road, Vyasarpaudy.
4	7	Washermenpet Burial and Burning Ground	Kathiawakkam High Road, Washermenpet.
5	17	Choolai Cremation Ground	Basin Road, Puliantope.
6	20-A	Thangal Burial and Burning Gr.	Thangal, Sembiam.
7	20-A	Peravallur Burial and BurningGr.	Peravallur, Sembiam.
8	20-B	Agaram Burial and Burning Ground	Loco Works Road, Sembiam.
9	21	Vailangadu Burial and Burning Ground	Iyanavaram.
10	22-B	Halls Road Burial and Burning Ground	Halls Road, Kilpauk.
11	23	Otteri Burial and Burning Ground	Brickkiln Road, Otteri.
12	34	Sterling Road Burial and Burning Ground	Sterling Road, Chetpet.
13	35-A	Puliyur Burial and Burning Ground	Puliyur Cheri Kodambak kam.
14	35-A	Saligramam Burial and Burning Ground	Near Saligramam Cheri
15	35-A	Kodambakkam Burial and Burning Ground	Kodambakkam, near AVM Studios
16	35-A	Nallankuppam Burial and Burning Kodambakkam	Nallankuppam West Mambalam.
17	35-B	Aminjikarai Burial and Burning Ground	Lime Kiln Street Aminjikarai
18	35-B	Arumbakkam Burial and Burning Ground	Aminjikarai.
19	35-B	Naduvankarai and Burial Burning Ground	do
20	35-B	Mullam Burial and Burning Ground	do
21	35-B	Periagudal Burial and Burning Ground	do
22	43	Krishnanipet Burial and Burning Ground	Gajapathy Lala Street Dr. Besant Road
23	44	Mylapore Burial and Burning Ground	South of Edward Elliots Road
24	47-A	Thyagaraya Nagar Burial Burning Ground	Kannammapet.
25	48-B	Saidapet Burial and Burning Ground	Jones Road, Saidapet.
26	49	Kottur Burial and Burning Ground	Kottur, Guindy.
27	49	Zamin Adyar Burial and Burning Ground	Adyar.

S. No.	Dn. No.	Name of burial ground	Location
28	49	Kallikundram Burial and Burning Ground	do
29	49	Valacheri Burial and Burning Ground	do
30	50-B	Urur Burial and Burning Ground	Urur Village, Adyar.
31	1	Muslim Burial Ground	Surianarayana Chetty Streett
32	"	" Bhora Burial Ground	do
33	"	" Old Burial Ground	do
34	"	" Khoja Burial Ground	Thandavaroya Gramany St.,
35	2-A	Kilpauk B. G.	Shenoy Nagar.
36	1	Christian Cemetry	Surianarayana Chetty Street
37	22-A	Kilpauk Cemetry	Shenoy Nagar
38	50	EllapathaMada Coil Cemetry	St. Mary's Rd Mylapore.
39	1	Chinese Burial Ground	Surianarayana Chetty St.
40	"	Jewish Burial Ground	do
41	22-A	Buddist Burial Ground	Shenoy Nagar.

VITAL STATISTICS

STATEMENT NO. I

Meteorological data of Madras for 1953 — Latitude 13°04' N — Longitude 80°15' E

Months	Mean Barometric pressure corrected for temperature and reduced to standard gravity and mean sea level in Millibars Hours I.S.T.		Temperature (°F)									Humidity %		Wind		Rainfall in inches		
			Mean Maximum °F	Mean Minimum °F	Mean Daily Range columns 4—5	Mean Daily-temperature ½ of columns 4+5	Mean dew point Hours I.S.T.		Mean Maximum Solar Radiation Temperature	Difference between mean temperature and Dewpoint temperature at hours I.S.T.		Percentage of Humidity * Hours I.S.T.		Mean direction of wind in degrees from North		Total fall for the month in inches	Heaviest rainfall in 24 hrs. in inches	No. of rainy days (0·10" and over)
	08·30	17·30					08·30	17·30		08·30 col 7-8	17·30 col 7-9	08·30	17·30	08·30	17·30			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
January ...	1015·6	1012·5	83·8	69·6	14·2	76·7	69·6	67·7	141·2	6·9	9·0	84	68	326	56	1·23	0·85	2
February ...	1016·1	1012·8	85·9	69·5	16·4	77·7	69·2	67·2	143·3	8·5	10·5	81	63	301	75	0·19	0·19	1
March ...	1012·2	7008·3	93·3	75·0	18·3	84·2	72·8	71·7	148·1	11·4	12·5	75	63	242	135	0 00	0 00	0
April ...	1010·5	1006·5	94·8	79·9	14·9	87·3	75·0	75·8	153·7	12·3	11·5	70	68	208	137	0·26	0·18	1
May ...	1006·9	1003·1	104·5	84·0	20·5	94·3	77·6	81·6	164·3	16·7	12·7	66	70	237	153	0·00	0·00	0
June ...	1004·8	1001·5	100·3	82·5	17·8	91·4	72·7	74·7	153·0	18·7	16·7	61	58	248	198	0·56	0·23	2
July ...	1006·3	1002·9	96·2	79·8	16·4	88·1	71·8	73·2	149·0	16·3	14·9	66	60	249	170	2·17	0·41	4
August ...	1007·5	1003·6	95·6	80·3	15·3	87·9	72·3	72·6	145·7	15·6	15·3	67	55	247	257	2 40	0·95	5
September ...	1008·2	1004·6	92·4	77·8	14·6	85·1	73·5	73·8	145·0	11·6	11·3	76	68	261	148	5·44	1·89	10
October ...	1010·6	1007·2	87·1	76·2	10·9	81·7	76·4	76·8	139·4	4·5	5·1	87	85	283	88	18·75	3·83	16
November ...	1013·7	1010·9	85·3	72·7	12·6	79·0	72·2	71·3	143·9	6·0	2·9	82	73	301	61	5·18	3 10	6
December ...	1015·9	1012·9	82·9	69·0	13·9	75·9	69·0	66·8	154·6	5·7	8·5	82	68	351	30	1·45	1·37	26
Total ...	12128·3	12086·8	1102·1	916·3	185·8	1009·3	872·1	873·2	1781·2	134·2	130·9	897	799	3364	1503	36·73	13·00	73
Means ...	1010·7	1007·2	91·8	76·4	15·5	84·1	72·7	72·8	148·4	11·2	10·9	75	67	272	125	3·14	1·1	6

STATEMENT NO. II

Births registered in each Division during 1953

Division No.	Name of Division	Population according to the census of 1951			Number of Live Births Registered			Ratio of Births per 1000 of Population			Number of Males born to every 100 Females Born	Excess of Births over deaths per 1000 of Population	Excess of Deaths over Births per 1000 of Population	Number ofstill-Births registered
		Males	Females	Total	Males	Females	Total	Males	Females	Total				
1	New Washermenpet ...	15,543	15,826	31,369	784	691	1,475	50·0	43·6	47·0	113·4	6·7	..	26
2	Royapuram ...	10,117	10,734	20,851	435	378	813	43·0	35·2	38·9	115 0	9·4	...	21
3	Singara Garden ...	24,594	18,602	43,196	1,142	1,142	2,284	46·0	61·3	52·8	100·0	17·2	...	80
4	Sanjevirayanpet ...	26,660	24,718	51,378	981	946	1,927	36 7	38·2	37·5	103·6	1·6	...	48
5	Korukupet ...	16,456	20,150	36,606	1,028	936	1,964	62·5	46·4	55·6	109·8	...	4 6	49
6	Vyasarpady ...	12,641	12,147	24,788	551	445	996	43·5	36·6	40·2	123·8	8·9	...	11
7	Basin Bridge ...	11,472	11,272	22,744	386	371	757	33·6	32·9	33·2	104·0	...	2·0	24
8	Peddu Naickenpet ...	16,011	15,001	31,012	496	466	962	30·9	31·0	31·0	106·4	10·4	...	20
9	Seven Wells ...	14,994	10,990	26,984	519	503	1,022	38·6	41·9	37·8	103·1	...	0·4	27
10	Amman covil ...	12,636	10,954	23,590	408	355	763	32·2	32·4	32·3	112·1	5·9	...	22
11	Muthialpet ...	12,894	13,297	26,191	433	473	906	33·5	35·5	34·5	91·5	16·0	...	16
12	Harbour ...	8,950	7,021	15,971	297	275	572	33·1	39·1	35·8	107·0	...	9·0	15
13	Kachaleeswarar kovil ...	7,832	4,961	12.793	202	202	404	25·7	40 7	31·5	100·0	6·0	...	10
14	Kothawal Bazaar ...	8,771	6,346	15,117	249	235	484	28·3	37·0	32·0	105·9	5·3	...	13
15	Sowcarpet ...	8,782	6,489	15,271	238	232	470	27·1	35·7	30·7	102·5	11·3	...	18
16	Trevelyan Basin ...	15,424	14,072	29,196	516	506	1,022	34·1	35·9	35·0	101·9	9·1	...	19
17	Choolai ...	27,226	25,751	52,977	942	984	1,926	34·5	38·2	36·3	95·7	6·2	...	28
18	Puliantope ..	23,000	21,194	44,194	958	884	1,842	41·6	41·7	41·6	112·8	0·5	...	52
19	Perambur Barracks ..	14,843	14,662	29,505	541	501	1,042	36·4	34·1	35·3	107·9	7·8	...	22
20	Sembium ...	14,608	15,677	30,285	656	619	1,275	44·9	39·4	42·1	105·9	10·1	...	35
21	Aynavaram ...	14,464	14,354	28,818	581	618	1,199	40·1	43·0	41·6	93·6	8·4	...	43
22	Kilpauk ...	12,629	10,287	22,916	494	412	906	39·1	40·0	39·5	119·9	16·8	...	40

23	Pursawalkam	...	16,738	14,008	30,746	514	486	1,000	30·7	34·6	32·5	105·7	7·3	...	24
24	Kosapet	...	20,227	19,407	39,634	798	738	1,536	39·4	38·0	38·7	108·1	5·3	...	35
25	Vepery	...	8,298	9,136	17,434	297	284	581	35·7	31·0	33·3	104·5	13·8	...	15
26	Periamet	...	16,728	14,835	31,563	526	475	1,001	31·4	32·0	31·7	110·7	1·1	...	28
27	Edapalayam	...	10,124	8,358	18,482	255	294	549	25·1	35·1	29·7	86·7	4·5	...	10
28	Park Town	...	9,160	7,075	16,235	232	208	440	25·3	29·3	27·1	111·5	...	56·2	13
29	Napier park	...	10,682	8,876	19,558	347	353	700	32·5	39·8	35·8	98·3	8·0	...	12
30	Chintadripet	...	13,688	12,809	26,497	468	464	932	34·1	36·2	35·1	100·8	9·7	...	22
31	Komaleeswaranpet	...	14,814	13,126	27,940	516	525	1,041	34·8	39·9	37·2	98·2	9·1	...	19
32	Egmore	...	8,385	8,319	16,704	707	704	1,411	84·3	84·6	84·4	100·4	57·5	...	106
33	Thousand Lights	...	15 997	15,345	31,342	646	573	1,219	40·3	37·3	38·8	112·7	10·8	...	18
34	Nungambakkam	...	14,739	12,668	27,407	507	474	981	34·3	37·4	35·7	106·9	11·6	...	22
35	Kodambakkam	...	19,226	17,908	37,134	803	765	1,568	41·7	42·7	42·2	104 9	11·0	...	36
36	Theagaraya Nagar (north)		10,886	10,487	21,373	392	320	712	36·0	30·5	33·3	122·5	9·9	...	14
37	Royapettah	...	11,901	11,443	23,344	392	420	812	32·9	36·7	34·7	93·3	9·1	...	23
38	Pudupakkam	...	14,448	14 224	28,672	528	445	973	36·5	31·2	33·9	118·6	2·1	...	25
39	Tiruvateeswaranpet	...	15,878	14,485	30,363	662	619	1,281	41·6	42·7	42·1	106·9	10·0	...	34
40	Chepauk	...	12,818	11,449	24,267	612	561	1,173	47·7	48·9	48·3	109·0	21·9	...	37
41	Triplicane	...	14,537	12,240	26,777	517	491	1,008	35·3	40·1	37·6	105·2	12·5	...	17
42	Zam Bazaar	...	13,295	11,749	25,044	436	428	864	32·7	36·4	34·4	101·8	2·3	...	18
43	Mirsaibpet	...	23,307	20,873	44,180	935	888	1,823	40·1	42·5	41·2	105·2	...	4·3	56
44	Mylapore (north)		17,383	21,351	38,734	691	695	1,386	39 7	32 5	35·7	99·4	11·1	...	42
45	Mylapore (South)	...	13,137	12,608	25,745	401	402	803	30·5	31·8	31·1	99·7	12·1	...	17
46	Teynampet	...	17,741	15,736	33,477	595	586	1,181	33·5	37·2	35·2	101·5	6·6	...	31
47	Theagarayanagar (South).		18,630	16,762	35,392	732	637	1,369	39·2	38·0	38·6	114·9	13·1	...	40
48	Saidapet	...	18,093	16,373	34,466	612	568	1,180	33·8	34·6	34·2	107·7	9·7	...	19
49	Guindy	...	9,604	7,812	17,416	273	289	562	28·4	36·9	32 2	94·4	11·2	...	11
50	Adyar	...	14,550	13,548	28,098	597	583	1,180	41·0	43 0	41·9	102 4	14·8	...	24
	Fort St. George	...	1,752	528	2,280	...	...	...	...	...	...	...	...	...	...
	Total	...	7,37,013	6,79,043	14,16,056	27,828	26,449	54,277	37·76	38·95	38·33	105·21	6·82	...	1,406

VITAL STATISTICS

STATEMENT No. III

Births registered in the divisions during each month in 1953

Division Number	Name of Division	January	February	March	April	May	June	July	August	September	October	November	December	Total number of births registered
1	New Washermenpet ...	117	97	118	88	115	111	123	117	93	167	163	166	1,475
2	Rayapuram ...	63	43	68	69	40	86	78	55	64	53	101	93	813
3	Singara Garden ...	163	142	152	144	109	233	233	206	130	230	227	315	2,284
4	Sanjeevirayanpet ...	146	143	155	114	124	192	171	164	131	158	201	228	1,927
5	Korukupet ...	132	110	126	148	140	193	188	182	139	158	230	218	1,964
6	Vyasarpady ...	70	75	60	70	58	95	110	83	88	80	92	115	996
7	Basin Bridge ...	59	34	54	54	55	63	64	70	59	63	68	114	757
8	Peddu Naickenpet ...	57	79	71	62	71	69	91	92	91	82	95	102	962
9	Seven Wells ...	74	68	56	55	90	83	80	86	101	89	120	120	1,022
10	Ammen Coil ...	53	51	48	52	48	55	92	69	55	72	84	84	763
11	Muthialpet ...	68	58	58	62	62	76	87	85	87	76	90	97	906
12	Harbour ...	51	50	43	47	44	45	41	38	54	41	58	60	572
13	Kachaleeswarar Coil ...	33	24	19	23	34	42	33	58	37	31	45	45	404
14	Kothawal Bazzar ...	36	26	35	27	32	43	41	32	43	50	57	62	484
15	Sowcarpet ...	43	21	26	33	33	41	44	49	54	39	41	46	470
16	Trevelyan Basin ...	60	76	73	70	63	96	94	103	94	111	89	93	1,022
17	Choolai ...	152	122	139	125	148	165	161	163	183	147	212	209	1,926
18	Pulianthope ...	127	159	156	111	136	128	168	150	164	131	169	243	1,842
19	Perambur Barracks ...	85	72	71	80	80	78	110	102	86	83	68	127	1,042
20	Sembiam ...	75	63	105	105	105	116	117	112	120	107	105	145	1,275
21	Ayanavaram ...	90	77	76	74	106	95	113	108	106	106	123	125	1,119
22	Kilpauk ...	57	47	76	73	64	77	93	81	79	80	78	101	906

23	Purasawalkam	...	78	62	82	83	61	71	96	78	85	82	86	136	1,000
24	Kosapet	...	120	113	118	115	107	128	131	143	120	117	125	199	1,536
25	Vepery	...	37	36	85	48	48	49	47	55	52	55	52	67	581
26	Periamet	...	77	67	60	79	67	73	88	70	103	94	111	112	1,001
27	Edapalayam	...	33	32	29	38	40	52	68	51	55	43	60	48	549
28	Park Town	...	28	29	31	36	35	53	31	46	37	42	37	35	440
29	Napier Park	...	55	53	59	57	53	61	64	71	51	60	42	74	700
30	Chindadripet	...	60	71	60	76	75	90	81	59	94	86	89	91	932
31	Komaleeswarnpet	...	84	80	75	73	80	80	78	86	106	94	95	109	1,041
32	Egmore	...	112	82	100	89	105	117	134	132	127	135	128	150	1,411
33	Thousand Lights	...	85	93	84	79	92	93	115	98	95	106	142	137	1,219
34	Nungambakkam	...	69	53	66	61	68	88	99	94	84	104	85	110	981
35	Kodambakkam	...	140	98	118	98	100	134	145	140	150	139	140	166	1,568
36	Theagaraya Nagar (North)	...	61	54	41	57	60	54	78	48	66	44	51	98	712
37	Rayapettah	...	62	42	65	50	56	54	82	63	82	87	76	93	812
38	Pudupakkam	...	81	72	70	60	82	74	99	81	89	82	88	95	973
39	Thiruvateeswarnpet	...	81	85	81	97	98	95	103	105	143	134	102	157	1,281
40	Chepauk	...	78	76	75	87	67	105	127	89	126	122	102	119	1,173
41	Triplicane	...	58	54	61	73	61	94	111	80	100	108	87	121	1,008
42	Zambazaar	...	65	62	64	73	50	70	76	56	93	87	72	96	864
43	Mirsahpet	...	142	137	129	117	145	154	172	155	138	185	161	188	1,823
44	Mylapore (North)	...	112	92	101	79	110	122	124	118	143	125	112	148	1,386
45	Mylapore (South)	...	48	54	51	56	84	57	84	59	74	86	70	80	803
46	Teynampet	...	101	70	76	71	79	108	127	101	83	107	98	160	1,181
47	Theagaroya Nagar (South)	...	86	89	91	88	101	104	132	120	141	115	93	209	1,369
48	Saidapet	...	71	71	84	73	103	92	111	115	112	109	103	136	1,180
49	Guindy	...	43	47	38	37	44	40	42	43	51	52	62	68	562
50	Adayar	...	88	70	77	79	83	105	126	79	113	103	114	143	1,180
			3,966	3,581	3 806	3,715	3,911	4,599	5,103	4,620	4,771	4,857	5,100	6,248	54,277

D aths and Infantile deaths registered in each division during 1953

Division No.	Name of Division	Area in Square Miles	Area in Acres	Density per acre	Population according to the census of 1951			Number of Deaths registered (excluding still—births)			Ratio of deaths per 1000 of population			Number of Deaths of Males to every 100 Female Deaths	Number of infantile deaths registered			
					Males	Females	Total	Males	Females	Total	Males	Females	Total		Males	Females	Total	Infantile death rate
1	New Washermenpet ...	2·6158	1674 1120	18·7	15,543	15,826	31,369	683	583	1 266	44·0	36·9	40 4	117 1	134	99	233	158·0
2	Rayapuram ...	0·4444	284·4160	73·3	10,117	10,734	20,851	299	319	618	29·6	29·7	29·6	93·7	74	78	152	187·0
3	Singara Garden ...	0·4430	283·5200	152·4	24,594	18,602	43,196	775	765	1.540	31·5	41·1	35·7	101·3	219	184	403	176·5
4	Sanjeeviroyanpet ...	0·5249	335·9360	152·9	26,660	24,718	51,378	881	965	1,846	33 0	39·0	35·9	91·3	190	207	397	206·0
5	Korukupet ...	1·1113	711·2820	51·5	16,456	20,150	36,606	1,043	1,088	2,131	63·4	54·0	58·2	96·0	256	235	491	250·0
6	Vyasarpady ...	1·9180	1227·5200	20·2	12.641	12,147	24,788	405	369	774	32·0	30·4	31·2	109·8	110	91	201	201·8
7	Basin Bridge ...	0·3155	201·9200	101·2	11,472	11,272	22,744	393	409	802	34·3	36·3	35·3	96 1	90	86	176	232·5
8	Peddu Naickanpet ...	0·1393	89·1520	347·8	16,011	15,001	31,012	313	327	640	19 5	21·9	20·6	95·7	71	62	133	138·2
9	Seven Wells ...	0·1491	95·4240	282·8	14,994	11,990	26,984	579	455	1,034	38·7	38·0	38·3	127·7	97	68	165	161·4
10	Ammen Covil ...	0·1051	67·2640	350·7	12,636	10,954	23,590	302	324	626	24·0	29 6	26·8	93·2	66	69	135	176·9
11	Muthialpet ...	0·1437	91·9680	284·8	12,894	13,297	26,191	258	229	487	20·0	17·2	18·6	112 7	56	50	106	117·0
12	Harbour ...	0·5346	342 1440	46·7	8,950	7,021	15,971	382	332	714	42·7	47·3	45·0	115·1	82	79	161	281·4
13	Kachaleeswaran Kovil ...	0·5244	335·6160	38·1	7,832	4,961	12,793	162	165	327	20 7	33·3	25·6	98·2	41	31	72	178·2
14	Kothawal Bazaar ...	0·1250	80·0000	188·9	8,771	6,346	15,117	205	199	404	23·4	31·3	26·7	103·0	47	42	89	183·8
15	Sowcarpet ...	0·1039	66·4960	230·0	8,782	6,489	15,271	169	128	297	19 3	19·8	19·5	132·0	39	27	66	140·4
16	Trevelyan Basin ...	0·1533	98·1120	297·6	15,124	14,072	26,196	415	341	756	27·4	24·2	25·9	121·7	93	85	178	174·2
17	Choolai ...	0·3600	230 4000	230·0	27,226	25,751	52,977	803	796	1,599	29·5	30·9	30·2	100·9	177	174	351	182·2
18	Puliantope ...	0·8840	565 7600	78·1	23,000	21,194	44,194	912	907	1,819	39·6	42·8	41·2	100·6	258	197	455	247·0
19	Perambur Barracks ...	0·9050	579·2000	51·0	14,843	14,662	29,505	426	385	811	28·7	26·3	27·5	110·6	89	67	156	150·0
20	Sembium ...	2·0127	1288·1280	23·5	14,608	15,677	30,285	484	484	968	33·1	30·9	32·0	100·0	118	122	240	188·2
21	Aynavaram ...	2·6100	1670·4000	17·7	14,464	14,354	28,818	553	403	956	38·2	28·1	33·2	137·2	98	92	190	161·8
22	Kilpauk ...	2·8542	1826·6880	12·6	12,629	10,287	22,916	267	266	533	21·1	25·9	23·5	100·4	70	61	131	144·6

23	Purasawalkam ...	0·4353	278·5920	110·4	16,738	14,008	30,746	376	400	776	22·5	28·6	25·2	94·0	82	96	178	178·0
24	Kosapet ...	0·2800	179·2000	221·2	20,227	19,407	39,634	622	705	1,327	30·8	36·3	33·5	88·2	144	140	284	185·0
25	Vepery ...	0·4310	275·8400	63·2	8,298	9,136	17,434	189	152	341	22 8	16·7	19·6	124·4	48	28	76	130·8
26	Periamet ...	0·5667	362·6880	87·0	16,728	14,835	31,563	484	483	967	29·0	32 6	30·8	100·2	102	95	197	196·8
27	Edapalayam ...	0·1090	69·7600	265·0	10,124	8,358	18,482	239	227	466	23·6	27·2	25·2	100·9	48	48	91	165·8
28	Pork Town ...	0·3401	217·6640	74·6	9,160	70,75	16,235	890	463	1,353	97·1	65·4	83·2	192·2	68	59	127	288·6
29	Napier Park ...	0·3001	192·0640	101·8	10,682	8,876	19,558	276	267	543	26·0	30·1	27·8	103·3	51	55	106	151·4
30	Chintadripet ...	0·1384	88·5760	299·1	13,688	12,809	26 497	338	338	676	24·7	26·4	25·5	100·0	91	61	152	163·1
31	Komaleeswaranpet ..	0·3181	203·5840	137·2	14,814	13,126	27,940	423	365	788	28·6	27·8	28·2	116 0	111	81	192	184·4
32	Egmore ...	0·7729	494·6560	33·8	8,385	8,319	16,704	209	241	450	25·0	29·0	27·0	87·0	93	83	176	124·7
33	Thousand Lights ...	1·3495	863·6800	36·3	15,997	15 345	31,342	467	414	881	29 2	27·0	28·1	112·8	126	79	205	168·2
34	Nungambakkam ...	1·3821	884·5440	31·0	14,739	12,668	27,407	309	354	663	21·0	23 0	24·2	87·3	73	79	152	155·0
35	Kodambakkam ...	4·2000	2688·0000	13·8	19,226	17,908	37,134	587	571	1,158	30·5	31·9	31·2	102·8	157	121	278	177·3
36	Theagaraya Nagar (North).	1·0360	663·0400	32·2	10,886	10,487	21,373	260	239	499	24·0	23·0	23·5	109 0	76	59	135	189·6
37	Rayapettah ...	0·5400	345·6000	67·5	11,901	11,443	23,344	311	288	599	26·1	25·2	25·6	108·0	57	59	116	142·9
38	Pudupakkam ...	0·2238	143·2320	200·2	14,448	14,224	28,672	471	441	912	32·6	31·0	31·8	107·0	91	84	175	180·0
39	Tiruvateesvaranpet ...	1·0499	671·9360	45·2	15,878	14,485	30,363	533	443	976	33·6	30 6	32·1	120·3	133	93	226	176·4
40	Chepauk ...	0·2997	191·8080	126·5	12,818	11,449	24,267	320	321	641	25·0	28·0	26·5	99·7	109	82	191	163·0
41	Triplicane ...	0·1760	112·6400	237·7	14,537	12,240	26,777	336	338	674	23 1	27·6	25·2	99·4	105	61	166	164·7
42	Zam Bazaar ...	0·1391	89·0210	281·3	13,295	11,749	25,044	415	402	817	31·2	34·8	32·7	103·2	95	86	181	209·5
43	Mirsaibpet ...	0·7000	448·0000	98·6	23,307	20,873	44,180	1,015	1,000	2,015	43·6	48·0	45·8	101·5	225	234	459	251·8
44	Mylapore (North) ...	0·7485	479·0400	81·0	17,383	21,351	38,734	493	462	955	28·4	21·6	25·0	107·0	117	95	212	153·0
45	Mylapore (South) ...	0·4299	275·1360	93·6	13,137	12,608	25,745	230	261	491	17·5	20·7	19·1	90·0	52	61	113	140·7
46	Teynampet ...	1·3310	851·8400	39·3	17,741	15,736	33,477	487	472	959	27·5	30·0	28·7	103·2	106	103	209	177·0
47	Theagaraya Nagar (South)	1·2320	788·4800	45·0	18,630	16,762	35,392	447	457	904	24·0	27·3	25·6	97·8	136	112	248	181·2
48	Saidapet ...	2·2020	1409·2800	24·5	18,093	16,373	34,466	401	444	845	22·2	27·1	24·6	90·3	93	98	191	162·0
49	Guindy ...	5·3240	3407·3600	5·1	9,604	7,812	17,416	188	178	366	19·7	22·8	21·0	105·6	40	32	72	128·1
50	Adyar ...	4·6080	2949·1200	9·6	14,550	13,548	28,098	371	392	763	25·5	29 0	27·2	94·6	102	94	196	166·1
	Fort St. George ...	...	...	...	1,752	528	2,280	...	...	...	...	...	...	...	...	...	...	...
	Total ...	49·8453	31900·9920	...	7,37,018	6,79,048	14,16,056	22,396	21,357	43,753	30·38	31·45	28·87	104·9	5,201	4,584	9,785	180·28

"Deaths" registered in each division during each month in 1953

Division No.	Name of Division	January	February	March	April	May	June	July	August	September	October	November	December	Total number of deaths registered
1	New Washermenpet ...	149	76	80	43	55	71	72	64	119	149	242	146	1,266
2	Royapuram ...	59	51	49	44	32	48	48	80	54	58	76	69	618
3	Singara Garden ...	156	136	121	89	86	111	129	109	117	161	159	166	1,540
4	Sanjeevirayanpet ...	196	174	125	116	98	127	120	126	168	194	205	197	1,846
5	Korukupet ...	238	180	152	113	107	124	129	141	240	255	209	243	2,131
6	Vyasarpady ...	69	54	55	38	39	42	59	67	80	70	96	110	774
7	Basin Bridge ...	85	60	61	48	63	58	46	57	86	75	90	73	802
8	Peddu Naickenpet ...	57	56	57	42	36	45	45	35	65	79	72	51	640
9	Seven Wells ...	82	75	84	79	82	64	73	75	100	118	85	117	1,034
10	Ammen Coil ...	58	56	46	31	45	48	52	41	45	79	77	48	626
11	Muthialpet ...	46	45	22	40	28	30	35	38	42	68	55	38	487
12	Harbour ...	96	74	47	33	54	49	32	52	68	58	83	73	714
13	Kachaleeswarar Koil ...	43	31	19	25	26	17	25	12	26	46	26	31	327
14	Kothawal Bazaar ...	45	43	33	15	28	27	26	27	34	37	43	46	404
15	Sowcarpet ...	24	24	29	27	21	18	22	15	27	23	35	32	297
16	Trevelyan Basin ...	70	71	55	44	38	70	49	58	69	82	79	71	756
17	Choolai ...	149	116	118	115	103	111	120	121	146	179	172	149	1,599
18	Pulianthope ...	157	147	104	106	121	136	134	148	180	189	187	210	1,819
19	Perambur Barracks ...	61	66	56	55	57	51	62	63	65	74	96	102	811
20	Sembiam ...	76	77	62	62	67	58	92	81	70	111	110	102	968
21	Ayanavaram ...	106	69	75	48	75	62	74	88	78	75	106	100	956
22	Kilpauk ...	55	40	29	32	34	45	36	59	50	46	47	60	533
23	Purasawalkam ...	67	51	50	42	47	45	66	64	71	92	94	87	776

24	Kosapet ...	...	108	111	111	60	61	70	96	123	134	148	169	141	1,327
25	Vepery ...	...	28	28	33	17	20	30	27	28	35	25	29	41	341
26	Periamet ...	...	87	94	76	46	69	59	57	78	86	126	110	79	967
27	Edapalayam ...	...	35	41	57	32	39	37	25	35	28	44	43	50	466
28	Park Town ...	...	98	109	110	93	105	91	95	108	120	111	146	167	1,353
29	Napier Park ...	...	49	38	29	31	40	36	35	37	45	71	59	73	543
30	Chintadripet ...	...	61	56	46	49	43	42	43	52	80	79	68	57	676
31	Komaleeswaranpet ...	...	61	51	60	59	51	62	55	62	87	90	73	77	788
32	Egmore ...	...	41	29	38	22	26	34	39	44	44	41	40	52	450
33	Thousand Lights ...	...	87	91	66	49	50	64	67	86	81	90	84	66	881
34	Nungambakkam ...	...	58	53	38	47	48	43	58	54	65	69	64	66	663
35	Kodambakkam ...	...	102	82	79	80	76	66	88	101	123	139	117	105	1,158
36	Theagaraya Nagar (North) ...	...	48	32	28	26	28	39	46	65	59	32	47	49	499
37	Royapettah ...	...	54	53	39	34	34	35	58	46	62	63	58	68	599
38	Pudupakkam ...	...	73	78	46	52	46	68	62	61	86	105	129	111	912
39	Thiruwateesvaranpet ...	...	80	67	74	60	54	71	55	68	75	138	123	111	976
40	Chepauk ...	...	41	46	49	35	32	50	54	49	64	55	71	95	641
41	Triplicane ...	...	58	60	45	52	39	39	44	40	62	79	103	53	674
42	Zam Bazzar ...	...	61	56	46	40	54	43	63	70	81	104	106	93	817
43	Mirsaibpet ...	...	140	118	129	126	116	125	56	173	183	274	245	230	2,015
44	Mylapore (North) ...	...	91	76	65	59	48	64	67	64	124	108	97	92	955
45	Mylapore (South) ...	...	34	50	33	30	36	28	41	38	36	67	51	47	491
46	Teynampet ...	...	106	90	68	63	59	40	75	71	89	103	99	96	959
47	Thyagaraya Nagar (South) ...	...	81	91	74	58	62	63	71	98	101	63	64	78	904
48	Saidapet ...	...	74	52	60	54	53	68	68	102	108	65	72	69	845
49	Guindy ...	...	27	29	31	23	23	20	28	35	38	36	35	41	366
50	Adyar ...	...	62	78	35	44	49	56	51	51	73	77	125	62	763
	Total	...	3,992	3,526	3,094	2,623	2,703	2,900	3,170	3,410	4,164	4,715	4,871	4,585	43,753

... Deaths registered according to ages in divisions in 1953

Division No.	Name of Division	Under one year of age		One year and under Five years		Five years and under Ten years		Ten years and under Fifteen years		Fifteen years and under Twenty years		Twenty years and under Thirty years		Thirty years and under Forty years		Forty years and under Fifty years		Fifty years and under Sixty years		Sixty years and above		Total		
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Total of Males & Females
1	New Washermenpet ...	134	99	150	146	52	39	18	11	11	10	41	51	49	44	40	39	69	54	119	90	683	583	1,266
2	Royapuram ...	74	78	86	67	10	14	2	3	4	3	13	16	22	24	18	21	22	31	48	62	299	319	618
3	Singara Garden ...	219	184	185	192	37	45	12	6	6	19	27	69	60	57	67	33	48	53	114	107	775	765	1,540
4	Sanjeeviroyanpet ...	190	207	245	253	56	60	12	14	10	24	43	71	54	63	55	61	66	49	150	163	881	96	1,846
5	Korukupet ...	256	235	273	283	56	50	20	21	19	35	56	106	67	80	75	65	64	52	157	161	1,043	1,088	2,131
6	Vyasarpady ...	110	91	110	82	26	16	6	5	9	8	21	25	16	27	13	19	34	34	60	62	405	369	774
7	Basin Bridge ...	90	86	93	101	28	20	6	10	7	6	21	37	27	34	25	27	30	31	66	57	393	409	802
8	Peddu Naickenpet ...	71	62	65	58	7	14	2	6	2	12	18	25	26	18	24	24	30	34	68	74	313	327	640
9	Seven Wells ...	97	68	64	80	12	28	8	15	14	17	68	49	79	45	78	44	65	41	94	68	579	455	1,034
10	Ammen Coil ...	66	69	62	47	9	15	7	5	8	9	16	30	19	24	26	27	29	26	60	72	302	324	626
11	Muthialpet ...	56	50	64	50	11	9	4	1	2	6	14	25	16	5	17	18	24	12	50	53	258	229	487
12	Harbour ...	82	79	80	67	26	30	5	7	1	9	31	40	40	28	35	14	31	17	51	41	382	332	714
13	Kachaleeswarar Koil ...	41	31	33	32	12	12	1	4	3	5	13	19	11	16	15	7	12	11	21	28	162	165	327
14	Kothawal Bazaar ...	47	42	29	40	7	13	2	3	4	6	18	24	16	21	18	9	26	14	43	27	205	199	404
15	Sowcarpet ...	39	27	25	22	6	2	1	3	2	4	9	15	12	9	15	11	24	8	36	27	169	128	297
16	Trevelyan Basin ...	93	85	86	65	23	16	6	6	7	9	20	23	23	22	43	16	36	33	78	66	415	341	756
17	Choolai ...	177	174	195	218	35	29	11	15	12	13	26	63	48	51	60	50	80	39	159	144	803	796	1,599
18	Pulianthope ...	258	197	242	236	40	59	12	7	11	16	52	74	50	78	56	42	63	49	128	149	912	907	1,819
19	Perambur Barracks ...	89	67	118	117	24	25	1	6	4	11	15	34	25	20	40	19	32	26	78	60	426	385	811
20	Sembium ...	118	122	113	106	20	15	5	9	7	12	20	38	24	28	30	23	36	30	111	101	484	484	968

21	Aynavaram ...	98	92	94	101	19	12	10	6	9	9	46	31	64	25	65	21	65	26	83	80	553	408	956
22	Kilpauk ...	70	61	56	54	11	13	5	5	...	3	19	24	22	18	14	13	27	14	43	61	267	266	533
23	Purasawalkam ...	82	96	89	108	22	13	10	6	11	10	16	30	16	17	30	28	27	25	73	67	376	400	776
24	Kosapet ...	144	140	179	183	40	37	11	7	5	14	27	47	37	48	46	44	43	65	90	120	622	705	1,327
25	Vepery ...	48	28	33	32	7	7	4	4	2	5	11	13	9	8	14	14	25	11	36	30	189	152	341
26	Periamet ...	102	95	115	125	17	16	12	11	5	10	18	44	30	31	42	25	49	26	94	100	484	483	967
27	Edapalayam ...	43	48	54	51	19	11	6	...	4	4	16	19	16	12	24	18	20	18	37	46	249	227	466
28	Park Town ...	68	59	77	72	44	25	37	16	29	20	131	53	148	62	144	60	115	35	102	61	890	463	1,353
29	Napier Park ...	51	55	60	58	6	17	6	7	5	6	20	14	21	16	20	16	34	24	53	54	276	267	543
30	Chintadripet ...	91	61	71	86	11	8	4	8	6	5	14	21	16	26	23	22	37	30	65	71	338	338	676
31	Komaleeswaranpet ...	111	81	110	78	13	8	10	5	7	8	20	33	30	31	26	25	37	24	59	72	423	365	788
32	Egmore ...	93	83	28	28	5	6	3	1	...	15	14	26	6	21	13	16	9	9	38	33	209	241	450
33	Thousand Lights ...	126	79	129	123	28	15	3	7	8	10	18	30	17	28	26	27	44	24	68	71	467	414	881
34	Nungambakkam ...	73	79	56	86	15	15	2	4	2	6	16	16	14	24	15	15	26	18	90	91	309	354	663
35	Kodambakkam ...	157	121	145	140	16	26	9	9	14	12	26	45	32	43	37	27	36	28	115	120	587	571	1,158
36	Theagaraya Nagar (North).	76	59	66	60	14	7	4	6	2	7	8	17	14	17	14	10	18	11	44	45	260	239	499
37	Royapettah ...	57	59	80	84	14	11	8	2	6	8	11	21	16	18	23	16	32	18	64	56	311	288	599
38	Pudupakkam ...	91	84	97	113	21	16	10	5	15	9	28	41	39	24	37	24	48	37	85	88	471	441	912
39	Thiruvetecswaranpet ...	133	93	99	88	25	22	8	8	11	9	32	52	39	30	59	22	43	25	84	94	533	443	976
40	Chepauk ...	109	82	58	66	7	13	3	10	1	11	18	25	18	17	27	20	22	21	57	56	320	321	641
41	Triplicane ...	105	61	71	97	20	11	4	4	2	6	17	32	10	11	25	24	24	15	58	77	336	338	674
42	Zam Bazaar ...	95	86	95	106	20	25	5	4	5	6	28	18	25	28	31	23	36	26	72	80	415	402	817
43	Mirsaibpet ...	225	234	253	247	65	47	16	24	19	16	59	71	73	61	85	53	62	70	158	177	1,015	1,000	2,015
44	Mylapore (North) ...	117	95	115	123	20	26	12	11	8	8	27	23	27	29	36	27	36	34	95	81	493	462	955
45	Mylapore (South) ...	52	61	45	65	10	14	5	3	4	6	16	13	10	11	19	17	19	12	50	59	230	261	491
46	Teynampet ...	198	177	176	207	45	33	12	14	15	13	40	65	34	55	55	47	58	42	143	132	776	787	1,563
47	Theagaraya Nagar (South).	44	38	37	29	8	8	1	5	3	5	9	10	15	13	8	4	8	6	25	24	158	142	300
48	Saidapet ...	93	98	80	102	35	31	7	12	5	9	19	35	27	21	24	22	36	24	75	87	401	444	845
49	Guindy ...	40	34	37	43	12	12	3	5	1	2	9	9	12	18	25	12	15	7	34	38	188	178	366
50	Adyar ...	102	94	74	91	26	26	7	10	3	5	18	30	21	28	20	18	24	20	76	70	371	392	763
	Total ...	5,201	4,584	4,997	5,108	1,112	1,044	378	376	3 5	491	1,288	1,747	1,537	1,486	1,780	1,279	1,896	1,389	3,857	3,853	22,396	21,357	43,753

Deaths from principal causes registered in the divisions during 1953

Serial No.	Name of division	Plague	Cholera	Small-pox	Measles	Enteric Fever	Malaria	Other Fevers	Dysentery	Diarrhoea	Tubercle including Tuberculosis of Lungs	General Respiratory Diseases	Injuries	Maternal Deaths	All other causes	Total Deaths registered excluding still Births
1	New Washermanpet	...	*107 20	*2 ...	...	2	...	203	91	116	7	236	9	...	473	1,266
2	Royapuram	...	7	...	...	...	2	116	54	29	2	116	3	...	259	618
3	Singara Garden	...	23	...	...	7	3	257	117	85	11	344	10	15	668	1,540
4	Sanjeevirayanpet	...	42	...	...	7	1	273	185	139	13	321	15	4	846	1,846
5	Korukupet	...	44	2	...	7	...	368	213	142	15	350	26	10	954	2,131
6	Vyasarpady	...	7	...	...	4	2	112	68	23	1	200	6	...	351	774
7	Basin Bridge	...	10	3	...	6	2	159	76	105	4	199	11	4	223	802
8	Peddu Naickenpet	...	7	1	...	3	1	125	31	62	6	167	4	2	231	640
9	Seven Wells	...	8	...	...	*9 8	6	152	45	77	34	199	19	8	469	1,034
10	Ammen Coil	...	8	2	...	5	1	124	27	50	5	163	7	3	231	626
11	Muthialpet	...	4	...	...	2	3	72	31	29	12	103	2	...	229	487
12	Harbour	...	17	2	...	1	7	122	108	48	7	171	4	...	227	714
13	Kachaleeswarar Coil	...	10	...	...	2	1	44	56	18	3	46	2	...	145	327
14	Kothawal Bazaar	...	5	...	...	3	10	42	31	27	6	127	5	2	146	404
15	Sowcarpet	...	1	1	...	1	3	32	12	30	...	64	4	1	148	297
16	Trevelyan Basin	...	11	1	...	7	3	79	48	53	9	172	6	1	366	756
17	Choolai	...	8	4	...	6	3	171	133	80	27	355	15	4	793	1,599
18	Puliantope	...	26	...	...	6	2	316	166	118	20	480	14	8	663	1,819
19	Perambur Barracks	...	6	2	...	2	1	140	65	48	18	197	13	3	316	811
20	Sembium	...	13	...	...	5	...	39	65	65	12	268	16	1	484	968

21	Aynavaram ...	...	5	...	...	8	1	60	50	18	26	173	13	1	601	956
22	Kilpauk ...	...	3	...	...	6	...	30	31	17	1	131	10	1	303	533
23	Purasawalkam ...	...	3	...	...	1	...	101	77	52	16	191	7	...	328	776
24	Kosapet ...	...	13	...	...	6	1	169	125	80	4	346	17	5	561	1,327
25	Vepery ...	...	1	1	...	1	2	31	23	23	1	76	3	...	179	341
26	Periamet ...	...	12	...	...	1	...	58	55	70	12	197	10	6	546	967
27	Edapalayam ...	...	5	3	...	1	1	39	23	27	9	56	4	3	295	466
28	Park Town ...	...	5	5	...	*18 2	5	78	46	44	39	110	78	2	921	1,353
29	Napier Park ...	...	7	3	...	4	1	37	44	18	5	130	18	4	272	543
30	Chintadripet ...	...	8	...	...	1	2	36	67	34	10	184	11	1	322	676
31	Komaleeswaranpet ...	...	11	2	...	5	3	32	86	40	12	234	10	5	348	788
32	Egmore ...	...	1	1	...	*1 5	...	12	16	22	5	85	2	19	281	450
33	Thousand Lights ...	...	4	...	...	5	5	46	109	34	17	215	16	...	430	881
34	Nungambakkam ...	...	3	...	...	3	1	20	55	21	8	155	6	...	391	663
35	Kodambakkam ...	...	10	...	....	4	2	63	96	64	4	315	17	4	579	1,158
36	Theagaraya Nagar(North)...	...	3	2	...	1	1	38	50	54	6	98	6	...	240	499
37	Royapettah ...	...	3	3	...	2	...	67	60	35	1	149	3	1	275	599
38	Pudupakkam ...	...	14	3	...	2	4	107	71	65	4	223	9	2	408	912
39	Tiruvateeswaranpet ...	...	11	...	...	7	2	109	74	56	14	243	1	1	458	976
40	Chepauk ...	...	6	2	...	*1 4	3	56	37	48	16	125	...	1	342	641
41	Triplicane ...	...	19	2	...	3	...	39	54	39	2	167	3	4	342	674
42	Jam Bazaar ...	...	17	9	...	4	1	79	68	30	5	255	2	1	346	817
43	Mirsaibpet ...	...	27	31	...	9	1	211	238	119	13	604	12	7	743	2,015
44	Mylapore (North) ...	...	20	4	...	3	1	70	150	48	3	249	14	6	387	955
45	Mylapore (South) ...	...	5	1	...	2	2	28	61	10	4	127	6	...	250	491
46	Teynampet ...	...	31	1	...	5	1	23	103	18	6	228	11	3	529	959
47	Theagaroya Nagar (South)...	...	15	2	...	1	1	31	59	30	6	202	15	1	541	904
48	Saidapet ...	...	17	3	...	2	4	51	53	6	7	189	10	7	496	845
49	Guindy ...	...	9	...	...	1	...	9	20	11	2	70	3	2	239	366
50	Adyar ...	...	37	...	...	3	...	13	75	16	1	175	17	2	424	763
	Total ...	...	709	98	....	215	96	4,684	3,698	2,493	471	10,010	525	155	20,599	43,753

*Deaths among moffusal patients.

Births, Deaths and Infantile deaths and rates by months in 1953 and 1952

Month	1953						1952					
	Total Number of Births registered	Birth Rate	Total Number of Deaths registered	Death Rate	Total Number of Infantile Deaths registered	Infantile Death Rate	Total Number of Births registered	Birth Rate	Total Nmmber of Deaths registered	Death Rate	Total Number of Infantile Deaths registered	Infantile Death Rate
January ...	3,966	30·86	3,992	31·06	938	236·51	3,609	29·10	3,667	29·57	803	222·50
February ...	3,581	27·86	3,526	27·43	791	220·88	3,806	30.70	3,661	29·52	823	216·24
March ...	3,806	29·41	3,094	24·07	657	172·62	3,940	31·79	3,306	26·70	665	168·80
April ...	3,715	28·90	2,623	20·40	581	156·39	4,632	37·62	3,153	25·42	757	163·43
May ...	3,911	30·43	2,703	20·25	713	182·30	4,970	40·80	3,216	25·90	760	152·92
June ...	4,599	35·78	2,900	22·56	807	175·47	4,232	34·13	3,205	25·84	829	195·89
July ...	5,103	39·70	3,170	24·66	921	180·48	5,459	43·80	3,883	31·31	962	176·22
August ...	4,620	35·94	3,410	26·53	917	198·48	5,655	45·60	3,579	28·86	851	150·50
September ...	4,771	37·12	4,164	32·39	845	177·11	5,830	47·01	3,119	25·30	724	124·20
October ...	4,857	37·79	4,715	36·68	809	166·59	6,953	56·07	3,509	28·30	853	122·70
November ...	5,100	39·68	4,871	37·90	852	167·05	6,154	48·90	3,576	28·84	956	155·35
December ...	6,248	48·61	4,585	35·67	954	152·67	7,681	61·94	5,338	43·00	1,325	172·50
Total ...	54,277	35·20	43,753	28·37	9,785	180·28	62,921	42·28	43,207	29·03	10,308	163·82

Births, Deaths and Infantile Deaths with rates for principal communities in 1953 as compared with 1952

Community	Population according to the census of 1951	1953						1952					
		Total number of Births registered excluding still Births	Birth rate	Total number of Deaths registered	Death rate	Total number of Infantile Deaths registered	Infantile Death rate	Total number of Births registered	Birth rate	Total number of Deaths registered	Death rate	Total number of Infantile Deaths registered	Infantile Death rate
Europeans ...	1,534	23	15·00	10	6 52	1	43·50	22	14·34	9	5·87	...	...
Anglo-Indians ...	13,247	297	22·42	212	16·00	33	111·11	301	22·72	211	15·93	37	122·92
Indian Christians ...	95,387	2,450	25·68	1,906	20·00	350	142·90	2,557	26·81	1,840	19·30	384	150·18
Muslims ...	1,40,319	4,495	32·03	4,557	32·48	1,031	229·40	5,255	37·45	4,422	31·51	1 112	211·61
Hindus ...	11,55,722	47,000	40·67	37,060	32·07	8,370	178·10	54,775	47 43	36,709	31·77	8,775	160·20
Others ...	9,847	1½	1·22	8	0·81	...	...	11	1·12	16	1·70	...	...
Total ...	14,16,056	54,277	38·33	43,753	30·90	9,785	180·28	62,921	44·43	43,207	30·51	10,808	163·82

Infantile Deaths among Principal communities during 1953

Community	Under seven days		Seven days and under one month		One month and under six months		Six months and under one year		Total		Total of Males and Females
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	
European ...	...	1	...	...	...	...	...	...	...	1	1
Anglo Indian ...	5	3	...	...	8	4	4	9	17	16	33
Indian Christian ...	39	33	28	16	62	55	60	57	189	161	350
Muslim ...	94	63	78	47	245	194	152	158	569	462	1,031
Hindu ...	997	752	561	478	1,474	1,326	1,394	1,388	4,426	3,944	8,370
Others ...	...	...	...	...	...	...	...	...	...	...	...
Total ...	1,135	852	667	541	1,789	1,579	1,610	1,612	5,201	4,584	9,785

Ratio of Infantile Deaths registered from Principal Causes in 1953

Age periods	Cholera		Smallpox		Diphtheria		Malaria		Fevers		Dysentery		Diarrhoea		Premature Birth, Debility etc		Nervous system		Respiratory diseases		All other causes		Total Infantile Deaths	
	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio	Deaths	Ratio
Under seven days.	...	...	...	...	...	...	...	...	12	0·60	1	0·05	11	0·55	1,472	74·08	49	2·47	214	10·78	228	11·47	1,987	20·31
Seven days and under one month.	...	...	...	...	...	...	...	...	10	0·83	7	0·58	59	4·88	923	76·41	43	3·56	104	8·61	62	5·13	1,208	12·34
One month and under six months.	1	0·03	9	0·27	4	0·12	1	00·3	164	4·87	157	4·66	325	9·65	642	19·06	288	8·55	1,185	35·18	592	17·58	3,368	34·42
Six months and under one year.	3	0·09	12	0·37	21	0·65	...	...	191	5·93	271	8·41	422	13·09	85	2·64	107	3·32	1,495	46·40	615	19·10	3,222	32·93
Total ...	4	00·4	21	0·21	25	0·26	1	0·01	377	3·85	436	4·46	817	8·35	3,122	31·91	487	4·97	2,998	30·64	1,497	15·30	9,785	100·00

STATEMENT No. XII

Infantile Deaths from Principal causes by months 1953

Months	Cholera	Smallpox	Diphtheria	Malaria	Fevers	Dysentery	Diarrhoea	Premature Birth, debility, etc	Nervous System.	Respiratory Diseases	All other causes	Total Infantile Deaths in 1953			Total Infantile Deaths in 1952
												Males	Females	Total	
January ...	2	4	1	...	33	50	89	306	40	287	126	484	454	938	803
February ...	..	1	1	...	14	55	55	271	36	242	116	419	372	791	823
March ...	..	3	..	...	19	28	50	202	43	219	93	367	290	657	665
April ...	...	...	4	...	15	23	41	166	45	196	91	310	271	581	757
May ...	...	5	1	1	22	23	81	210	46	221	103	388	325	713	760
June ...	...	...	1	...	19	31	88	228	47	278	115	425	382	807	829
July ...	...	2	2	..	35	51	113	255	39	282	142	477	444	921	962
August ...	...	...	3	...	62	49	95	231	28	284	165	499	418	917	851
September ...	1	1	2	..	42	52	73	273	35	242	124	434	411	845	724
October ...	1	...	2	...	43	19	46	298	38	232	130	441	368	809	853
November ...	...	1	4	...	30	24	41	316	48	240	148	445	407	852	956
December ...	...	4	4	..	43	31	45	366	42	275	144	512	442	954	1,325
Total ...	4	21	25	1	377	436	817	3,122	487	2,998	1,497	5,201	4,584	9,785	10,308

Deaths registered from Principal causes with rates duriug 1953 compared with the previous Five Years

Year	Plague		Cholera		Small pox		Measles		Enteric Fever		Malaria		Other Fevers		Dysentery		Diarrhœa		Tubercle including Tubercle of lungs		General Respiratory diseases		Injuries		Maternal Deaths		All other causes		Total Deaths	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1948			210	0·21	12	0·01	..	..	143	0·15	40	0·04	2657	2·70	1472	1·49	1,640	1·68	621	0·63	7,237	7·36	343	0·35	142	0·14	16,485	16·77	31,002	31·54
1949			48	0·05	181	0·18	..	..	192	0·19	37	0·04	2192	2·20	1674	1·68	1,546	1·55	700	0·70	8,072	8·09	291	0·29	130	0·13	17,576	17·62	32,639	32·71
1950			214	0·21	945	0·93	..	..	230	0·23	102	0·10	2644	2·61	2226	2·20	2,109	2·08	813	0·80	8,918	8·80	325	0·32	113	0·11	20,087	19 83	38,726	38·23
1951			216	0·15	490	0·34	2	0·001	256	0·18	91	0·06	3504	2·44	3461	2·41	2,234	1·56	898	0·63	9,933	6·93	443	0·31	151	0·10	20,362	14·20	42,039	29 31
1952			182	0·12	127	0·09	6	0·004	276	0·19	75	0·05	3823	2·57	3949	2·65	2,665	1·79	627	0·42	10,137	6·81	536	0.36	155	0·10	20,649	13·88	43,207	29·03
Mean of the previous five years.			174	0·15	351	0·30	2	0·002	219	0·19	69	0·06	2964	2·50	2556	2·16	2,039	1·72	732	0·62	8,859	7·50	388	0·33	138	0·12	19,032	16·10	37,523	31·71
1953			709	0·46	98	0·06	..	..	215	0·14	96	0·36	4684	3·04	3698	2·40	2,493	1·62	471	0·31	10,010	6·50	525	0·34	155	0·10	20,599	13·36	43,753	28·37

STATEMENT No. XIV

Births, Deaths, Infantile Deaths and deaths registered from Principal causes with rates in 1953

Year	Births		Deaths		Still Births		Infantile Deaths		Plague		Cholera		Small pax		Measles		Enteric		Malaria		Other Fevers		Dysentery		Diarrhoea		Tubercle including Tubercle of Lungs		General Respiratory Diseases		Injuries		Maternal Deaths		All other causes	
	Births excluding still brith	Birth rate	Deaths excluding still births	Death rate	Still births	Rate	Infantile deaths	Infantile death Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1943	29,498	36·51	30,366	37·59	1,071	36·31	7,295	247·30	1	0·001	537	0·66	16	0·02	4	0·005	116	0·14	67	0·08	2,345	2·90	2,245	2·78	1,276	1·58	398	0·49	7,857	9·72	276	0·34	275	0·34	14,933	18 51
1944	26,056	31·74	29,705	36·19	1,062	40·76	7,407	284·27	...	...	53	0·07	144	0·18	1	0·001	86	0·11	82	0·10	2,657	3·27	2,213	2·70	1,285	1·56	290	0·35	7,166	8·73	202	0·24	178	0·22	15,318	18·66
1945	30,549	36·63	27,277	32·71	1,107	36·24	6,539	213·82	...	...	30	0·04	233	0·28	2	0·002	126	0·15	46	0 06	2,963	3·55	1.838	2 20	1,165	1·40	410	0 49	6,009	7·21	313	0 39	155	0·19	13,987	16·77
1946	41,874	43·91	27,381	28·71	1,505	35·9	7,663	183.00	...	...	1	0·001	184	0·19	...	...	107	0·11	45	0·05	2,746	2·88	1,627	1·71	1,383	1·45	401	0 42	5 878	6·16	291	0·31	140	0·15	14,565	15·27
1947	40,753	42·08	29,979	30·96	1,408	34·6	7,987	195 99	1	0 001	2	0 002	21	0·02	...	...	163	0·17	55	0 06	2,862	2·96	2,048	2·11	1.799	1·86	502	0·52	6,803	7·03	396	0·41	159	0·16	15,169	15·67
1948	50,222	51·09	31,002	31·54	1,549	30·8	7,833	155·97	...	...	210	0 21	12	0·01	...	...	143	0·15	40	0·04	2,657	2·70	1,472	1·49	1.640	1·6[illegible]	621	0 63	7,237	7·36	343	0·35	142	0·14	16,485	16·77
1949	52,362	52·48	32,639	32·71	1,733	33·1	8,304	158·59	...	...	48	0·05	181	0·18	...	...	192	0·19	37	0·04	2,192	2·20	1,674	1·68	1.546	1·55	700	0·70	8,07[illegible]	8·09	291	0·29	130	0 13	17,576	17·62
1950	52,619	51·94	38,726	38·23	1,449	27·5	9.878	187·73	...	...	214	0·21	945	9 93	2	0.001	230	0·23	102	0·10	2,644	2·61	2,226	2·20	2.109	2·08	813	0·80	8,918	8 80	325	0·32	113	0·11	20,087	19 83
1951	58,961	41·11	42,039	29·31	1,634	27 71	9,821	166·57	...	...	216	0·15	490	0 34	6	0 001	256	0·18	91	0·06	3.504	2·44	3,461	2·41	2,234	1·56	898	0·63	9,933	6·93	443	0·31	151	0·10	20,362	14·20
1952	62,921	42·28	43,207	29·03	1,612	25 0	10,308	163 82	...	...	182	0·12	127	0·09	...	...	276	0·19	75	0·05	3,823	2·57	3,949	2·65	2,665	1·79	627	0· 2	10,13[illegible]	6·81	536	0·36	155	0·10	20,649	13 88
1953	54,277	35·20	43,753	28·37	1,406	25·25	9,785	180.28	...	...	709	0·46	98	0·06	...	...	215	0·14	96	0·06	4,684	3·04	3,698	2·40	2,493	1·62	471	0·31	10,010	6·50	525	0·34	155	c 10	20,599	13·36

STATEMENT No. XV

Statement showing the number of live births by age of mother and order of live birth in the city of Madras during the year 1953

Age of Mother at Birth	Order of Live births																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and above	Not stated.	Total.
Under 15 years ...	97	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	106
15–19 years ...	5,066	1,824	515	163	67	...	...	...	...	...	...	...	...	...	...	41	7,676
20–24 „ ...	3,872	4,898	3,908	3,007	747	266	108	49	10	3	...	...	...	...	...	12	16,880
25–29 „ ...	1,174	2,411	3,551	3,275	2,554	1,392	678	341	112	45	3	5	1	...	...	9	15,551
30–34 „ ...	349	590	962	1,224	1,391	1,522	1,078	669	388	185	59	17	6	...	...	14	8,404
35–39 „ ...	91	182	237	343	475	499	567	589	432	306	164	67	42	13	13	15	4,035
40–44 „ ...	8	15	33	48	69	79	95	114	107	85	60	44	17	15	8	1	798
45 ...	...	...	1	26	29	47	71	98	60	53	41	29	13	11	9	...	488
46 ...	1	...	1	5	17	11	21	31	21	15	14	...	...	...	...	...	137
47 ...	...	...	...	...	...	...	10	11	15	12	...	...	1	...	...	...	49
48 ...	1	...	...	...	...	...	...	2	2	1	1	1	...	...	...	...	8
49 ...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	3
50 years and above ...	...	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...	3
Not stated ...	37	15	9	17	13	5	1	9	4	...	...	...	...	...	...	29	139
Total ...	10,696	9,944	9,217	8,108	5,363	3,822	2,630	1,915	1,151	656	342	163	80	39	30	121	54,277

VACCINATION

STATEMENT No. 1

Particulars of Vaccinations Performed in each division during 1953

Division No.	Name of Division	Population according to the census of 1951	Total Number of Persons Vaccinated			Primary Vaccination									Revaccination						Percentage of successful cases in which the results were known	
						Total			Successful						Total			Result				
			Males	Females	Total	Males	Females	Total	Under One year	One year and under 5 years	5 years and under 10 years	10 years & above	Total	Unknown	Males	Females	Total	Successfull	Failure	Absent	Primary	Revaccination
1	New Washermenpet ..	31,369	3,416	3,048	6,464	601	559	1,160	701	333	60	8	1,102	58	2,815	2,489	5,304	110	3,674	1,520	100·0	3·0
2	Royapuram ..	20,851	1,722	2,051	3,773	378	347	725	581	100	22	1	704	19	1,344	1,704	3,048	234	2,297	517	99·7	9·2
3	Singara Garden ...	43,196	3,478	3,886	7,364	795	810	1,605	1251	239	53	...	1.543	55	2,683	3,076	5,759	369	4,446	944	99 6	7·7
4	Sanjeevirayanpet ..	51,378	3,707	4,162	7,869	995	1,001	1,996	1,663	315	18	...	1,996	...	2,712	3,161	5,873	85	4,883	905	100·0	1·7
5	Korukupet ...	36,606	4,926	5,407	10,333	937	833	1,770	1,350	394	24	2	1,770	...	3.989	4,574	8,563	99	6,392	2,072	100·0	1·5
6	Vyasarpady ...	24,788	1,865	1,790	3,655	494	473	967	776	175	5	1	957	2	1,371	1,317	2,688	99	1,473	1,116	99·2	6·3
7	Basin Bridge ..	22,744	2,149	2,156	4,305	411	432	843	654	170	17	...	841	...	1,738	1,724	3,462	78	2,576	808	99·8	3·0
8	Peddu Naickenpet ..	31,012	2,171	1,817	3,988	480	459	939	767	162	6	...	935	3	1,691	1,358	3,049	71	2,421	557	99·9	3·0
9	Seven Wells ..	26,984	2,484	2.201	4,685	519	479	998	760	226	10	...	996	...	1,965	1,722	3,687	122	2,479	1,086	99·8	4·7
10	Ammen Coil ..	23,590	2,045	1,994	4,039	412	363	775	632	138	4	...	774	1	1,633	1,631	3,264	82	2,277	905	100·0	3·5
1	Muthialpet ..	26,191	1,828	1,864	3,692	474	440	914	760	147	7	...	914	..	1,354	1,424	2,778	306	2,147	325	100·0	1·2
12	Harbour ..	15,971	2,950	2,480	5,430	316	311	627	467	156	3	1	627	...	2,634	2,169	4,803	476	3,534	793	100·0	11·8
13	Kachaleeswarar Koil ..	12,793	2,885	1,366	4,251	255	223	478	341	133	3	1	478	..	2,630	1,143	3,773	315	2,855	603	100·0	9·9
14	Kothawal Bazaar ..	15,117	2,097	1,739	3,836	260	221	481	365	112	4	...	481	..	1,837	1,518	3,355	37	2,506	812	100·0	1·5
15	Sowcarpet ...	15,271	1,915	1,513	3,428	290	250	540	409	124	7	...	540	..	1,625	1,263	2,888	25	2,212	651	100·0	1·1
16	Trevelyan Basin ..	29,196	3,385	3,791	7,176	531	501	1,032	813	217	1	...	1,031	..	2,854	3,290	6,144	127	5,839	118	99¡9	2·0
17	Choolai ...	52,977	4,718	5,068	9,786	899	938	1,837	1.632	201	4	...	1,837	..	3,819	4,130	7,949	241	5,949	1,759	100·0	4·0
18	Pulianthope ...	44,194	3,977	3,378	7,355	871	862	1,733	1,361	353	19	...	1,733	..	3,106	2,516	5,622	104	4,553	965	100·0	2·2
19	Perambur Barracks ..	29,505	4,333	3,602	7,935	611	595	1,206	1,045	154	7	...	1,206	..	3,722	3,007	6,729	240	5,275	1,214	100·0	4·3
20	Sembium ..	30,285	3,125	3,127	6,252	667	654	1,321	1,088	200	33	...	1,321	..	2,458	2,473	4,931	128	3,812	991	100 0	3·2
21	Aynavaram ..	28,818	3,023	3,168	6,191	557	574	1,131	952	169	10	...	1.131	..	2,466	2,594	5,060	499	3,468	1,093	100·0	12·6
22	Kilpauk ...	22,916	2,492	2,404	4,896	388	397	785	687	86	11	1	785	..	2,104	2,007	4,111	200	3,318	593	100·0	5·7
23	Purasawalkam ..	30,746	1,759	1,394	3,153	464	392	856	709	137	8	...	854	2	1,295	1,002	2,297	35	1,594	668	100·0	2·1
24	Kosapet ..	39,634	3,685	2,957	6,642	672	663	1.335	1,151	171	13	...	1,335	..	3,013	2,294	5,307	236	3,956	1,115	100·0	5·6

25	Vepery ..	17,434	1,213	1,646	2,859	296	274	570	469	89	10	1	569	..	917	1,372	2,289	124	2,040	125	99·9	6·0
26	Periamet ..	31,563	1,922	1.634	3,556	515	478	993	883	102	8	..	993	..	1,407	1,156	2,563	74	2,037	452	100·0	3·5
27	Edapalayam ..	18,482	2,461	1,904	4,365	301	315	616	457	158	1	..	616	...	2,160	1,589	3,749	17	3,042	690	100·0	0·6
28	Park Town ..	16,235	2,364	2,023	4,387	260	241	501	377	110	5	..	492	9	2,104	1,782	3,886	31	3,030	825	100·0	1·0
29	Napier Park ..	19,558	1,791	1,935	3,726	374	336	710	617	84	7	1	709	1	1,417	1,599	3,016	171	2,042	803	100·0	8·0
30	Chintadripet ..	26,497	2,150	1,957	4,107	423	402	825	722	92	11	...	825	...	1,727	1,555	3,282	167	2,381	734	100·0	6·6
31	Komaleeswaranpet ..	27,940	2,856	2,586	5,442	526	481	1,007	831	176	..	..	1,007	..	2,330	2,105	4,435	231	2,589	1,615	100·0	8·2
32	Egmore ..	16,704	2,505	2,209	4,714	290	276	566	445	106	15	..	566	..	2,215	1,933	4,148	189	3,106	853	100·0	5·8
33	Thousand Lights ..	31,342	1,677	1,711	3,388	521	536	1,057	944	108	5	..	1,057	..	1,156	1,175	2,331	86	1,602	643	100·0	5·1
34	Nungambakkam ..	27,407	1,472	1,412	2,884	402	355	757	628	124	5	..	757	..	1,070	1,057	2,127	114	1,597	416	100·0	7·0
35	Kodambakkam ..	37,134	4,080	4,051	8,131	851	743	1,594	1,278	287	25	4	1,594	..	3,229	3,308	6,537	389	5,046	1,102	100·0	7·1
36	Theagaraya Nagar (North).	21,373	2,554	2,153	4,707	450	364	814	625	172	16	1	814	..	2,104	1,789	3,893	336	3,197	360	100·0	9·5
37	Royapettah ...	23,344	2,114	1,686	3,800	377	389	766	584	172	10	..	766	..	1,737	1,297	3,034	83	2,422	529	100·0	3·3
38	Pudupakkam ..	28,672	2,338	2,153	4,491	475	489	964	764	194	6	..	964	..	1,863	1,664	3,527	86	2,902	539	100·0	2·9
39	Thiruwateesvaranpet ...	30,363	1,851	1,685	3,536	552	469	1,021	851	153	17	..	1,021	...	1,299	1,216	2,515	50	2,102	363	100·0	2·3
40	Chepauk ..	24,267	2,375	2,115	4,490	369	358	727	535	175	17	..	727	...	2,006	1,757	3,763	92	2,832	839	100·0	3·2
41	Triplicane ..	26,777	2,168	1,723	3,891	484	435	919	676	213	29	1	919	...	1,684	1,288	2,972	83	2,427	462	100·0	3·3
42	Zam Bazaar ..	25,044	2,522	2,496	5,018	512	474	986	782	184	20	..	986	...	2,010	2,022	4,032	123	3,055	854	100·0	4·0
43	Mirasaibpet ..	44,180	6,011	8,911	14,922	939	913	1,852	1,451	348	53	..	1,852	...	5,072	7,998	13,070	369	11,578	1,123	100·0	3·1
44	Mylapore (North) ...	38,734	4,121	4,121	8,242	619	589	1,208	1,004	188	13	3	1,208	..	3,502	3,532	7,034	467	4,702	1,865	100·0	9 0
45	Mylapore (South) ...	25,745	1,676	1,460	3,136	365	367	732	533	184	14	1	732	...	1,311	1,093	2,404	63	1,807	534	100·0	2·2
46	Teynampet ...	33,477	2,557	2,183	4,740	555	522	1,077	952	122	3	..	1,077	...	2,002	1,661	3,663	135	3,297	231	100·0	4·0
47	Theagaraya Nagar (South)	35,392	6,285	5,537	11,812	929	850	1,779	1,291	455	31	2	1,779	..	5,356	4,687	10,043	978	7,875	1,190	100·0	11·0
48	Saidapet ...	34,466	3,980	3,706	7,686	696	660	1,356	1,094	212	50	..	1,356	..	3,284	3,046	6,330	445	4,280	1,605	100·0	9·4
49	Guindy ...	17,416	1,932	1,556	3,488	305	320	625	506	116	3	..	625	..	1,627	1,236	2,863	92	2,346	425	100·0	3·8
50	Adyar ...	28,098	2,597	3,074	5,671	590	527	1,117	897	217	3	..	1,117	...	2,007	2,547	4,554	143	3,669	742	100·0	3·7
	For St. George ...	2,280	..	..	..	..	..	..	..	...	..	..	..	...	..	...	...	..	...	..	..	..
	Total ...	14,16,056	1,39,707	1,33,990	2,73,697	26,253	24,940	51,193	41,111	9,153	726	29	51,019	150	1,13,454	1,09,030	2,22,504	9,456	1,70,939	42,109	99·9	5·24

STATEMENT No. II

Vaccinations performed during each month in 1953

Months	Primary Vaccination						Revaccination					
	Number of Persons Vaccinated			Results			Number of Persons Vaccinated			Results		
	Males	Females	Total	Successful	Failure	Absent	Males	Females	Total	Successful	Failure	Absent
January ...	2,310	2,289	4,599	4,586	8	5	8,683	9,171	17,854	786	13,555	3,513
February ...	2,935	2,756	5,691	5,673	...	18	13,968	13,737	27,705	1,456	21,064	5,185
March ...	2,846	2,666	5,512	5,487	...	25	15,786	15,086	30,872	1,383	23,622	5,867
April ...	2,417	2,355	4,772	4,759	1	12	10,811	9,413	20,224	786	15,594	3,844
May ...	2,163	2,011	4,174	4,163	2	9	10,672	11,456	22,128	898	17,236	3,994
June ...	2,338	2,155	4,493	4,461	3	29	9,248	8,491	17,739	652	13,448	3,639
July ...	2,319	2,213	4,532	4,520	5	7	10,242	9,593	19,835	770	15,256	3,809
August ...	1,992	1,893	3,885	3,883	...	2	10,055	8,105	18,160	792	14,072	3,296
September ...	1,946	1,836	3,782	3,772	2	8	6,644	6,724	13 368	545	10,213	2,610
October ...	1,468	1,338	2,806	2,805	...	1	4,469	4,255	8,724	368	6,793	1,563
November ...	986	947	1,933	1,924	2	7	3,185	3,140	6,325	305	4,932	1,088
December ...	2,533	2,481	5,014	4,986	1	27	9,691	9,879	19,570	715	15,154	3,701
Total ...	26,253	24,940	51,193	51,019	24	150	1,13,454	1,09,050	2,22,504	9,456	1,70,939	42,109

MEDICAL RELIEF STATEMENT No. I

Works in dispensaries in 1953

Serial No.	Division	Year of Opening	Dispensary	Attendance		New Cases		Minor Operation	Remarks
				1952	1953	1952	1953		
1	1	1924	Royapuram ...	80,234	73,544	43,264	36,929	320	Allopathic
2	2	1952	Palmyrah Kuppam.	42,119	77,080	14,712	39,581	112	,,
3	5	1913	Washermanpet ...	1,09,894	67,717	59,925	66,144	404	,,
4	6	1929	Vyasarpady ...	76,855	69,770	39,294	35,792	845	,,
5	6	1928	Perambur ...	95,115	87,667	59,756	54,335	542	,,
6	8	1923	Mint ...	1,53,613	1,48,299	71,070	67,940	1,023	,,
7	11	1929	Harbour ...	1,05,554	1,08,034	44,244	44,483	345	,,
8	14	1923	Maluzkhan ...	89,410	90,493	46,651	43,742	162	,,
9	16	1919	Trevelyan Basin ...	61,257	81,563	30,829	36,074	260	,,
10	17	1899	Balaih Naidu ...	78,078	1,23,788	43,619	64,946	1,908	,,
11	20	1946	Sembiam ...	82,160	74,806	47,855	42,224	1,095	,,
12	21	1948	Ayanavaram ...	87,166	93,161	40,677	40,677	147	,,
13	23	1919	Kilpauk ...	63,168	60,443	35,021	35,553	658	,,
14	24	1929	Kosapet ...	91,829	96.617	50,533	51,500	939	,,
15	29	1909	Chintadripet ...	99,971	1,41,439	50,706	67,642	124	,,
16	32	1923	Egmore ...	69,096	76,045	35,931	38,034	43	,,
17	34	1923	Nungambakkam ...	75,454	85,898	42,010	48,116	73	,,
18	35	1948	Kodambakkam ...	46,048	52,869	24,936	30,342	55	,,
19	37	1924	Pudupakkam ...	78,228	65,970	37,947	33,080	38	,,
20	41	1918	Triplicane ...	1,23,997	1,37,498	64,108	68,058	181	,,
21	43	1938	Krishnampet ...	1,11,208	1,05,067	56,683	55,772	179	,,
22	45	1924	Mylapore ...	95,530	90,012	47,644	45,813	122	,,
23	46	1927	Teynampet ...	94,315	51,401	49,634	1,03,108	729	,,
24	47	1922	Theagarayanagar ...	1,46,286	1,35,134	70,448	64,985	145	,,
25	50	1948	Adyar ...	66,682	58,731	31,861	28,093	262	,,
26	33	1930	Thousand Lights ...	1,01,781	99,541	48,446	48,058	861	For Women & Children only (Ayurvedic.)
27	13	1938	Mannady ...	87,547	54,299	22,150	22,729	69	Unani
28	18	1930	Pulianthope ...	85,051	1,09,630	40,884	41,597	199	,,
29	31	1939	Pudupet ...	78,648	71,722	36,324	33,123	99	,,
30	39	1932	Thiruvateeswaranpet ...	92,381	95,054	40,905	43,821	181	,,
31	3	1945	Royapuram ...	59,461	64,767	34,449	37,256	60	Siddha
32	17	1931	Choolai ...	1,53,404	1,55,879	66,839	69,596	118	,,
33	19	1931	Otteri ...	85,140	89,198	50,075	54,667	51	,,
		1953	Mobile Unit ...	...	13,790	...	...	...	

MEDICAL RELIEF

STATEMENT No. II

Details of Skin and Leprosy Cases treated in the Corporation Skin and Leprosy Clinics and other Dispensaries

Name of the Institution	Date of opening	Details of Anti-Leprosy cases									Skin cases		Yearly attendance New and old Skin and Leprosy cases	Average monthly Attendance
		New Leprosy cases	Types		Results of Treatment					Number of Injections for Leprosy	Number of New Skin cases	Number of Injections performed		
			Infective	Non-Infective	Number cured	Number Improved	Number symptoms free	Number arrested	Number otherwise					
Skin and Leprosy Clinic, Beasant Road, Triplicane ...	2-2-34	689	97	592	...	262	28	42	357	7,637	10,865	1,602	30,240	2,520
Vyasarpady Clinic ...	4-8-31	1,006	234	772	...	190	7	146	663	17,721	2,091	...	29,043	2,420
Corporation General Dispensaries ...	...	5	...	5	...	...	...	...	5	...	1,09,906	...	1,66,175	13,848
Total ...	...	1,700	331	1,369	...	452	35	188	1,025	25,358	1,22,862	1,602	2,25,458	18,788

MEDICAL RELIEF — STATEMENT No. III

Results of Survey of Leprosy from 1—1—53 to 31—12—53

Area surveyed	Population										Cases of Leprosy Detected										Gross Incidence per 1,000 of population examined	Child incidence per 1,000 population examined	Sex incidence Male	Sex incidence Female	Sex rate male case per 100 cases of leprosy	Child rate per 100 cases of leprosy	Open case rate per 100 cases of leprosy	Suspicious cases for observation
	Enumerated					Examined					Infective					Non-Infection												
	Males	Females	Male Children	Female Children	Total	Males	Females	Male Children	Female Children	Total	Males	Females	Male Children	Female Children	Total	Males	Females	Male Children	Female Children	Total								
1. Besant Road Leprosy Clinic																												
Block A ..	2747	2814	1581	1652	8794	1713	2365	1396	1506	6980	8	4	..	..	13	42	53	37	38	170	26·2	26·2	28·0	24·9	47·5	41·5	7·1	15
Block B ..	3674	3314	1998	2058	11044	2572	3560	1724	1799	9655	2	2	..	..	4	18	20	18	16	72	7·9	9·7	11·5	7·1	50·0	44·7	5·3	17
Total ..	6421	6128	3579	3710	19839	4285	5925	3120	3305	16635	10	6	..	.	17	60	73	55	54	242	15·6	17·1	16·9	14·5	48·3	42·5	6·6	32
2. Vyasarpady Leprosy Clinic																												
Block C (13 Streets) ..	2791	2760	1757	1760	9068	1358	2278	1603	1668	6907	10	5	..	1	16	17	39	26	39	121	19·8	20·1	17·8	21·5	38·6	48·1	11·6	40
Block D ..	230	230	142	126	728	141	205	130	122	598	..	..	..	..	...	..	2	3	2	7	11·6	19·8	11·7	11·9	42·8	71·4	..	13
Total ..	3021	2990	1899	1886	9796	1499	2483	1733	1790	7505	10	5	...	1	16	17	41	29	41	128	19·1	20·1	17·6	20·5	38·8	49·3	11·1	53

Details of cases treated at the Infectious Diseases Hospital, Tondiarpet, during 1953

	Cholera	Small-pox	Chicken-pox	Measles	Typhoid	Diphtheria	Gastro - Enteritis chronic Enteritis Dysentery, etc.	Other Diseases	Contacts	Total	Remarks
Patients in the Hospital on 1-1-53 ...	220	17	16	6	...	...	80	6	31	326	
Patients admitted during the year { City ...	3,865	511	1,474	138	1	4	3,177	450	1,858	{ 9,620 / 1,858	
Patients admitted during the year { Moffusil ...	811	17	60	9	1	...	363	36	...	1,297	
Total number of patients treated during the year ...	4,896	545	1,550	153	2	4	3,570	492	1,889	13,101	
Total number discharged ...	4,175	345	1,482	148	2	4	2,638	285	1,870	10,949	
Total Number died ...	709	94	...	...	...	...	912	198	...	1,913	
Mortality percentage ...	14	17	...	...	...	...	32	40	...	17	
Patients remaining in the Hospital on 31-12-53 ...	12	106	68	5	...	...	20	9	19	239	

MEDICAL RELIEF

STATEMENT No. V

Details of work in the Six Tuberculosis Clinics for 1953

No.	Particulars	Corporation Tuberculosis Clinic	Clinics at				T. B. Institute Egmore	Total
			Government Royapettah Hospital	Government Stanley Hospital	Government General Hospital	Kasturba Gandhi Hospital		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	*No. of cases examined* :							
	Males ...	4,264	2,004	2,971	4,330	...	7,712	21,281
	Females ...	3,520	1,073	1,621	1,893	2,171	4,043	14,321
	Children ...	2,289	262	1,073	521	1,003	...	5,148
	Total ...	10,073	3,339	5,665	6,744	3,174	11,755	40,750
2	*No. of P. T. cases detected* :							
	P. T. I ...	28	79	29	484	138	401	1159
	P. T. II ...	60	75	17	23	127	422	724
	P. T. III ...	1,334	838	810	3,184	182	2,096	8,444
	Total ...	1,422	992	856	3,691	447	2 919	10,327
3	*No. of Non P. T. cases*	140	156	67	51	178	279	871
4	*Total No. of T. B. cases detected* :	1,562	1,148	923	3,742	615	×	8,000

× Figures not available separately.

STATEMENT No. V—(*Contd.*)

Details of Work in the Six Tuberculosis Clinics for 1953—(*Contd.*)

No.	Particulars	Corporation Tuberculosis Clinic	Clinics at				T. B. Institute Egmore	Total
			Government Royapettah Hospital	Government Stanley Hospital	Government General Hospital	Kasturba Gandhi Hospital		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5	*No. of old cases attended*:							
	Males ...	24,963	6,330	15,457	13,778	...	×	60,528
	Females ...	14,965	3,268	11,588	10,977	5,600	×	46,398
	Children ...	3,374	512	2,887	930	1,125	×	8,828
	Total ...	43,302	10,110	29,932	25,685	6,725	×	1,15,754
6	No. of initial A. P. ...	68	34	59	70	10	107	348
7	Total No. of A. P. re-fills ...	1,008	241	196	877	117	1,325	3,764
8	Total No. of patients attended for A. P. re-fills ...	527	95	96	319	36	×	1,073
9	No. of initial P. Ps. ...	47	45	91	60	11	81	335
10	Total No. of P. P. re-fills ...	1,308	444	952	1,555	141	2,385	6,785
11	Total No. of patients attended for P. P. re-fills ...	456	209	402	519	85	×	1,621

12	No. of Fluoroscopic examinations done ...	11,616	2,326	3,136	9,037	3,278	×	29,393
13	No. of Radiography done ..	935	...	...	...	...	×	935
14	No. of aspirations done ..	8	33	37	138	52	×	268
15	No. of houses visited by Health visitors ..	1,630	1,121	3,426	2,144	1,387	1,585	11,293
16	No. of Houses visited by Medical Officers ...	...	229	413	603	430	492	2,167
17	No. of contacts examined ...	1,787	604	2,282	1,566	1,315	1,299	8,853
18	No. of P. T. cases found among Contacts:							
	P. T. I ...	17	8	34	36	21	×	×
	P. T. II ...	14	8	9	2	15	×	×
	P. T. III ...	40	24	28	76	30	×	×
	Total ..	71	40	71	114	66	181	543
19	B. C. G. Vaccinated.	168	20	45	80	58	235	606
	Family Planning:							
	(a) No. advised ...	...	13	41	55	26	×	135
	(b) No. attended Clinic ..	...	4	39	40	13	×	96

× Figures not available separately.

MEDICAL RELIEF

STATEMENT No. VI

Details of Work done by the Three B.C.G. Teams in 1953

Particulars	Corporation Schools	Other Schools and Colleges	Firms and Institutions	T. B. Institute Egmore	T. B. Clinics	Others	Public	Total
No. Manteux tested ...	13,071	9,438	49	1,233	1,243	3,912	992	29,938
No. B. C. G. Vaccinated ...	4,539	2,031	3	235	134	1,016	145	8,103

Corporation Sri Thiruvotteswarar Tuberculosis Hospital

		1953	1952
No. of Patients on 1st January	..	62	58
Admissions during the year	..	151	164
Discharges excluding deaths	..	150	154
Deaths	..	8*	7
No. at the end of the year	...	55	62

*5 stayed for less than one month and so excluded from results.

Particulars of Admitted cases :

Sex Distribution :

Males 116 Females 35 (Total 151)

Communal Distribution :

Hindus 132 Muslims 5 Christians 14

Age Distribution:

Age Grounds	Males	Famales	Total
0 to 4 years ...	...	...	...
5 to 14 years ...	...	2	2
15 to 24 years ...	27	11	38
25 to 44 years ...	74	21	95
45 to 64 years ...	15	1	16
65 and above ...	...	...	...
Total ...	116	35	151

Classification of Discharged Cases :

No. of Patients discharged including deaths (8)	...	158
Tuberculosis cases	...	154
Not-tuberculosis cases, lung Abscess	...	3
Bronchiectasis	...	1

1. *Type and Stage of Disease of Tuberculosis cases* :

Pulmonary Tuberculosis	Stage I	Stage II	Stage III	Total
(a) ...	3	13	33	49
(b) ...	1	7	22	30
(c) ...	...	2	73	75
Total ...	4	22	128	154

Details of Cases Diagnosed at the Clinic and admitted in the Hospital during the last six years

Year	No. diagnosed as Tuberculous at the Clinic	No. Admitted in the Hospl.	No. Discharged	No. of Treatment—improved cases
1948 ...	1,189	86	38	12
1949 ...	1,640	140	137	67
1950 ...	1,630	160	152	107
1951 ...	1,396	143	144	104
1952 ...	1,680	164	161	98
1953 ...	1,422 plus 140	158	151	114

Artificial Pneumothorax was tried in 31 cases and it was successful in 28 of them. 92 patients received A.P. treatment. 40 cases were treated with Streptomycin, 77 with P.A,S. and 108 with Isonicotinic Acid Hydrazide. 1766 cases were examined fluoroscopically and 349 X-Ray Skiagrams were taken.

158 cases were discharged during the year. 4 of them were non-tuberculous, 21 cases stayed for less than a month. Of the rest, 79 were positive on admission. At the time of discharge, 9 were negative by smear, 57, negative by concentration and 51, by culture.

Analysis of the Discharged Cases

No. discharged (Tuberculous cases)	...	154
No. whose stay was less than for 1 month	...	21
No. taken up for noticing results	...	133
Percentage of admissions who were in III stage of disease	...	82·5

Results of Treatment: (133 Tuberculous cases considered for statistics)

	Stage I			Stage II			Stage III			Total
	A.	B.	C.	A.	B.	C.	A.	B.	C.	
Quiscent ...	...	...	...	2	...	...	...	1	...	3
Much Improved ...	2	1	...	6	2	...	12	5	5	33
Improved ...	1	...	...	2	2	1	17	12	43	78
Stationary ...	...	...	...	...	1	...	3	1	11	16
Worse ...	...	...	...	...	...	...	...	...	...	...
Died ...	...	...	...	...	...	...	...	...	3	3
Total ...	3	1	...	10	5	1	32	19	62	133

Out of the 133 cases discharged, 114 cases or 85·7% had positive result of treatment. Large majority of cases (i.e.) over 62 out of 133 were in the advanced or III stage of the disease. Out of 16 cases in Stage II, 15 cases showed positive result of treatment i.e., in the II stage of the disease, over 93·8% had positive results and all 4 cases in Stage I, showed positive result of treatment i.e., 100% showed positive result of treatment.

Surgical Treatment:

1. *Artificial Pneumothorax*:

(*a*) No. of cases in which it was tried ...	Rt. side ...	21
	Lt. side ...	10
	Total ...	31
(*b*) No. of cases in which it was successful ...	Rt. Side ...	19
	Lt. Side ...	9
	Total ...	28
(*c*) No. of cases in which it was unsuccessful ...	Rt. Side ...	2
	Lt. Side ...	1
	Total ...	3
(*d*) Bilateral A.P.		...	2
(*e*) No. of cases in which A.P. was started out-side prior to admission to this hospital		...	38
(*f*) Total No. of patients who received A.P. Treatment		...	92
(*g*) Total No. of refills given to in-patients and out patients		...	800
			994

2.	*Aspiration of fluid*: Done	...	14 times
3.	*Aspiration of Air*: Done	...	3 times
4.	No. of cases in which Pneumoperitoneum was given 43 patients received	...	853 refills
5.	No. of cases in which Initial Pneumoperitoneum was given	...	22
6.	Thoracoscopy and Cauterisation of Adhesions...		36
7.	Phrenic Paralysis	...	6

Medical Treatment:

1.	*Streptomycin*: No. of cases treated	...	40
2.	*Para Amino Salicylic Acid Treatment*	...	77
3.	*Conteben*:	...	2
4.	*Isonicotinic Acid Hydraside*:	...	108

X-Ray Work:

1.	No. of Fluoroscopic Examinations done	...	1766
2.	X-Ray Skiagrams taken in the Hospital	...	349

Tubercle Bacilli:

Of the 158 cases discharged, 4 were non-tuberculous. Out of the remaining 154 cases, consideration has to be given for 21 cases which stayed less than a month and excluded from Statistics. Of the 133 cases, 54 were negative on admission and 79 were positive on admission. Out of the 133, on discharge, 9 were negative by Smear, 57, negative by concentration and 51, were negative by culture.

Total No. of Sputum samples sent for culture to Path. Laboratory Corporation of Madras during 1953	...	69 samples
C.S.F.	...	4
Widal and Blood Culture ...	...	2
Gel and Chopra ...	...	2
Vanden Bergh ...	...	1
Kahn Test	...	2

Laboratory Work:

1.	*Motion*: *Routine Examination*	...	152
2.	*Urine Examinations*: Routine	...	153
	Albumin	...	130
	Sugar-qualitative	...	1529
	,, quantitative	...	1052
3.	*Sputum for A.F.B.* Smear	...	2122
	Concentration	...	338
	*Culture	...	69
4.	*Blood Examination*: Differential counts	...	809
	B.S.R.	...	809
	For M.P.	...	16
	Index	...	809

(* at Corporation Pathology Laboratory)

5. *Examination of Pleural Fluid for Tubercle Bacilli*:

Complications:

1.	Empyema	...	2
2.	Effusion on A.P. Side	...	18
3.	Intestinal Tuberculosis	...	17
4.	Haemoptysis	...	4
5.	Coloured Sputum	...	14
6.	Ascariasis	...	1
7.	Diabetes	...	10
8.	Trocheo Bronchitis	...	10
9.	Laryngitis	...	11
10.	Perianal Tuberculosis	...	2
11.	Contralateral Spread of Diseases	...	4
12.	Secondary Anaemia	...	4
13.	Pregnancy	...	1
14.	Glands	...	2 (Neck)
15.	Malaria	...	2
16.	Eczema-Scabies	...	1
17.	Abortion	..	..
18.	Otitismedia	...	..
19.	Haemorrhoids	...	2
20.	Hiccough	...	..
21.	Delusional Insanity	...	..
22.	Pleurisy (wet)	...	8
23.	Ascites	...	...
24.	Cirrhosis of liver	...	...
25.	Spontaneous Pneumothorax	...	4
26.	Breast Abscess	...	...
27.	Hansen (N)	...	1
28.	Jaundice	...	2
29.	Tuberculoma	...	1
30.	Stricture Urethra	...	1
31.	Lupus Vulgaria	...	1
32.	Sinus Chest Wall	...	1
33.	Abdominal Tub. Peritonitis	...	1
34.	Phlyctnecla Conjunctivitis	...	1
35.	Miliary Tuberculosis	...	2
36.	Meningitis	...	4

The following gentlemen visited the Hospital during the course of the year and made appreciative reference to the work done in the institution in the remarks recorded in the "*Visitors' Diary*" during the year 1953:

		Visited on
1.	Dr. P. Arunachalam, Director of Medical Services	... 16- 2-1953
2.	Chairman, Standing Committee (Health), Corporation of Madras, and its members	... 2- 9-1953
3.	Mayor, Rangoon Corporation, with members	... 26-11-1953

PUBLIC HEALTH LABORATORY 1953

I. *Details of Manicke, VDRL and Kahn Tests*

	——	No. of Positive cases	No. of Negative cases	Doubtful	Total
1.	Child Welfare Centres	432	7,726	..	8,158
2.	Private Practitioners	318	2,204	61	2,583
3.	Venereal Clinic	367	831	53	1,251
	Total	1,117	10,761	114	11,992

II. *Details of work done on various specimens*

Blood	Sputum	Urine	Motion	Other Smears	Total
26,488	2,110	2,039	3,399	279	34,315

III. *Details of source of specimens*

Private Practitioners	C.W.C.	Corporation Dispensaries	Clinics	Others	Total
19,428	8,259	1,967	1,901	3,760	34,315

IV. *Schedule rates for the examination of specimens*

		Rs.	A.	P.	
Blood Ordinary Examination	..	1	0	0	per test
„ for Agglutination (Widal)	..	2	0	0	„
„ for Culture of B typhus etc.	..	2	0	0	„
For Manicke Test	..	2	0	0	„
Kahn Test	..	2	0	0	„
VDRL Test	..	2	0	0	„
Urine for Qualitative Examination	..	1	8	0	„
„ Quantitative Estimation	..	1	0	0	„
Motion for Microscopic Examination	..	1	0	0	„
„ Culture	..	2	0	0	„

NOTE :—Rates prescribed by Government viz. Rs. 3 to Rs. 5 per test are levied on samples from private companies.

V. *Year-War trend of the volume of work in the Laboratory*

Year	Samples
1946	311
1947	1,492
1948	5,642
1949	12,266
1950	16,346
1951	19,005
1952	33,089
1953	34,315

No.	Defects	Boys.								Girls.								Remarks
		Entrants			Regulars			Total of entrants & regulars		Entrants			Regulars			Total of entrants & regulars		
		No. Defective	Percentage		No. Defective	Percentage		No. Defective	Percentage	No. Defective	Percentage		No. Defective	Percentage		No. Defective	Percentage	
			1953–54	1952–53		1953–54	1952–53				1953–54	1952–53		1953–54	1952–53			
1	Malnutrition ...	1190	17·42	16·65	664	9·69	9·52	1854	13·55	626	13·70	12·97	663	15·69	14·01	1289	14·66	
2	Dirty head, body and nails.	651	9·53	5·08	433	6·32	3·97	1084	7·92	57	1·25	1·54	64	1·51	1·09	121	1·38	
3	Teeth and mouth ...	920	13·47	13·42	637	9·30	8·27	1557	11·38	321	7·03	8·01	274	6·49	4·24	595	6·77	
4	Nose and throat ...	455	6·66	4·72	256	3·74	3·36	711	5·20	288	6·30	7·20	471	11·15	11·20	759	8·63	
5	Eye diseases ...	112	1·64	2·10	71	1·04	1·41	183	1·34	150	3·28	2·42	128	3·03	3·14	278	3·16	
6	Vision ...	10	0·15	0·05	10	0·15	0·11	20	0·15	7	0·15	0·19	18	0·43	0·09	25	0·28	
7	Ear diseases ...	62	0·91	0·78	33	0·48	0·72	95	0·69	38	0·83	0·95	41	0·97	0·75	79	0·90	
8	Hearing ...	3	0·04	0·02	1	0·01	0·02	4	0·03	...	...	0·01	1	0·02	...	1	0·01	
9	Speech ...	4	0·06	0·02	1	0·01	...	5	0·04	1	0·02	...	1	0·02	...	2	0·02	
10	Circulatory system ...	27	0·40	0·47	17	0·25	0·35	44	0·32	64	1·40	1·81	91	2·15	2·14	155	1·76	
11	Tuberculosis ...	5	0·07	0·05	3	0·04	...	8	0·36	...	...	...	1	0·02	...	1	0·01	
12	Respiratory system ...	45	0·66	0·24	33	0·48	0·06	78	0·57	27	0·59	0·66	36	0·85	0·45	63	0·72	
13	Abdominal organs ...	36	0·53	0·28	19	0·28	0·13	55	0·40	2	0·04	0·09	8	0·19	0·07	10	0·11	
14	Bones and joints ...	374	5·47	5·47	209	3·05	1·55	583	4·26	41	0·90	0·77	46	1·09	1·03	87	0·99	
15	Nervous & psychic systems.	3	0·04	0·07	2	0·03	0·03	5	0·04	8	0·18	0·09	4	0·09	0·05	12	0·14	
16	Infectious & Contagious diseases ...	337	4·93	3·61	205	2·99	2·67	542	3·96	264	5·78	6·19	254	6·01	4·99	518	5·89	
17	Other diseases and defects.	155	2·27	1·81	82	1·20	1·23	237	1·73	65	1·42	1·64	71	1·68	1·94	136	1·55	
18	Vaccination ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
19	Deformities ...	16	0·23	0·17	23	0·34	1·14	39	0·29	4	0·09	0·19	6	0·14	0·18	10	0·11	

MEDICAL INSPECTION — APPENDIX TO STATEMENT No. I

Group	No. on roll		Average daily attendance		No. examined		No. defective		Percentage	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Entrants	21,183	13,139	16,654	11,107	6,832	4,568	2,404	1,526	35·19	33·41
Regulars					6,850	4,225	2,676	1,675	39·07	39·64
Total ...	21,183	13,139	16,654	11,107	13,682	8,793	5,080	3,201	37·13	36·40

MEDICAL INSPECTION — Treatment Table — STATEMENT No. II

Group	No. treated at Schools	No. Sent to Corporation dispensaries	No. referred to Government Hospitals	No. referred to Govt. Ophthalmic Hospital	No. referred to Tuberculosis Institute	No. of parents met	No. of revisits paid to Schools	No. of re-examinations of children
Boys ...	2,767	407	865	27	3	849	361	5,842
Girls ...	2,565	322	405	44	1	528	83	6,456
Total ...	5,332	729	1,270	71	4	1,377	444	12,298

MEDICAL INSPECTION — Height and Weight Tables — Statement No. III

Age	Average height in inches		Average weight in pounds		Quinquennial average height in inches		Quenquennial average weight in pounds	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
4	...	36·66	...	24·44	...	...	...	...
5	39·46	37·91	33·33	29·82	39·66	38·87	31·83	30·28
6	40 72	39·76	33 26	32·21	40·66	40·64	34·12	32·38
7	42·11	41·65	35·78	34·19	42·44	42·28	36·26	34·74
8	44·12	43·11	38·51	37·75	44·66	44·11	39·08	37·06
9	46 31	45·84	41·83	40·48	46·56	45·94	43·04	40·44
10	48·64	48·08	46·43	43·15	48·29	48·01	45·52	43·55
11	48·95	50·47	49·07	47·61	49·61	50·35	49·79	48·16
12	50 94	52·46	50·76	52·08	51·16	52·50	52·10	52·61
13	53·32	54·79	55·47	59·17	52·79	54·57	55·30	58·74
14	55·90	56·80	60·53	71·38	55·05	56·98	58·84	68·31
15	57·90	59·86	62·44	75·81	55·81	58·62	64·43	75·22
16	59·03	62·77	77·31	92·39	...	...	...	...
17	61·91	60·39	92·13	96·67	...	...	...	...
18	...	62·23	...	95·92	...	...	...	...
19	63·00	61·25	94·00	82·25	...	...	...	...

SANITATION STATEMENT No. I

Length of Sewers laid in 1953

Serial No	Name of area	Length of sewers laid
		ft. ins.
1	Tondiarpet ...	6,489– 0
2	Vyasarpadi ...	11,499– 1
3	Perambur ...	247– 6
4	Sembium ...	430– 6
5	Purasawalkkam ...	1,842– 0
6	Kilpauk ...	2,088– 2
7	Chetpet ...	741– 8
8	Amjikarai ...	2,399– 3
9	Ice House Road ...	2,750– 5
10	Langs Garden ...	416– 2
11	Greams Road ...	187– 6
12	North Mylapore ...	2,896– 0
13	South Mylapore ...	19,306– 4
14	Thyagarayanagar ...	9,776–11
15	Shenoynagar ...	836– 6
16	Adayar ...	476– 9
17	Gandhinagar ...	1,596– 3
		63,980– 0
		or
		12·12 Miles

SANITATION STATEMENT No. II

Disposal of applications for Licences in 1953

Serial No.	Description of Trade.	No. of cases dealt with	No. sanctioned	No. refused	No. pending	Remarks
1	Aerated Water and Ice Factory ...	76	72	—	4	
2	Bakery, Sweetmeat Stalls & Coffee Hotels	854	811	36	7	
3	Candles and Soaps ...	28	25	2	1	
4	Cocoanut Fibre, Hemp & Jute ...	30	28	—	2	
5	Cattle Yards ...	1275	1193	54	28	
6	Bones, Hoofs, Hair and Wool ...	26	26	—	—	
7	Cart and Cycle Stands ...	48	48	—	—	
8	Dairy Produce ...	319	308	2	9	
9	Flour ...	325	325	—	—	
10	Grinding and Condiments ...	236	224	7	5	
11	Hack Stables ...	8	8	—	—	
12	Dyeing ...	110	102	4	4	
13	Onions and Garlic ...	94	94	—	—	
14	Oil and Oil Mills ...	576	537	24	15	
15	Lodging Houses ...	135	121	5	9	
16	Markets ...	43	43	—	—	
17	Meat ...	129	122	4	3	
18	Spirits, Turpentine, Chemicals & Rosin.	286	278	—	8	
19	Laundries ...	542	520	12	10	
20	Fish and Fins ...	15	15	—	—	
21	Skins, Hides and Leather ..	236	227	4	5	
22	Paddy Boiling ..	2	—	—	2	
23	Sugar ...	—	—	—	—	
24	Catgut, Offal and Tallow ...	5	5	—	—	
25	Snuff ...	173	146	16	11	
26	Cotton ...	104	104	—	—	
27	Eating Houses ...	2375	2153	168	54	
28	Swine ...	—	—	—	—	
29	Lime Kilns ...	48	39	7	2	
30	Beedi Manufacturing ...	352	338	8	6	
31	Manufacturing Cigars, Cigarettes & Storing Tobacco ...	296	267	15	14	
32	Camphor Storing & Boiling ...	43	43	—	—	
33	Shaving Saloon ...	1675	1620	48	7	
34	Husking Paddy ..	3	1	—	2	
35	Groundnut Storage ...	105	105	—	—	
36	Grain Storage ...	764	764	—	—	
37	Gold Refining ...	18	18	—	—	
38	Poultry ...	10	10	—	—	
	Total ...	11,364	10,740	416	208	

Nature of samples.	1953			1948		1949		1950		1951		1952	
	Number of samples analysed.	Number of adulterated samples	Percentage of adulterated samples.	Number of samples analysed.	Percentage of adulterated samples.	Number of samples analysed.	Percentage of adulterated samples.	Number of samples analysed.	Percentage of adulterated samples.	Number of samples analysed.	Percentage of adulterated samples.	Number of samples analysed.	Percentage of adulterated samples.
Milk ...	3,338	2,027	60·7	2,054	50·8	2,629	62·2	2,880	72·0	2,837	76·0	2,810	72·5
Butter ...	680	206	30·3	356	18·8	481	21·8	475	24·8	467	30·4	470	39·1
Ghee	910	176	19·3	607	10·9	688	10·9	725	11·3	718	24·0	683	31·3
Gingelly Oil ...	331	48	14·5	450	11·6	409	13·4	313	12·4	320	12·2	362	19·3
GroundnutOil ...	30	1	3·3	67	7·5	100	5·0	86	4·7	57	5·3	36	2·8
Cocoanut Oil ...	143	4	2·8	117	..	195	3·1	286	11·5	234	9·8	156	6·4
Coffee Powder ...	127	41	32·3	266	13·9	222	4·1	196	2·0	176	10·2	169	55·6
Tea ...	31	...	...	31	...	30	...	22	..	33	15·2	35	...
Ghee Substitutes ...	21	4	19·0	17	47·1	14	35·7	19	26·3	13	38·5	30	16·7
Other articles ...	124	64	51·6	70	7·0	42	52·4	59	45·8	76	10·5	76	43·4
Total ...	5,735	2,571	44·8	4,035	31·8	4,810	39·9	5,061	47·2	4,931	52·2	4,827	54·8

Nature of samples.	Adulterated samples among the samples analysed in 1953					Adulterated samples of the previous year pending disposal on 1-1-1953.					Total number of adulterated samples dealt with during 1953.					Total fines imposed in 1953.	Average fine per conviction in 1953.	Number of convictions in 1952.	Total fines imposed in 1952.	Average fine per conviction in 1952.
	Number of samples.	Number of convictions.	Number seized under Section 9 and forfeited or destroyed under Sec. 12 without prosecution.	Number taken under Sec. 14, but acquitted, withdrawn or not prosecuted.	Number pending disposal on 31-12-53.	Number of samples.	Number of convictions.	Number seized under Sec. 9 and forfeited or destroyed under Sec. 12 without prosecution.	Number taken under Sec. 14, but acquitted, withdrawn or not prosecuted.	Number pending disposal on 31-12-53.	Number of samples.	Number of convictions.	Number seized under Sec. 9 and forfeited or destroyed under Sec. 12 without prosecution.	Number taken under Sec. 14 but acquitted, withdrawn or not prosecuted.	Number pending disposal on 31-12-53.					
Milk ...	2,027	958	..	115	954	2,650	724	...	793	1,133	4 677	1,682	...	908	2,087	31,544	19	1,220	35,037	29
Butter ...	206	115	..	...	91	132	71	...	15	46	338	186	...	15	137	3,764	20	131	4,141	32
Ghee ...	176	74	..	4	98	193	54	...	28	111	369	128	...	32	209	5,146	40	120	5,950	50
Gingelly Oil ...	48	35	..	...	13	33	25	...	4	4	81	60	...	4	17	1,035	17	51	1,470	29
Groundnut Oil ...	1	...	..	...	1	1	...	...	...	1	2	...	...	...	2	...	...	2	105	53
Cocoanut Oil ..	4	1	..	...	3	7	2	...	3	2	11	3	...	3	5	75	25	15	530	35
Coffee Powder ...	41	27	..	1	13	50	37	...	1	12	91	64	...	2	25	2,032	32	51	2,042	40
Tea ...	..	...	..	...	...	...	...	...	...	..	..	...	...	..	...	...	...	3	75	25
Ghee Substitutes ...	4	4	..	...	...	3	...	...	...	3	7	4	...	...	3	70	18	4	107	27
Other articles ...	64	33	..	11	20	24	15	...	...	9	88	48	...	11	29	1,120	23	9	300	33
Total ...	2,571	1,247	..	131	1,193	3,093	928	...	844	1,821	5,664	2,175	...	975	2,514	44 786	21	1,606	49,757	31

WATER ANALYSIS

TABLE No. I

Examination of Water Samples in 1953

Serial No.	Description	Number of samples examined	Remarks
1	Complete bacteriological and chemical examination ...	3,534	
2	Bacteriological and chemical examination of well samples ...	115	
3	Microscopic examination of water from different places in the water supply system ...	130	
4	Identification of Algae ...	86	
5	Culture media, etc., for determination and adjustment of pH ...	212	
6	Examination of water for the presence of H_2S. ...	3,822	
	Total ...	7,899	

WATER ANALYSIS TABLE II

Monthly average levels in the three Reservoirs and total (monthly) rainfall recorded in their respective catchments in 1953

Months	Red Hills Reservoir		Sholavaram Reservoir		Sathyamurthy Sagar (Poondi Reservoir)	
	Average lake level in feet	Total rainfall recorded in the region (inches)	Average lake level in feet	Total rainfall recorded in the region (inches)	Average lake level in feet	Total rainfall recorded in the region (inches)
January ...	45·81	0·42	60·02	0·18	133·75	0·05
February ...	45·57	Nil.	59·29	Nil.	132·33	Nil.
March ...	44·89	Nil.	57·95	Nil.	131·00	Nil.
April ...	43·50	Nil.	56·08	Nil.	129·72	0·30
May ...	42·09	Nil.	53·90	Nil.	128·47	Nil.
June ...	40·95	1·29	52·08	0·68	127·40	2·47
July ...	38·51	2·56	51·08	2·56	126·70	3·63
August ...	37·71	2·49	49·79	1·62	126·02	2·99
September ...	37·17	7·60	49·86	7·05	126·06	4·25
October ...	38·51	13·18	54·72	15·97	130·80	15·06
November ...	44·73	4·40	59·39	4·45	134·96	3·09
December ...	45·79	0·40	59·41	0·09	134·50	0·05

Limnological Conditions of the Sources of the City Water Supply : (a) Satyamoorti Sagar in 1953
(Results expressed in parts per 1,00,000)

Description	23–1	16–2	25–3	27–4	30–5	13–6	31–7	26–8	29–9	26–10	Nov	22–12
A. *Physical Conditions* :												
Time (P.M.) ...	3·30	2·00	3·0	1·30	2·20	4·0	1·30	2·15	1·0	1·30		2·30
Depth in feet (above mean Sea-level) ...	133·3	132·2	130·5	129·3	127·9	127·5	126·4	125·5	126·5	133·4		134·2
Colour ...	S.Y.	S. Y.	L. G.	S. Y.	S.Y.	S. Y.	S. W.	W.	W.	T.		Hazy
Transparency (cms) ...	17·0	13·0	13·0	20·0	18·0	19·0	14·0	16·5	20·5	4·0		15·5
Temperature (°C) ...	31	28	33	33	35	32	29	29	32	31		27
B. *Chemical Conditions* :												
Total Solids ...	24·0	26·0	18·0	21·6	32·0	26·0	23·6	26·0	18·8	22·0		28·0
Alkalinity to Phenolphthalein ...	— 0·6	— 0·5	0·6	— 0·5	0·2	—0·4	0·4	0·2	—0·3	—0·5		—0·4
Alkalinity to Methyl Orange ...	10·3	11·0	12·1	13·2	14·0	13·8	15·2	16·3	13·5	8·8		13·0
P.H. ...	7·3	8·5	8·4	8·3	8·6	8·0	8·4	8·4	8·5	8·0		8·4
Dissolved oxygen (cc/L) ...	5·6	4·9	6·6	5·5	3·9	5·3	5·8	6·3	6·2	4·7		5·7
% Saturation ...	..,	85	...	...	...	...	1·03	111	...	...		88
Chlorides ...	1·5	2·1	2·0	2·6	2·8	2·8	3·2	3·3	3·9	1·4		2·3
Oxygen Absorbed (Tidy') ...	0·162	0·160	0·188	0·184	0·231	0·296	0·220	0·219	0·103	·228		0·175
Ammoniacal Nitrogen ..	0·010	0·002	Nil	Nil	Tr.	Tr.	Nil	Tr.	Tr.	Nil		Nil
Albuminoid Nitrogen ...	0·024	0·040	0·040	0·028	0·028	0·028	0·020	0·032	0·036	0·306		0·014
Nitrous Nitrogen ...	Tr.	Tr.	Nil	M. Tr.	M. Tr.	M. Tr.	M. Tr.	Nil	M. Tr.	M. Tr.		M. Tr.
Nitric Nitrogen ...	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil		Nil
Phosphates (Po_4) ...	Nil	0·001	0·001	Nil	Nil	Nil	0·001	Tr.	<0·001	<0·001		<0·001
Silicates (Sio_3) ...	1·2	1·3	1·1	0·9	0·8	0·8	0·8	0·4	0·6	0·7		0·4
Total hardness ...	6·6	8·4	8·4	8·3	8·2	8·4	8·4	8 2	6·8	7·6		4 1
Calicum hardness ...	4·6	5·0	5·2	5·6	4·0	4·0	4·6	4·4	4·0	3·6		2·6
Magnesium hardness ...	2·0	3·4	3·2	3·2	4·2	4·4	3·8	3·8	2·8	4·0		1 5
Iron ...	0·03	0·04	0·03	0·015	0·01	0·09	0·009	0·004	0·045	0 050		0·002
C. *Bacteriological Conditions* :												
B. Coli present in ? c.c. & upds. ..	1·0	1·0	1·0	5·0	1·0	1·0	1·0	1·0	1·0	1·0		1·0

No Samples Collected

* S Y = Slightly yellowish, L G = Light green, S W = Slightly Whitish, W = Whitish.

TABLE IV

Limnological Conditions of the Sources of the City Water Supply : (b) Sholavaram Reservoir 1953
(Results expressed in parts per 1,00,000)

Description	23–1	16–2	25–3	27–4	30–5	13–6	31–7	26 8	29–9	26–10	Nov	22–12
A. Physical Conditions :												
Time (A. M.) ...	11·0	10·15	12·00	11·15	11·10	10·20	11·00	11·40	10·45	11·10		11·00
Depth in feet (above Sea level) ...	60·12	59·02	...	55·15	53·10	52·10	51·04	48·07	51·12	58·24		39·37
Colour ...	S.Y.	S.G.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.G.		S.Y.
Transparency (cm) ..	30	30	30	30	30	24·5	29·0	21·5	21·5	15·0		7·30
Temperature (°C) ...	30	29	31	33	34·1	32	27·0	28	31	31		27
B. Chemical Conditions :												
Total solids ...	18·0	24·4	24·4	20·8	25·6	33·6	23·6	24·4	21·6	10·8		12·8
Alkalinity to Phenolphthalein...	–0·4	–0·5	0·8	0·2	0 5	—0·4	0·6	1·2	–0·7	–0·3		–0·3
Alkalinity to Methyl Orange ...	9·4	10·2	9·9	10·0	10·5	11·6	10·6	10·0	9·5	7·0		10 5
P.H	8·0	8·0	8·2	8·5	8·7	8·0	8·5	9·2	8·0	8·0		8·0
Dissolved oxygen (cc/L) ...	5·4	5·4	5·7	6·1	6 0	6·3	6·8	6·0	4·9	5·11		5·6
% Saturation ...	9·7	9·6	...	...	...	...	116	0·104	...	...		9·6
Chlorides ...	2·0	2·6	2·5	2·8	3·3	3 7	4·0	3·6	3·5	2·3		2·5
Oxygen Absorbed (Tidy's) ...	0·198	0 115	0·168	2·08	0·228	0 228	0·252	0·324	0.155	0·181		0·199
Ammoniacal Nitrogen ...	0·005	0·002	0·002	Trace	...	Trace	Trace	0·002	Trace	Nil		Nil
Albuminoid Nitrogen ...	0·044	0·010	0 028	0·013	...	0.024	0·020	0·044	0·032	0·32		0·019
Nitrous Nitrogen ...	Trace.	M. Trace	M. Trace	M. Trace	Nill	M. Trace	M. Trace	Nil	Nil	M, Trace		M. Trace
Nitric Nitrogen ...	Nil	Nil	Nil	Nil	Nill	Nil	Nil	Nii	Nil	Nil		Nil
Phosphates ($P0_4$) ...	0.001	Nil	Nil	Nil	0·002	0·001	0·001	0·001	Trace	Trace		Nil
Silicates ($Si0_2$) ...	1·1	1·2	0·9	0·9	0·9	0·7	1·0	0·6	0·5	0·5		0·4
Iron ...	0.07	0·008	0·009	0·003	0 007	0·008	0·012	0·006	0·007	0·010		0 020
Total hardness ...	8·0	8·4	7·8	7·4	7·6	8·4	7·4	7·8	6·8	6·2		3·9
Calcium hardnees ...	5·4	5·4	4·4	3·8	3·6	3·2	4·4	5·1	3·6	2·8		2·3
Magnesium hardnees ...	2·6	3·0	3·4	3·6	4·0	5·2	3·0	2·7	3·2	3·4		1·6
C. Bacteriological conditions : ...												
B. Coli present in ? c.c. & upds	1·0	1·0	1·0	5·0	1·0	1·0	1·0	1 0	1·0	1·0		10·0

Sample was not taken.

Limnological Conditions of the Sources of the City Water Supply—(c) Red Hills Reservoir
(Results expressed in parts per 100,000)

Descsiption	28-1-53	16-2-53	25-3-53	27-4-53	30-5-53	13-6-53	31-7-53	26-8-53	29-9-53	26-10-53	Nov	22-12-53
A. *Physical Conditions* :												
Time (A.M.) ...	10-00	9-30	11-10	9-00	10-20	9-15	9-30	11-00	10-00	10-00		10-00
Depth in feet (above sea level) ...	45·84	45·61	44·62	42·95	41·32	40·24	38·00	37·2	36·98	41·50		45·72
Colour ...	S.G.	S.Y.	S. Y.	S.Y.	S.G.	S.Y.	S.G.	S.Y.	S.Y.	S.G.		S.Y.
Transparency (cm) ...	30	30	24	30	25	24	18	28·5	17·5	11.5		26·0
Temperature(°C) ...	28	28	31	32	32	31·0	28	28	30	30		28
B. *Chemical Conditions* :												
Total solids ...	20·8	20·8	17·6	30·0	30·0	36·4	20·0	20·8	22·8	32·8		13·2
Alkalinity to Phenolphthalien ...	–0·3	–0·3	0·8	0·5	0·3	–0·4	0·3	0·3	–0·4	–0.3		0·5
Alkalinity to Methyl orange ...	7·8	9·4	8·7	10·3	9·5	9·2	10·0	10·0	9·6	8·0		8·0
P. H. ...	8·1	8·0	8·1	8·5	8·4	8·0	8·4	8·4	7·7	7·8		8·4
Dissolved Oxygen (CC/L) ...	5·5	5·7	5·3	5·7	5·6	4·6	5·1	5·6	1·4	4·9		5·8
%Saturation ...	91	99·1	...	...	...	...	81·0	97·4	25	88		101
Chlorides ...	1·9	2·5	2·3	2·8	2·8	3·1	3·4	3·3	3·2	2·7		2·5
Oxygen absorbed (Tidy's) ...	0·200	0.183	0·200	0·179	0·236	0 228	0·358	0·315	0.241	0·232		0·189
Ammoniacal Nitrogen ...	Trace	Nil	Nil	Nil	...	Nil	Nil	Nil	Trace	Nil		Nil
Albuminoid „ ...	0·060	0·044	0·056	0·016	...	0·044	0·056	0·052	0·052	0·020		0·020
Nitrous „ ...	Nil	Nil	M. Trace	M. Trace	Nil	M. Trace	M. Trace	Nil	M. Trace	M. Trace		M. Trace
Nitric „ ...	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil		Nil
Phosphate PO_4 ...	Nil	Nil	Nil	Nil	0·001	Nil	Nil	Nil	Trace	Nil		Nil
Silicates (SiO_3) ...	1·1	1·2	0·9	0·9	0·8	0·7	0·8	0·8	0 8	0·6		0 5
Iron ...	0·005	0·006	0·008	0·007	0·004	0·003	0·003	0·002	0·002	0·007		0·002
Total hardness ...	6·8	8·0	8 2	7·6	8·8	8·8	9·0	8·0	7·8	7·0		3·3
Calcium „ ...	4·4	4·7	4·8	3 8	5·0	5·0	5·8	3·3	4·2	3·6		2·3
Magnesium hardness ...	2·4	3·3	3·4	3·8	3·8	3·8	3·2	4 7	3 6	3·4		1·0
C. *Bacteriological conditions* :												
B. coli present in ? c.c. & upds. ...	1·0	5·0	1·0	10·0	5·0	0·1	5·0	5·0	1·0	1·0		5·0

Sample not taken.

Physico—chemical and Bacteriological conditions at the Raw Water at the Kilpauk end of the Raw water Conduits
Weekly Averages for 1953. (Results expressed in parts per 100,000)

Description	January					February				March					April				
	3	10	17	24	31	7	14	20	28	7	14	21	28	31	4	11	17	25	30
Colour ..	S. G.	S. G.	S. Y.	S. Y.	S. Y.	Y.	Y.	Y.	Y.	Y.	Y.	Y·	Y.	Y.	S. Y.	S Y.	S. Y.	S. Y.	S. Y.
Turbidity (cm) ...	...	...	23·5	29·0	30·0	29·2	30·0	30·0	30·0	30·0	30·0	30·0	29·0	28·0	...	29·0	23·5	24·0	24·0
Ammoniacal N ...	0·008	Nil	Nil	Tr	Tr	Nil	0·002	Nil	Tr	0·002	Nil	Nil	Nil	Nil	Tr	Nil	Nil	Nil	Nil
Albuminoid „ ...	0·040	0·053	0·050	0·008	0·044	0·044	0·048	0·037	0·022	0·054	0·054	0·042	0 054	0·040	0 068	0·066	0·064	0·042	0·052
Nitrous „ ...	Nil	M Tr.	M Tr.	M Tr.	Nil	Tr	Tr	M Tr.	M Tr.	M Tr.	Tr	M Tr.	M Tr.	M Tr.	M Tr.	M Tr.	M Tr.	MTr.	Nil
Nitric. „ ...	Nil	MTr	Nil	Nil	Nil	Nil	Nil	Nil	Nil	„	Nil	„	Nil	„	Nil	Nil	Nil	Nil	Nil
Chlorides ...	...	2·8	4·2	2·8	1·8	2·4	3·1	3·3	2·1	2·6	3·3	3·1	3·1	3·7	...	2·7	2·6	2·7	2 6
Dissolved oxygen (cc/l)...	...	5·0	5·0	4·7	5·3	5·9	5·4	5·4	5·6	...	5·1	5·3	5·1	5·2	...	4·9	5·3	5·1	5·2
Oxygen absorbed (Tidy's)	0.224	0 224	0·205	0·180	0·180	0·171	0·114	0·152	0·169	0·154	0 173	0 159	0·168	0·171	0·166	0·187	0·1 6	0·190	·217
P. H. ...	...	8·0	8·1	7·8	8·0	8.1	7·5	8·1	8·4	8·0	8·1	7·8	8·1	8·1	8·2	8·2	8·3	8·2	8·4
Alkalinity to Phenolphthalein.	...	–0·5	–0·5	–0·7	–0·2	–0·4	–0·4	–0·4	–0·4	–0·5	–0·4	–0 4	–0·3	–0·4	0·1	0·3	0·2	0·2	0·2
Alkalinity to Methyl orange.	...	7·8	8·2	7·4	8 4	8·2	8·8	8·6	8·2	8·7	8·7	9·0	8 6	9·2	8·5	8 7	8·5	8·6	8·5
Total hardness ...	...	7·5	8·6	7·7	7·4	8·1	8·0	8·6	8·0	8·3	8·3	8·0	8·1	8 6	...	7 7	8·0	8 4	7·9
Total Solids ...	...	...	30·8	18.0	18·4	18·6	...	31·2	...	20 8	...	24·0	20·4	...	..	26·0	26·0	24·0	24·0
Phosphates (PO_4) ...	Nil	0·001	Nil	Nil	Nil	Nil	0·005	Nil	Nil	Nil	0·002	0·001	Nil	Nil	..	Nil	Nil	Nil	0·001
Silicates (SiO_2) ...	...	...	1·2	1·2	1 2	1·4	1·2	1·2	0·8	0·8	0·8	0·9	0 9	1·0	..	0·9	0·9	0·8	0 9
Iron ...	0·015	0·025	0·014	0·008	0 008	0·007	0·015	0·009	0·008	0·008	0·010	0 025	0 006	0·004	..	0·008	0 007	0 004	0·003
% Samples showing B. Coli in 5 cc and upwards ...	0	16	25	20	60	60	60	40	16	40	40	30	40	50	0	0	0	0	0

Physico—Chemical and Bacteriological conditions of the Raw Water at the Kilpauk end of the Raw Water Conduits: Weekly Averages for 1953. (Results expressed in parts per 1,00,000)

Description.	May				June					July					August			
	9	16	23	31	8	15	22	29	31	4	11	18	25	31	8	15	22	31
Colour ...	Y	Y	Y	Y	Y	Y	Y	Y	Y	S Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	S.G.	S.G.
Turbidity (cm) ...	23·6	20·5	27·0	23·2	...	...	...	...	...	18·0	16·5	26·5	22·0	23·6	25·3	15·5	14·5	13·5
Ammoniacal N ...	0·002	Nil.	Nil.	Tr.	...	...	...	...	...	0·002	Tr.	Tr.	0·003	Nil.	Tr.	Nil.	Nil.	Nil.
Albuminoid „ ...	0·053	0·041	0·044	0·053	...	...	...	...	...	0·024	0·060	0·040	0·064	0·052	0·052	0·056	0·052	0·052
Nitrous „ ...	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	Nil.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	M.Tr.	Nil.
Nitric „ ...	Nil.	Nil,	Nil.	Nil	Nil.	Nil.	Nil.	Nil.	Nil.	Nii.	Nil.	„	Nil.	Nil.	Nil	Nil.	M.Tr.	Nil.
Chlorides ...	2·4	2·7	3·1	3·0	3·2	3·0	2·8	3·3	3·2	3·0	3·0	3·3	3·4	3·1	3·3	3·4	3·2	3·3
Dissolved Oxygen (cc/L).	4·8	4·5	4·9	4·5	4·2	4·1	5·0	4·7	4·4	4·1	4·5	4·3	4·7	4·8	4·6	5·1	4·3	4·3
Oxygen absorbed(Tidy's).	0·192	0·230	0·232	0·237	0·230	0·242	0·261	0·278	...	0 289	0·288	0·280	0·277	0.291	0·300	0·300	0·302	0·315
P.H. ...	8·0	8·3	8·5	8·5	8·5	8·2	8·0	8·4	8·4	8·3	8·4	8·0	7·8	8 3	8·3	8·4	8·5	8·0
Alkalinity to Phenolphthalein.	-0·4	...	...	...	0·2	0·3	0·4	0·3	0·5	0·2	0·4	-0·4	-0·6	0·4	0·7	0·3	0·6	-0·4
Alkalinity to Methyl Orange.	9·2	...	9·0	...	9·8	9·6	9·6	9·9	9·8	9·3	9·8	10·1	10·4	9·6	10·2	10·3	10·5	10·3
Total hardness ...	7·7	8·1	8·0	8·2	8·5	7·9	8·5	9·5	8·6	8·8	8·9	8·8	8·9	8·8	8·5	8·3	8·6	8·5
Total Solids ...	20·0	20·0	29·2	22·5	26·8	29·2	20·4	32·0	...	33·2	33·6	1 ·2	22·0	23·6	20 3	22·0	22·8	19·6
Phosphates ($P.O._4$) ...	Nil.	0·002	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	0·001	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Silicates (SiO_2) ...	0·8	0·9	0·9	0·8	0·9	0·9	0·9	0·8	...	0·8	1·0	0·7	0·8	0·9	0 7	0·8	0·8	0·8
Iron ...	0·004	0·004	0·006	0·004	0·007	0·004	0·003	0·007	...	0·004	0·002	0·003	0·003	0·002	0 020	0·004	0·001	0·002
%Samples showing B. Coli in 5 Cc. and upwards ...	0	0	0	0	0	0	0	0	0	...	0	0	0	0	0	0	0	0

TABLE VI—*contd.*

Physico—Chemical and Bacteriological conditions of the Raw water at the Kilpauk end of the Raw Water Conduits
Weekly Averages for 1953. (Results expressed in parts Per 100,000)

Description.	September					October					November				December				
	5	11	18	26	30	3	10	14	23	31	7	14	21	30	5	12	19	26	31
Colour ...	S. Y.	S. Y.	S. Y.	S. Y.	S. Y.	Y.	Y.	Y.	Y.	Y.	Y,	S. Y,	S, Y,	S. Y.	S, Y·	S. Y.	S. Y,	S. Y.	S. Y.
Turbidity (cm) ...	16·0	24·0	16·0	...	...	...	17·0	16·0	16·0	15·5	M. O.	25·0	26·0	23·2	30·0	30 0	30·0	26·0	..
Ammoniacal N ...	0 019	Tr.	0·004	0·002	...	...	0·002	..	Nil	0·006	Nil	0·002	Nil	0·002	0·002	0·004	0·004	Nil	...
Albuminoid ,, ...	0·044	0·048	0·048	0·068	...	...	0·060	...	0·044	0·048	0·052	0·056	0·048	0·048	0 016	0·032	0·044	0·022	...
Nitrous ,, ...	M. Tr.	M. Tr.	Nil	Nil	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M. Tr.	M, Tr.	M. Tr.
Nitric, ,, ...	M. Tr.	M Tr·	M. Tr.	M. Tr.	M. Tr.	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Chlorides. ...	3·3	3·4	3·3	3·5	2·9	...	3·1	3·4	3·1	2·5	3·6	3·4	3·7	3·5	2·6	3·3	3·3	3·1	...
Dissolved oxygen (cc/l).	3·4	4·5	4·6	4·6	3·7	...	5·1	...	4·5	4·6	5·3	5·1	5·2	4·7	...	...	...	...	...
Oxygen absorbed (Tidy's)	0·324	0·292	0·262	0·230	0·276	0·217	0·275	0·273	0·279	0·218	0·191	0·213	0·189	0·203	0·182	0·182	0·169	0·175	0·178
P.H. ...	7·9	7·3	8·3	8·4	8·4	...	8·3	8·3	8·2	8·2	8·0	8·0	8·0	8·0	7·9	8·0	8·6	8·5	8·2
Alkalinity to Phenolphthalein.	–0·6	–0·8	0·4	0·5	0·3	...	0·3	0·7	0·7	0·3	–0·4	–0·4	–0·5	–0·5	–0·6	–0·3	0·3	0·3	...
Alkalinity to Methyl orange.	10·0	10·0	9·8	9·6	9·5	..	9·5	9·1	8·6	7·3	7·5	7·5	7·5	7·9	7·9	8·0	8·1	8·1	...
Total hardness ...	8·5	8·4	7·6	8·8	8·0	...	8·1	8·0	8·3	8·0	8·0	7·5	7·1	7·3	6·9	7·6	8·5	7·6	...
Total solids ...	22·0	21·2	17·2	23·0	...	...	21·2	...	26·8	...	12·0	21·2	14·4	17 6	21·2	15·2	18·0	16·0	...
Phosphates (PO_4) ...	Nil	Nil	Nil	Nil	...	Nil	...	Nil	Nil	...	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Silicates (SiO_2) ...	0·9	·0·8	0·7	0·8	...	...	0·7	...	0·4	0·8	0·8	1·2	0·8	0·4	0·8	0·7	0·5	0·5	...
Iron ...	0·003	0·004	0·005	0·005	...	0·001	...	0·001	0·008	0·018	0·004	0·004	0 003	0·003	0·002	0·002	0·006	0·002	..
% Samples showing B. Coli in 5 cc and upwards ...	0	25	0	30	0	100	100	100	100	100	0	17	20	43	0	33	33	44	40

Some important Physical, Chemical and Bacteriological Results of Chlorinated Raw Water in 1953

(Results expressed in parts per 100,000)

Months	No of Samples	Colour	Turbidity (cm.)	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous Nitrogen	Nitric Nitrogen	Chlorides	Oxygen Absorbed Tidy's	Alkalinity to † P.T.H.	Alkalinity to ‡ M.O.	P.H.	Total Hardness	PO_4	SiO_2	Fe.	No. of Samples	B. Coli in ? c.c.—% —60	60	20	10	5	1
January ...	23	S.Y.	30·0	·004	·040	M.Tr.	Nil	2·7	·181	—0 6	9·3	7·4	9·5	·006	1·1	·019	23	Nil	5	63	32	Nil	Nil
February ...	21	,,	30·0	·002	037	,,	,,	2·8	·137	—0·4	9·4	7·7	8·3	·003	1 1	·009	21	14	14	24	48	Nil	,,
March ...	25	,,	30·0	·002	·044	,,	,,	2·8	·149	...	...	7·8	8·0	...	...	...	25	24	8	20	20	20	8
April ...	25	,,	30·0	·008	·054	Nil	M.Tr.	3·8	·157	— 0·3	9·0	8·0	8·5	·001	0·9	·006	23	Nil	17	17	26	17	23
May ...	25	,,	30·0	005	·044	M.Tr.	Nil	2·7	·195	—0·4	9·2	8·1	8·2	·002	0·8	·005	25	16	Nil	Nil	40	40	4
June ...	25	Y.	...	...	...	,,	,,	3·1	·221	—0·5	9·6	7·9	9·1	·002	0·8	·006	25	28	56	12	4	Nil	Nil
July ...	26	S.W.	24·5	·006	·040	,,	,,	3·3	·252	—0·5	9·8	7·7	9·0	·002	0·7	·004	26	Nil	Nil	23	57	12	8
August ...	21	,,	20·5	·010	·055	,,	,,	4·0	·267	—0·7	9·5	7·0	8·9	·001	0·8	·004	21	5	14	14	43	19	5
September ...	23	,,	24·5	·016	·056	,,	,,	3·3	·256	—0·7	9·4	7·5	8·1	·001	0·7	·004	23	Nil	Nil	4	74	13	9
October ...	20	S.Y.	29·3	·005	·052	,,	,,	3·1	·228	—0·7	7·4	7·3	7·8	·001	0·7	·008	20	20	10	10	50	10	Nil
November ...	22	,,	27.5	·002	.047	,,	,,	3·6	·178	—0.5	7·5	7·9	7·5	Nil	0·8	·004	22	50	31	9	Nil	5	Nil
December ...	25	,,	30·0	·002	·036	,,	,,	3·3	·164	0·4	7·8	8·0	7·6	Nil	0·6	·002	25	44	28	12	12	4	Njl

* M. Tr—Minute Trace. † P.T.H. —Phenolphthalein. ‡ M.O.—Methyl orange.

TABLE VIII

Some important Physical, Chemical and Bacteriological results of Chlorinated Filtrates from Beds in 1953

(Results expressed in Parts per 100,000)

Months	No. of Samples	Colour	Turbidity (cm.)	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous Nitrogen	Nitric Nitrogen	Chlorides	Oxygen Absorbed (Tidy's)	Alkalinity to P.T.H.	Alkalinity to M.O.	P.H.	Total Hardness	PO_4	SiO_2	Fe.	No. of Samples	B. Coli in ? c.c.—% — 60	60	20	10	5	1
January ...	23	S. Y.	30	Tr.	·027	M. Tr.	M. Tr.	2·7	·171	—0·5	7·5	7·3	7·7	·002	1·1	·007	23	54	41	5	Nil	Nil	Nil
February ...	21	„	30	„	·039	Tr.	„	3·0	·125	—0·5	8·4	7·5	8·1	·001	1·1	·010	21	65	35	Nil	Nil	Nil	Nil
March ...	25	„	30	·001	·035	M. Tr.	„	2·9	·104	...	...	7·6	8·0	...	...	...	25	56	24	12	Nil	Nil	Nil
April ...	25	„	30	·010	·066	„	Nil	2·9	·143	—0·3	8·6	7·9	7·8	·001	0 9	·008	23	30	39	21	10	Nil	Nil
May ...	25	„	30	·018	·039	„	Nil	3·0	·187	—0·3	9·0	7·8	8·1	·002	0·8	·007	25	12	8	36	8	Nil	Nil
June ...	26	„	30	...	...	„	Nil	3·2	·206	—0·5	9·1	7·8	8·8	·002	0·8	·008	25	56	36	8	Nil	Nil	Nil
July ...	26	„	30	·030	·037	„	Nil	3·5	·240	—0·7	10·0	7·5	9·2	·002	0·8	·005	26	8	8	27	30	23	Nil
August ...	21	S. W.	29·4	·021	·051	„	Nil	3·8	·265	—0·7	9·6	7·6	8·6	·001	0·8	·005	21	5	24	14	48	9	Nil
September ...	23	„	28·0	·037	·050	„	Nil	3·4	·256	—0·7	8·9	7·3	8·4	·001	0·8	·006	23	8	4	4	52	26	6
October ...	20	„	29·3	·036	·043	...	...	3·5	·230	—0·7	7·4	7·5	7·8	·001	0·7	·008	20	40	25	15	20	Nil	Nil
November* ...	22	S. Y.	28·0	·012	·050	M. Tr.	Nil	3·1	·161	—0·5	7·6	7·8	7·1	·001	0·8	·004	22	9	Nil	23	50	14	4
December* ...	24	„	30·0	·005	·023	„	Nil	2·7	·153	—0·7	7·0	7·8	7·4	Nil	0·6	005	33	18	12	27	31	9	3

* Filtrates from individual beds before Chlorination.

Some important Physical, Chemical and bacteriological Results of the Test Tap Water at K. P. S. in 1953

(Results expressed in parts per 1,00,000)

Months	No. of Sample	Colour	Turbidity (cm.)	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous Nitrogen	Nitric Nitrogen	Oxygen absorbed (Tidy's)	Alkalinity to		P.H.	Total Hardness	Total Solids	PO_4	SiO_3	Fe	%—B Coli in ? c.c. & upds						
									P.T.H.	M.O.							No. of samples	—60	60	20	10	5	1
January ...	23	S.Y.	30	Tr.	·040	M.Tr.	M.Tr.	·165	—0·5	7·2	7·4	7·5	20·5	·004	1·1	·007	23	95	5	...	...	...	...
February ...	21	„	30	„	·035	Nil	„	·108	—0·4	8·0	7·5	7·9	24·4	Tr.	1·1	·007	21	100	...	...	...	...	...
March ...	25	„	...	·001	·034	M.Tr.	„	·117	...	...	7·7	7·8	16·3	...	...	...	25	88	8	...	...	4	...
April ...	23	„	30	·029	·051	Tr.	„	·143	—0·4	8·7	7·8	7·9	20·8	·001	0·8	·007	23	78	13	...	9	...	...
May ...	25	„	30	018	037	M Tr.	Nil	·182	—0·5	9·0	7·8	7·9	24·2	·002	0·8	·007	25	20	20	16	20	8	16
June ...	25	„	...	...	...	„	„	·203	—0·5	9·4	7·7	8·5	34·9	·001	0·8	·007	25	12	12	36	8	32	...
July ...	26	„	30	·022	·047	„	„	·213	—0·7	9.8	7·4	8·8	23·6	·001	0·7	·006	26	16	...	16	15	20	33
August ...	21	„	30	·027	·044	„	„	·238	—0·7	9·7	7·3	8·6	19·9	·001	0·8	·006	21	5	42	19	5	5	24
September ...	23	„	30	·034	·047	Tr.	M.Tr.	234	—0·7	9·0	...	8·6	18·6	·001	0·6	·005	23	...	13	22	13	17	35
October ...	25	„	27·8	·018	·044	M.Tr.	Nil	206	—0·6	7·5	7·3	7·6	22·0	·001	0·8	007	25	80	8	4	8	...	...
November ...	22	„	30	·013	·049	„	„	·165	—0·6	7·2	7·5	6·7	11·5	·001	0·6	·005	22	91	9	...	...	...	...
December ...	25	„	30	·004	·028	M.Tr.	M.Tr.	·148	—0·5	7·8	7·5	7·0	12·1	·001	0·6	·002	25	100	...	...	...	...	...

Chlorination data for 1953 Furnished by the Water Works Department

Months	Quantity of water filtered in million per day			Dose of Chlorine applied to Raw water in (P. P. M.)			Dose of Chlorine applied to filtered water in (P. P. M.)			Lbs. of Chlorine used per month for pore Chlorination (Rw)	Lbs. of Chlorine used per month for post Chlorination (FW)	Total lbs. of Chlorine used per month	Cost of Chlorine per lb.	Total cost of Chlorine	Average No. of beds per day in use
	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.						
January	21·32	19·32	20·52	1·46	0·50	1·19	1·77	1·33	1·55	7663	9992	17655	0-7-6		9·5
February	22·66	20·32	21·22	1·67	0·76	1·08	1·42	1·16	1·34	6320	7979	14299	...		9·9
March	22·66	21·32	22·00	1·77	0·80	1·16	1·49	1·39	1·24	7811	8427	16238	...		10·8
April	24·66	20·32	22·82	1·40	1·04	1·20	1·58	0·97	1·31	8155	9005	17160	...		10·2
May	22·99	19·32	21·41	1·96	0·97	1·52	2·19	1·07	1·65	10094	10949	21043	...		13·3
June	22·66	20·00	21·57	1 83	1·27	1·67	2·43	1·70	2·07	10902	13496	24398	...		13·0
July	22·00	18·65	20·85	2·00	0·97	1·63	4·53	2·19	2·97	10470	19236	29706	...		12·3
August	21·00	17·66	20·04	3·00	1·00	1·70	5·38	3·08	4·27	10646	25067	35713	...		12·1
September	21·66	19·32	20·09	3·40	1·07	2·52	5·20	3·61	4·59	15242	27595	42837	...		12·5
October	20·99	18·32	19·65	3·81	2·38	8·83	5·10	4·02	4·68	20426	28227	48653	..		13·0
November	20·66	19·32	19·97	3·66	1·13	·166	4·10	1·63	2·04	10018	12244	22262	...		11·3
December	22·66	19·32	20·99	2·44	0·74	1·65	2·37	1·60	1·94	10665	12665	23330	..		10·8
										128412	184882	313294			

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Kortalayar River Distribution System—Results of Chemicel Examination, 1953
(Results expressed in parts per 100,000)

Months	High pressure areas (near the Head works)												Low pressure areas (out-lying divisions)											
	No. of Samples	Smell	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous N	Nitric N	Chlorides	Oxygen Absorbed	P.H.	Total Hardness	Total Solids	Iron	Number of Samples	Smell	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous N	Nitric N	Chlorides	Oxygen Absorbed	P.H.	Total Hardness	Total Solids	Iron
January 1953...	20	Nil	Nil	·028	MTr	Nil	2·8	·109	7·4	7·7	18·7	...	159	Nil	·015	·034	MTr	MTr	4·1	·158	7·4	14·5	26·5	...
February „ ...	10	„	...	...	„	MTr	2·7	·118	7·3	7·7	21·2	...	160	„	002	·033	„	„	4·4	·115	7·3	9·8	21·9	...
March „ ...	20	„	·003	·029	„	„	2·8	·126	7·6	8·1	17·2	...	132	„	·001	·029	„	„	2·9	·111	7·5	8·3	18·1	...
April „ ...	24	„	·024	·047	Pr	Tr	3·0	·143	7·5	7·9	22·8	...	152	„	.003	·043	Tr	„	4·4	·139	7·4	8·5	23·0	...
May „ ...	20	„	·030	·023	Nil	Pr	3·1	·177	7·8	8·1	27·6	...	173	„	·005	·043	MTr	„	3·2	·171	7·7	8·4	25·2	...
June „ ...	17	„	...	...	MTr	„	3·4	·186	7·5	8·6	26·6	...	143	Smell	...	...	„	Pr	3·4	·181	7.5	8·6	27·8	...
July „ ...	20	„	·046	·045	„	Nil	3·5	·231	7·2	8·3	23·8	·021	148	„	·060	·091	„	Pr	5·2	·215	...	8·9	26·8	·024
August „ ...	10	„	·045	·046	Pr	Nil	3·8	·218	7·2	8·3	25·6	·011	96	„	·029	·044	Pr	Nil	5·2	·234	7·2	9·2	18·8	·019
September „ ...	20	Smell	...	...	Tr	Nil	3·7	·253	7·1	8·0	19·9	...	115	„	·020	·048	Tr	„	4·7	·234	7·2	8·9	26·8	·014
October „ ...	12	Nil	·040	0·40	Tr	MTr	3·0	·228	7·1	7·6	20·8	·013	82	„	·023	·042	Tr	„	3 7	·211	7·1	8 1	19·0	·016
November „ ...	10	„	...	...	Pr	„	2·9	·161	7·2	7·8	11·6	·008	17	Nil	·005	043	Pr	..	3·0	·148	7·1	7·6	...	·016
December „ ...	10	„	Tr.	·048	Tr	Tr	3·1	·158	7·5	8·2	...	.005	44	„	·001	·045	MTr	MTr	2·9	·138	7·5	7·9	14·1	·005

Kortalayar River System—Distribution System—Results of Bacteriological Examination of High Pressure & Low Pressure Areas

Months	High Pressure areas—% B. Coli in							Low Pressure areas—% B. Coli in						
	No. of Samples	—60	60	20	10	5	1	No. of Samples	—60	60	20	10	5	1
Jaunary 1953 ...	20	35	55	5	...	5	...	149	30	55	9	3	...	3
February ,, ...	10	50	40	...	10	...	...	164	42	43	8	3	1	3
March ,, ...	20	60	10	...	...	15	15	132	29	21	4	5	15	26
April ,, ...	24	5	5	...	27	45	18	152	5	24	10	12	34	15
May ,, ...	20	...	...	...	...	50	50	173	1	9	8	32	36	14
June ,, ...	17	6	12	24	12	6	40	143	...	1	10	28	46	15
July ,, ...	20	...	...	...	10	40	50	148	...	...	2	7	35	53
August ,, ...	10	...	...	...	...	100	...	96	1	...	3	16	48	32
September ,, ...	20	...	...	...	20	60	20	115	...	5	8	20	51	16
October ,, ...	12	...	...	...	...	33	67	82	13	13	10	28	32	4
November ,, ...	10	80	...	...	...	10	10	17	29	47	...	12	12	...
December ,, ...	10	100	...	...	...	...	...	44	44	27	4	9	16	...

WATER ANALYSIS TABLE XIII

Kortalayar Water Supply system—Results of Chemical analysis of samples collected from taps in the Booster area

(Results expressed in parts per 100,000)

Months	No. of Samples	Smell	Ammoniacal Nitrogen	Albuminoid Nitrogen	Nitrous Nitrogen	Nitric Nitrogen	Oxygen Absorbed	P.H.	Total Hardness	Total Solids	Iron
January 1953	10	Nil	Nil	0·020	Nil	M.Tr	0·130	7·5	9·3	24·0	...
February ,,	4	Nil	Nil	0·048	M.Tr	M.Tr	0·105	7·7	7·9	...	...
March ,,	10	Nil	Tr	0·024	M.Tr	M.Tr	0·119	7·7	8·5	...	...
April ,,	10	Nil	Tr	0·039	Tr	Tr	0·140	7·5	7·8	28·0	...
May ,,	16	Nil	0 014	0·035	M.Tr	Tr	0·165	7·7	8·2	...	...
June ,,	10	Nil	...	...	Tr	Pr	0·190	7·6	9·2	34·0	...
July ,,	12	Nil	0·048	0·040	Tr	Nil	0·186	...	8 6	...	...
August ,,	8	Smell of hydrogen Sulphide	0·016	0·048	Tr	Nil	0·241	7·2	9·0	21·3	0·011
September ,,	6	,,	...	...	Tr	Nil	0·222	7·0	8·8	16·8	0·009
October ,,	4	,,	...	...	Pr	Nil	0·222	7·0	8·1	...	0·016
November ,,	6	Nil	0·002	0·052	Tr	M.Tr	0·163	7·1	7·6	12·8	0·009
December ,,	4	Nil	...	...	M.Tr	M.Tr	0 112	7·3	8·0	9·2	0·007

WATER ANALYSIS TABLE XIV

Kortalayar River System—Distribution System—Results of Bacteriological Examinations, 1953 Booster Areas of the City

Months	Number of samples	%—Coliform organisms present in						
		−60 c. c.	+60·0 c. c.	+20· c. c.	+10 c. c.	+5 c. c.	+1 c. c.	+0·1 c. c.
January 1953	10	40	20	10	10	20	Nil	...
February ,,	4	50	50	Nil	Nil	Nil	Nil	...
March ,,	10	Nil	10	Nil	40	10	40	...
April ,,	10	Nil	Nil	20	20	60	Nil	...
May ,,	16	Nil	Nil	6	19	62	13	...
June ,,	10	Nil	Nil	Nil	Nil	90	10	...
July ,,	12	Nil	Nil	Nil	28	15	57	...
August ,,	8	Nil	Nil	Nil	Nil	100	Nil	...
September ,,	6	Nil	Nil	Nil	33	50	17	...
October ,,	6	Nil	Nil	Nil	100	Nil	Nil	...
November ,,	6	Nil	33	17	50	Nil	Nil	...
Deeember ,,	4	Nil	100	Nil	Nil	Nil	Nil	...

Results of Chemical Examination of the Infiltration Gallery Wells at Sembiam and Saidapet, in 1953
(Results expressed in parts per 100,000)

	Sembiam							Saidapet.									
	Feb.	Mar.	July	Aug.	Sep.	Oct.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.
Colour ...	C	C	C	S.W.	S.W.	S.W.	S.W.	C	C	C	C	C	C	C	C	C	C
Ammoniacal Nitrogen ...	Nil	Tr	·006	·005	·006	Nil	Nil	Nil	Nil	Nil	Nil	Tr	...	·002	Tr	Nil	Nil
Albuminoid Nitrogen ...	Tr	Nil	Nil	·001	Tr	Nil	M.Tr	Nil	Tr	M.Tr	Nil	Tr	...	·002	·001	Nil	Tr
Nitrous Nitrogen ...	Nil	Nil	M.Tr	M.Tr	M.Tr	Pr	M.Tr	M.Tr	M.Tr	Tr	Tr	Tr	Tr	Tr	Tr	M.Tr	Tr
Nitric Nitrogen ...	M.Tr	M.Tr	M.Tr	Nil	M.Tr	Tr	M.Tr.	Pr	Pr	Pr	Int	Pr	Pr	Tr	Pr	Pr	Pr
Oxygen absorbed ...	·032	·100	·060	·071	·072	·106	·053	·087	·011	·050	·039	·061	·048	·084	·048	·015	...
P.T.H. Alkalinity	—0·5	—1·4	—1·4	—1·5	—1·4	—1·0	...	—1·4	—1·5	— 0·9	—2·2	—1·4	—1·7	—1·6	—1·1	—1·3	—0·8
M.O. Alkalinity ...	12.0	8·8	·126	13·6	13·3	11·3	...	13·9	17.3	17.2	18·0	17·7	16·9	17·8	18·8	18·5	12·5
P.H. ...	7·2	7·1	7·1	7·4	7·9	7·0	6·8	7·3	7·8	7·7	7·3	7·8	7·6	7·3	7·7	7·4	7·4
Chlorides ...	19	22	18	27·5	21	13	8	20·5	26·0	30·7	27·0	29·0	32·0	29·5	28·5	30·0	31·0
Total hardness ...	12·4	3 ·0	22·0	20·5	22·0	22·0	17·0	27·5	29·0	31.3	31·0	29·0	29·0	29·0	24·5	28·0	30.0
Total Solids ...	40	35·2	47·2	63·2	51·2	41·6	25 2	63·4	76·4	82·7	90·8	83·8	89·6	76·4	88.6	72·8	64·0
Iron ...	·025	·030	·065	·055	·004	·007	·006	...	·008	·004	·002	·008	·002	·006	·002	·002	·015

Infiltration Gallery System—Distribution System—Results of Chemical Examination in 1953
(Results expressed in parts per 1,00,000)

1953	Sembiam												Saidapet											
Months	Number of samples	Smell	Ammoniacal Nitrogen	Albuminoid Nitrogen	NO_2 Nitrogen	NO_3 Nitrogen	Chlorides	Oxygen Absorbed	P.H.	Total Hardness	Total Solids	Iron	Number of samples	Smell	Ammoniacal Nitrogen	Albuminoid Nitrogen	NO_2 Nitrogen	NO_3 Nitrogen	Chlorides	Oxygen Absorbed	P.H.	Total Hardness	Total Solids	Iron
January... ...	...	...	...	...	...	...	...	...	...	...	...	...	9	Nil	.003	·008	M.Tr.†	Pr.‡	30·0	·013	7·6	33·0	90·0	...
February ...	7	Nil	Tr.	Nil	M.Tr.	M.Tr.	...	·016	...	12·0	...	...	5	„	Tr.*	Tr.	Tr.	Pr.	...	060	8·1	26·3	65·2	...
March ...	8	„	M.Tr.	M.Tr.	Nil	„	15·3	.042	7·2	17·0	42·0	·035	6	„	Tr.	Nil	Nil	Pr.	33·4	·048	8·1	26·7	104·2	...
April ...	9	„	Tr.	Tr.	M.Tr.	„	...	·056	7·8	16·2	...	...	7	„	Nil	Nil	Tr.	Pr.	...	·033	7·8	28·6	...	...
May ...	9	„	...	...	Tr.	„	18·0	·050	7·6	17·0	52·5	·073	4	„	Nil	Tr.	M.Tr.	Pr.	33·5	·059	8·5	27·0	92·0	·024
June ...	18	„	...	...	M.Tr.	„	23·7	·064	7·7	21·0	55·2	...	13	„	...	...	M.Tr.	Pr.	33·2	·048	8·3	31·2	100·8	...
July ...	8	„	·002	·002	M.Tr.	„	21·5	·082	7·7	21·0	56·8	·020	10	„	Tr.	Tr.	Tr.	Tr.	37·2	·060	8·2	32·5	92·8	...
August ...	8	„	·001	Tr.	M.Tr.	Nil	29·0	·036	8·1	24·0	62·4	·031	10	„	Tr.	Tr.	M.Tr.	Pr.	36·3	·051	8·1	31·5	94·2	·024
September ...	8	„	Tr.	Tr.	M.Tr.	„	...	·063	...	31·0	65·2	...	6	„	Nil	Tr.	Tr.	Pr.	...	046	8·1	31·5	110·0	...
October ...	8	„	Nil	·003	M.Tr.	M.Tr.	22·0	·048	7·6	22·0	63·2	·073	15	„	Nil	Tr.	M.Tr.	Pr.	34·0	·043	8·1	18·0	82·8	·018
November ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
December ...	7	„	Nil	Tr.	Tr.	M.Tr.	13·5	·091	7·1	31·0	39·2	.043	6	„	Nil	Nil	M.Tr.	Pr.	26·3	·041	7·7	29·0	67·2	·003

* M.Tr. = Minute trace, † Pr. = Present, ‡ Tr. = Trace.

WATER ANALYSIS

TABLE XVII

Infiltration Gallery Systems—Sembiam and Saidapet—Distribution Systems—Results of Bacteriological Examination 1953

Months	Sembiam distribution system								Saidapet distribution system						
	Number of Samples	%—B. Coli in							Number of Simples	%—B. Coli in					
		—60	60	20	10	5	1			—60	60	20	10	5	1
January 1953	...	...	...	...	...	...	...	...	8	25	50	25	...	...	...
February „	7	100	...	...	...	...	...		5	60	40	...	...	...	...
March „	7	100	...	...	...	...	...		6	33	...	...	33	34	...
April „	9	...	...	...	34	66	...		7	57	...	...	43	...	...
May „	9	78	...	...	...	22	...		4	25	25	25	...	...	25
June „	18	78	11	...	...	11	...		13	100	...	...	...	...	...
July „	8	100	...	...	...	...	...		10	50	20	10	10	10	...
August „	8	63	37	...	...	...	...		10	20	...	...	50	30	...
September „	8	100	...	...	...	...	...		6	...	16	50	34	...	...
October „	8	100	...	...	...	...	...		16	50	...	...	...	31	19
November „	...	...	...	...	...	...	...		...	...	...	...	...	...	...
December „	7	100	...	...	...	...	...		6	100	...	...	...	...	...

TABLE XVIII

Summarised report on the Sterilisation of Water Mains

Serial No.	Place	Period	Length of pipe line Sterilised	Total lbs. of chlorine injected	Before sterilisation						After sterilization						% of reduction or increase in the Ammoniacal Nitrogen content in the treated samples as compared with that of untreated samples	% of reduction or increase in the Albuminoid Nitrogen content in the treated samples as compared with that of untreated samples.	% of reduction of increase in Iron content in the treated samples as compared with that of untreated samples
					Results expressed in parts per 100,000					Bact.	Results expressed in parts per 100,000					Bact.			
					Ammoniacal Nitrogen	Albuminoid Nitrogen	Oxygen Absorbed	Iron	Phosphate	% of Samples showing absence of L. F. in 60 c. c.	Ammoniacal Nitrogen	Albuminoid Nitrogen	Oxygen Absorbed	Iron	Phosphate	% of Samples showing absence of L.F. in 60 c. c.			
					Main No. I1														
1	Near Ammen Koil on Tiruvottiyur High Road.	1-1-53 to 19-1-53 (18 days)	1½ furlongs	256	Trace	0·038	0·172	0·016	0·005	18	Trace	0·038	0·165	0·014	0·003	80	Nil	—3	—18
2	Near Maharani Talkies, T. H. Road.	20-1-53 to 10-2-53 (17 days)	2 furlongs	272	Trace	0·040	0·148	0·007	0·003	...	Trace	0·034	0·107	0·026	0·020	100	Nil	—15	+73
3	Just south of Tondiarpet Police station on T.H. Road.	11-2-53 to 18-2-53 (6 days)	2 furlongs	84	...	...	...	...	...	...	0·001	0·042	0·108	0·018	0·035	50	...	...	...
4	Just south of I.D. Hospital, Tondiarpet.	19-2-53 to 6-3-53 (14 days)	2½ furlongs	196	...	...	...	...	...	...	0·003	0·023	0·122	0·295	0·020	100	...	...	...
5	Near Lakshmi Ammen Koil, T.H. Road.	7-3-53 to 20-3-54 (9 days)	13 furlongs	134	0·040	0·030	0·132	0·010	0·040	12	0·010	0·023	0·114	0·025	0·042	60	—75	—23	+150
6	Junction of Thandayaraya Gramani Street and Gollavar Agraharam.	21 3-53 to 1-4-53 (10 days)	2 furlongs	155	0·003	0·084	0·128	0·018	0·004	10	0·008	0·019	0·122	0·083	0·011	75	+170	—44	+361
7	Junction of Gollavar Agraharam and Kalmandapam Road.	2 4-53 to 15-4-53 (10 days)	2 furlongs	160	0·025	0·067	0·173	0·018	0·008	0	0·005	0·040	0·114	0·130	0·005	60	—400	—30	+68
8	Same spot but the main on Kalmandapam Road, towards east was Chlorinated.	16-4-53 to 30-4-53 (19 days	2½ furlongs	208	0·004	0·013	0·167	0·013	0·001	0	Trace	0·025	0·126	0·052	0·002	80	...	—42	+300
9	Same spot, but the main leading towards (west) Bala Arunachala Chettiar Street was treated.	1-5-53 to 6-5-53 (6 days)	2 furlongs	96	0·011	0·039	...	0·019	0·001	0	0·062	0·033	...	0·029	0·002	60	—82	—25·4	+53
10	Kalmandapam Road main leading to Singara thottam.	7-5-53 to 13-5-53 (6 days)	2 furlongs	96	0·009	0·039	0·197	0·017	0·001	0	0·004	0·027	0·069	0·065	0·003	100	—56	—31	+282
11	At the junction of Monegar Choultry Road alias Manigandapa Mudali Street (Robinson Park).	14-5-53 to 8-6-53 (18 days)	2½ furlongs	282	0·006	0·044	0·201	0·011	0·002	0	0·005	0·038	0·177	0·054	0·002	94	—17	—10	+390
12	Near Meenakshiammanpet on Cemetry Road.	4 6-53 to 22 6-53 (14 days)	4 furlongs	224	0·007	0·044	0·192	0·010	0·002	0	0·009	0·040	0·126	0·059	0·001	87	—28·6	—9	+490

APPENDIX

Summarised Report on the Sterilisation of Water Mains

Serial No.	Place	Period	Length of pipe line Sterilised	Chlorine	Before sterilisation.						After sterilisation.								
					Results expressed in parts per 100,000					Bactl	Results expressed in parts per 100,000					Bactl			
				Total lbs. of injected	Ammoniacal Nitrogen	Albuminoid Nitrogen	Oxygen Absorbed	Iron	Phospate.	% of samples showing absence of L.F. in 60 c. c.	Ammoniacal Nitrogen	Albuminoid Nitrogen	Oxygen Absorbed	Iron	Phosphate	% of Samples showing absence of L.F. in 60 c. c.	% of reduction or increase in the Ammoniacal Nitrogen content in the treated samples as compared with that of untreated samples	% of reduction or increase in the Albuminoid-Nitrogen content in the treated samples as compared with that of untreated samples	% of reduction of increase in Iron content in the treated samples as compared with that of untreated samples
					Main No. 2—contd.														
13	Near Trade School on old Jail Road.	23-6-53 to 20-7-53 (22 days)	4 furlongs	288	0·028	0·042	0·234	0·012	0·002	4	0·040	0·058	0·219	0·032	0·003	76	+43	+38	+167
14	Junction of Ebramiji Sahib Street and Lingi Chetty Street.	21-7-53 to 13-8-53 (21 days)	2 furlongs	284	0·038	0·050	0·222	0·013	0·001	0	0·046	0·050	0·204	0·025	0·001	28	+22	Nil	+92
15	West Mada Church Road, Royapuram.	14-8-53 to 28-8-53 (8 days)	2½ furlongs	116	0·036	0·048	0·267	0·028	0·001	0	...	...	0·249	0·150	0·001	0	...	...	+436
					Main No. 1.														
16	Main No. 1 Kilpauk Shaft ...	1-9-53 to 16-10-53 (37 days)	2 furlongs	516	0·030	0·049	0·245	0·005	0·001	68	0·030	0·054	0·232	0·017	0·001	50	Nil	+10·2	+240
17	Junction of Brickkiln Road and Purasawalkam High Road.	17-10-53 to 8-11-53 (16 days)	2 furlongs	218	0·023	0·052	0·210	0·025	0·001	0	0·020	0·038	0·185	0·013	0·001	77	—13	+27	—48
18	Junction of Hunter's Road and Perambur Barracks Road clock Tower.	9-11-53 to 26-11-53 (15 days)	2 furlongs	210	0·018	0·044	0·185	0·019	0·001	13	0·012	0·044	0·167	0·019	0·001	100	—33	Nil	Nil
19	St. Paul's Church, main along Hunters Road.	27-11-53 to 25-12-53 (22 days)	4 furlongs	346	0·003	0·025	0·168	0·010	0·001	0	0·017	0·032	0·155	0·010	0·001	94	+466	+28	Nil
20	In Peoples Park compound ...	26-12-53 to 21-1-54 18 days)	2½ furlongs	266	0·005	0·048	0·146	0·005	Nil	87	0·003	0·052	0·144	0·010	0·005	100	—40	+83	+100
21	Near Elephant Gate cart-stand ...	22-1-54 to 7-2-54 (13 days)	2½ furlongs	182	Trace	0·027	0·148	0·003	Nil	50	0·003	0·024	0·139	0·006	0·001	100	...	—11	+200
22	Junction of Ramannan Street and Murugappan Street.	8-2-54 to 26-2-54 (16 days)	2 furlongs	224	0·003	0·035	0·161	0·005	0·001	66	Trace	0·030	0·140	0·007	Nil	100	...	—14·3	+40
23	Audiappa Naick Street near Chinnathambi Mudali Street.	1-3-54 to 16-3-54 (13 days)	2 furlongs	182	Trace	0·025	0·143	0·015	0·001	46	Trace	0·025	0·137	0·009	0·001	100	Nil	Nil	—40
24	Audiappa Naicken Street near Lone Square, Broadway.	17-3-54 to 29-3-54 (11 days)	2 furlongs	154	Nil	0·020	0·154	0·017	Nil	75	0·004	0·048	0·148	0·016	Trace	100	...	+140	—60

APPENDIX

WATER ANALYSIS TABLE No. XIX

Break-point Dose of Chlorine for Raw Water with 10 minutes contact

Date	PH. Raw	PH. § at B.P.	† Ammoniacal Nitrogen.	† Albu. Nitrogen	Temp (°C)	† A. O.*	‡ W.W.D. c/dose p. p. m.	§ B. P. c/dose p. p. m.
5-1-53 ...	7·8	7·6	0·002	0·052	27·0	0·236	1·31	1·0
13-1-53 ...	8·4	7·8	Nil	0·056	28·0	0·222	1·39	1·0
19-1-53 ...	7·8	7·6	0·001	0·008	27·0	0·281	1·39	1·5
27-1-53 ...	7·8	7·5	0·002	0·048	28·0	0·225	0·68	1·5
2-2-53 ...	8·2	7·7	Nil	0·044	28·0	0·178	0·91	1·0
9-2-53 ...	7·2	7·0	0·006	0·040	29·0	0·141	0·78	1·0
16-2-53 ...	7·8	7·5	Nil	0·032	28·5	0·179	1·25	0·75
23-2-53 ...	8·4	7·9	0·001	0·040	29·0	0·139	0·76	0·75
2-3-53 ...	7·7	7·5	0·002	0·042	30·5	6·176	1.05	1·00
9-3-53 ...	8·2	7·9	0·001	0·056	31·0	0·152	1·09	1·25
17-3-53 ...	7·8	7·5	Nil	0·032	30·5	0·155	1·77	0·75
23-3-53 ...	8·3	7·9	Nil	0·056	31·5	0·177	1·29	0·75
30-3-53 ...	7·9	7·6	Nil	0·040	32·0	0·174	1·21	0·75

* Absorbed oxygen = A. O.

† Parts per 1,00,000

‡ W. W. D. = Water Works Department

§ B. P. = Break-point dose of Chlorine

WATER ANALYSIS TABLE No. XIX—*contd*

Break-Point Dose of chlorine for Raw Water with 10 minutes contact

Date.	PH.		*Free Ammonia.	*Albuminoid Ammonia.	Temp. °C.	*Absorbed Oxygen.	Applied Dose by W. W. D. p. p. m.	Break Point Dose p. p. m.
	Raw Water.	At B. P.						
8– 4–53 ...	8·5	8·15	Nil	0·064	31·75°C	0·240	1·07	3·75
15– 4–53 ...	8·3	8·05	Nil	0·064	33·0	0·203	1·11	1·25
22– 4–53 ...	8·2	8·00	Nil	0·048	31·5	0·185	1·31	1·0
29– 4–53 ...	8·15	8·10	Nil	0·048	34·0	0·212	1·26	1·0
6– 5–53 ...	7·8	7·7	0·006	0·052	35·0	0·230	1·22	1·
14– 5–53 ...	8·15	8·0	Nil	0·052	34·0	0·226	1·89	1·5
27– 5–53 ...	8·4	8·35	Nil	0·048	33·5	0·246	1·40	1·5
11– 6–53 ...	8·5	8·17	Nil	0·048	35·0	0·236	1·49	1·5
19– 6–53 ...	8·5	8·05	Nil	0·044	32·0	0·255	1·82	1·75
25– 6–53 ...	8·3	7·8	0·002	0·052	31·0	0·315	1·60	2·0
2– 7–53 ...	8·25	7·8	0·003	0·064	34·0	0·269	1·00	2·0
8– 7–53 ...	8·45	7·9	0·001	0·060	34·5	0·240	1·54	2·0
15– 7–53 ...	8·15	7·4	0·001	0·060	32·0	0·287	1·81	2·75
23– 7–53 ...	7·9	7·45	0·003	0·064	34·0	0·282	1·84	2·0
29– 7–53 ...	8·1	7·7	Nil	0·052	32·0	0·324	1·82	2·0
5– 8–53 ...	8·5	7·9	0·001	0·052	34·5	0·335	1·74	2·0
12– 8–53 ...	8·5	8·1	Nil	0·056	33·0	0·282	1·87	2·0
19– 8–53 ...	8·5	8·5	Nil	0·052	34·0	0·275	1·84	2·75
26– 8–53 ...	8·2	7·65	Nil	0·052	32·0	0·315	1·33	2·75
11– 9–53 ...	7·5	7·15	0·040	0·044	32·25	0·263	2·25	3·50
17– 9–53 ...	7·7	7·3	0·004	0·048	31·0	0·253	2·80	3·0
8–10–53 ...	7·9	7·4	0·002	0·060	31·5	0·305	3·55	3·0
21–10–53 ...	7·7	7·35	Nil	0·044	29·0	0·304	3·77	2·75
28–10–53 ...	7·7	7·5	0·006	0·048	30·0	0·239	3·66	1·50
11–11–53 ...	8·5	8·05	0·002	0·056	30·0	0·204	1·77	1·25
18–11–53 ...	8·3	7·9	Nil	0·148	30·0	0·206	1·13	1·50
25–11–53 ...	7·8	7·55	0·002	0·048	27·0	0·220	1·24	1·50
3–12–53 ...	8·1	7·55	0·002	0·016	28·0	0·189	1·18	1·75
9–12–53 ...	8·1	7·45	0·005	0·032	28·5	0·168	2·32	1·75
17–12–53 ...	8·5	8·10	0·004	0·044	28·0	0·157	2·19	1·00
23–12–53 ...	8·5	8·30	Nil	0·022	28·0	0·168	0·74	1·00

* Parts per 100,000.

WATER ANALYSIS TABLE XX

Break Point Dose of Chlorine for Filtered Water with 10 minute contact

Date	P. H.		Free Ammonia	Albu Ammonia	Temp (°C)	* A. O.	W.W.D. Dose p. p. m.	Dose B. P. p. p. m.
	* F. W.	* at B. P.						
5-1-53 ...	7·7	7·4	Nil	0·040	27·0	0·211	1·68	1·0
12-1-53 ...	7·3	7·1	Nil	0·036	27·0	0·194	1·60	1·0
19-1-53 ...	7·3	7·1	Nil	0·018	28·0	0·151	1·61	1·5
27-1-53 ...	7·4	7·1	Nil	0·036	27·5	0·155	1·36	1·0
2-2-53 ...	7·5	7·2	0·002	0·028	28·0	0·137	1·16	1·0
9-2-53 ...	7·3	7·0	0·005	0·052	29·0	0·111	1·42	1·5
16-2-53 ...	7·7	7·5	Nil	0·040	29·0	0·114	1·38	1·5
23-2-53 ...	7·7	7·4	Nil	0·044	28·5	0·134	1·38	2·0
2-3-53 ...	7·9	7·5	Nil	0·044	28·0	0·142	1·32	1·5
9-3-53 ...	7·6	7·2	0·002	0·044	29·0	0·148	1·15	1·0
17-3-53 ...	7·9	7·4	0·002	0·036	30·0	0·110	1·32	2·0
23-3-53 ...	7·9	7·6	0·005	0·048	31·0	0·156	1·12	2·5
30-3-53 ...	7·7	7·5	0·002	0·032	30·0	0·170	1·47	2·5
6-4-53 ...	7·6	7·2	0·044	0·048	32·0	0·165	1·52	2·0
15-4-53 ...	7·6	7·2	0·028	0·060	31·0	0·135	1·32	2·5

F. W = Filtered Water; B. P. = Break Point; A. O. = Absorbed Oxygen.
* Parts per 100,000

WATER ANALYSIS TABLE XX—*contd.*

Break-Point Dose of Chlorime for Filtered Water with 10 minutes Contact

Date.	P. H.		*Ammoniacal Nitrogen.	*Albuminoid Nitrogen.	Temp °C.	*Absorbed Oxygen. (4 Hrs.)	Applied Dose by W.W. D. p.p.m.	Break point Dose p.p.m.
	* F. W	at* B. P.						
23- 4-53 ...	7·5	7·8	0·048	0·024	33·0	0·159	1·20	2·75
2- 5-53 ...	7·5	7·8	0·040	0·024	33·0	0·162	1·10	2.50
7- 5-53 ...	7·45	7·25	0·020	0·032	34·0	0·188	1·37	2·50
20- 5-53 ...	7·85	7·80	0·010	0·040	35·5	0·186	1·98	2·00
12- 6-53 ...	7·7	7·55	0·020	0·044	34·0	0·190	2·10	3·00
19- 6-53 ...	7·7	7·40	0·018	0.048	32·5	0·210	2·28	3·50
26- 6-53 ...	7·55	7·3	0·032	0·048	30·0	0·218	2·23	5·00
3- 7-53 ...	7·55	7·35	0·019	0·068	30·5	0·224	2·19	3·50
9- 7-53 ...	7·50	7·15	0·010	0·044	33·0	0·264	2·80	4·00
16- 7-53 ...	7·40	6·92	0·040	0·044	32·0	0·273	2·59	6·00
24- 7-53 ...	7·4	7·05	0·044	0·052	34·0	0·279	3·40	5·00
30- 7-53 ...	7·5	7·10	0·040	0·048	33·5	0·274	4·47	4·00
6- 8-53 ...	7·5	6·70	0·040	0·048	33·25	0·249	4·13	8·00
13- 8-53 ...	7·6	7·45	0·020	0·048	32·5	0·240	4·00	3·75
20- 8-53 ...	7·6	7·15	0·028	0·056	31·5	0·270	4·30	4·50
27- 8-53 ...	7·5	7·10	0·044	0·052	29·5	0·285	4·80	5·00
10- 9-53 ...	7·4	6·8	0·020	0·048	30·0	0·184	3·61	8·50
18- 9-53 ...	7·3	7·0	0·032	0·048	32·0	0·259	4·76	6·00
9-10-53 ...	7·3	6·9	0·036	0·044	31·0	0·300	4·02	5·50
22-10-53 ...	7·1	6·8	0·040	0·040	29·0	0·323	5·10	7·00
30-10-53 ...	7·3	6·95	0·011	0·032	29·0	0·127	4·77	3·50
4-11-53 ...	7·3	7·05	0·009	0.028	30·0	0·152	3·02	3·50
12-11-53 ...	7·5	7.10	0·019	0·052	30·0	0·167	1·78	3·00
19-11-53 ...	7·3	7·05	0·019	0·048	30·0	0·192	1·70	2·50
26-11-53 ...	7·5	7·2	0·010	0·036	28·0	0·154	1·66	1·50
4-12-53 ...	7·5	7·35	0·003	0·016	28·0	0·148	1·86	1·50
10-12-53 ...	7·3	7·3	0·005	0·016	28·5	0·140	1·62	0·75
15-12-53 ...	7·5	7·4	0·004	0·027	28·25	0·142	1·67	0·75
24-12-53 ...	7·8	7·7	Nil	0·048	27·00	0·186	2·36	1·00

WATER ANALYSIS TABLE XXI-(a)

Chlorine Compounds in Raw Water using 1 p.p.m. of chlorine dose.

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
5-1-53 ...	7·6	0·05	0·20	0·20	Nil	0·50
13-1-53 ...	7·8	0·05	0·20	0·25	Nil	0·60
19-1-53 ...	7·7	Nil	0.20	0·20	Nil	0·40
27-1-53 ...	7·7	Nil	0·25	0·15	Nil	0·40
2-2-53 ...	7·7	0·05	0·25	0·20	Nil	0·50
9-2-53 ...	7·0	0·05	0·20	0·20	Nil	0·45
16-2-53 ...	7·5	0·10	0·20	0·25	0·08	0·70
23-2-53 ...	7·9	0·10	0·20	0·30	0·08	0·70
2-3-53 ...	7·5	0·05	0·20	0·20	Nil	0·50
9-3-53 ...	8·0	Nil	0·25	0·15	Nil	0·40
17-3-53 ...	7·5	0·10	0·20	0·20	0·08	0·50
23-3-53 ...	7·8	0·10	0·20	0·25	Nil	0·60
30-3-53 ...	7·6	0·10	0·15	0·20	Nil	0·50
8-4-53 ...	8·15	0·05	0·15	0·25	0·075	0·60
15-4-53 ...	8·10	Nil	0·25	0·15	Nil	0·45
22-4-53 ...	8·00	0·05	0·20	0·20	Nil	0·40
29-4-53 ...	8·10	0·05	0·15	0·20	Nil	0·40
6-5-53 ...	7·80	Nil	0·15	0·15	Nil	0·30
14-5-53 ...	8·05	Nil	0·25	0·15	Nil	0·40
27-5-53 ...	8·40	Nil	0·20	0·10	Nil	0·30
11-6-53 ...	8·25	Nil	0·20	0·10	Nil	0·30
19-6-53 ...	8·20	Nil	0·15	0·10	Nil	0·30
25-6-53 ...	8·20	Nil	0·25	0·15	Nil	0·40
2-7-53 ...	7·97	Nil	0·20	0·05	Nil	0·30
8-7-53 ..	8·05	Nil	0·25	0·10	Nil	0·35
15-7-53 ...	7·90	Nil	0·45	0·10	Nil	0·60
23-7-53 ...	7·7	Nil	0·20	0·10	Nil	0·30

WATER ANALYSIS TABLE XXI-(a)—*contd.*

Chlorine Compound in Raw Water-using 1 p.p.m. of Chlorine dose.

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Total Chlorine Compound p.p.m.
29- 7-53 ...	8·1	Nil	0·25	0·15	Nil	0 40
5- 8-53 ...	8·1	Nil	0·25	0·15	Nil	0·40
12- 8-53 ...	8·4	Nil	0·30	0·10	Nil	0 45
19- 8-53 ...	8·4	Nil	0·25	0·05	Nil	0·30
26- 8-53 ...	8·1	Nil	0·20	0·15	Nil	0·30
11- 9-53 ...	7·5	Nil	0·55	0·10	Nil	0·70
17- 9-53 ...	7·5	Nil	0·6	0·05	Nil	0·65
8-10-53 ...	7·6	Nil	0·4	0·05	Nil	0·60
21-10-53 ...	7·5	Nil	0·25	0·15	Nil	0·40
28-10-53 ...	7·6	Nil	Nil	Nil	Nil	Nil
11-11-53 ...	8·1	Nil	0·25	0·10	Nil	0·40
18-11-53 ...	8·1	Nil	0·25	0·15	Nil	0·45
25-11-53 ...	7·6	Nil	0·25	0·10	Nil	0·40
3-12-53 ...	7·9	Nil	0·20	0·10	Nil	0·30
9-12-53 ...	7·8	Nil	0·50	0·10	Nif	0·70
17-12-53 ...	8·1	0·05	0·30	0·15	Nil	0·50
23-12-53 ...	8·3	0·05	0·30	0·15	Nil	0·50

WATER ANALYSIS TABLE XXI-(b)

Chlorine Compounds in Raw Water using 1·5 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
8– 4–53 ...	8·05	0·25	0·10	0·25	0·15	0·90
15– 4–53 ...	8·05	0·10	0·25	0·20	0·070	0·70
22– 4–53 ...	7·85	0·10	0·10	0·30	0·23	0·75
29– 4–53 ...	7·95	0·05	0·15	0·25	0·15	0·70
6– 5–53 ...	7·7	0·05	0·20	0·25	Nil	0·50
14– 5–53 ...	8·0	0·05	0·25	0·25	Nil	0·60
27– 5–53 ...	8·0	0·05	0·30	0·20	Nil	0·60
11– 6–53 ...	8·17	0·05	0·25	0·35	Nil	0·60
19– 6–53	8·15	Nil	0·25	0·25	Nil	0·55
25– 6–53 ...	8·10	Nil	0·35	0·25	Nil	0·70
2– 7–53 ...	7·80	Nil	0·30	0·15	Nil	0·60
8– 7–53 ...	8·0	Nil	0·30	0·20	Nil	0·50
15– 7–53 ...	7·7	Nil	0·55	0·20	Nil	0·75

WATER ANALYSIS TABLE XXI-(c)

Chlorine Compounds in Raw Water using 2·0 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Chlorine Compounds Total p.p.m.
5-1-53 ...	7·5	0 25	0·25	0·30	0·08	1·0
13-1-53 ...	7·6	0·20	0·25	0·30	0·08	1·0
19-1-53 ...	7·5	0·15	0·20	0·30	0·08	0·8
27-1-53 ...	7·6	0·10	0·25	0·30	0·08	0·8
2-2-53 ...	7·5	0·80	0·20	0·35	0·15	1·2
9-2-53 ...	7·6	0·25	0·25	0·25	0·08	0·9
16-2-53 ...	7·4	0·30	0·15	0·30	0·15	1·0
23-2-53 ...	7·8	0·35	0·15	0·25	0·23	1·1
2-3-53 ...	7·4	0·25	0·30	0·35	0·15	1·2
9-3-53 ...	7·7	0·1	0 25	0·30	0·15	0·9
17-3-53 ...	7·3	0·40	0·20	0·35	0·23	1·2
23-3-53 ...	7·7	0·35	0·15	0·30	0·15	1·2
30-3-53 ...	7·3	0·40	0·10	0·35	0·15	1·2
8-4-53 ...	7·95	0·45	0·15	0·30	0·15	1·20
15-4-53 ...	7·95	0·20	0·15	0·30	0·15	0·90
22-4-53 ...	7·75	0·30	0·10	0·30	0·23	1·10
28-4-53 ...	7·85	0·25	0·15	0·30	0·15	1·00
6-5-53 ...	7·6	0·10	0·20	0·35	0·08	0·85
14-5-53 ...	7·9	0·20	0·20	0·30	0·08	0·85
27-5-53 ...	8·25	0·10	0·30	0·35	0·08	0·90
11-6-53 ...	8·02	0·05	0·25	0·35	0·08	0·90
19-6-53 ...	7·95	0·15	0·20	0·30	0·15	1·00
25-6-53 ...	7·80	0·05	0 30	0·35	0·08	0·90
2-7-53 ...	7·8	0·05	0·30	0·25	Nil	0·80
8-7-53 ...	7·9	0·05	0·30	0·30	Nil	0·80
15-7-53 ...	7·52	Nil	0·60	0·30	Nil	1·00
23-7-53 ...	7·45	0·05	0·3	0·40	Nil	0·90

WATER ANALYSIS TABLE XXI-(c)

Chlorine Compounds in Raw Water using 2·0 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p m	NH_2 Cl. p.p.m.	N.H. Cl_2 p.p.m.	N. Cl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
29–7–53 ...	7·70	0·05	0·35	0·40	Nil	0·95
5–8–53 ...	7·90	0·05	0·30	0·35	Nil	0·90
12–8–53 ...	8·10	0·05	0·45	0·40	Nil	1·00
19–8–53 ...	8·10	Nil	0·40	0·35	Nil	0·80
26–8–53 ...	7·7	Nil	0·30	0·40	Nil	1·00
11–9–53 ...	7·3	Nil	0·90	0·25	Nil	1·35
17– 9–53 ...	7·5	Nil	0·75	0·30	Nil	1·1
8–10–53 ...	7·5	Nil	0·60	0·30	Nil	1·0
21–10–53 ...	7·4	Nil	0·50	0·35	Nil	0·95
28–10–53 ...	7·4	0·15	0·20	0·35	0·08	0·90
11–11–53 ...	7·9	0·30	0·15	0·25	0·08	0·80
18–11–53 ...	7·7	0·25	0·15	0·30	0·08	1·10
25–11–53 ...	7·5	0·25	0·15	0·30	0·08	1·00
3–12–53 ...	7·6	0·15	0·20	0·35	0·08	0·90
9–12–53 ...	7·5	0·15	0·30	0·25	0·08	1·1
17–12–53 ...	7·7	0·50	0·20	0·30	0·15	1·2
23–12–53 ...	7·9	0·45	0·20	0·30	0·08	1·1

WATER ANALYSIS TABLE XXI-(d)

Chlorine Compounds in Raw Water using 3·0 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
5- 1-53 ...	7·3	0·40	0·20	0·45	0·08	1·65
13- 1-53 ...	7·5	0·45	0·20	0·40	0·08	1·6
19- 1-53 ...	7·5	0·40	0·15	0·45	0·23	1·4
27- 1-53 ...	7·4	0·35	0·20	0·50	0·23	1·5
2- 2-53 ...	7·7	0·50	0·20	0·50	0·15	1·6
9- 2-53 ...	6·9	0·40	0·25	0·45	0·10	1·7
16- 2-53 ...	7·3	0·60	0·15	0·40	0·15	1·7
23- 2-53 ...	7·8	0·70	0·15	0·30	0·15	1·8
2- 3-53 ...	7·3	0·45	0·20	0·50	0·23	1·6
9- 3-53 ...	7·6	0·50	0·10	0·35	0·10	1·75
17- 3-53 ...	7·3	0·80	0·10	0·40	0·15	1·60
23- 3-53 ...	7·7	0·65	0·15	0·30	0·10	1·70
30- 3-53 ...	7·4	1·45	0·20	0·25	0·15	2·0
8- 4-53 ...	7·7	1·30	0·15	0·30	0·15	2·15
15- 4-53 ...	7·85	0·65	0·15	0·35	0·15	1·50
6- 5-53 ...	7·50	0·45	0·45	0·45	0·25	1·25
14- 5-53 ...	7·7	0·60	0·20	0·30	0·15	1·30
27- 5-53 ...	8·1	0·35	0·30	0·40	0·23	1·60
11- 6-53 ...	8·10	0·25	0·35	0·40	0·08	1·40
19- 6-53 ...	7·7	0·30	0·25	0·35	0·15	1·30
25- 6-53 ...	7·7	0·30	0·40	0·35	0·15	1·40
2- 7-53 ...	7·7	0·15	0·40	0·40	0·15	1·30
8- 7-53 ...	7·7	0·25	0·30	0·45	0·15	1·40
15- 7-53 ...	7·45	0·10	0·60	0·30	Nil	1·30
23- 7-53 ...	7·30	0·20	0·30	0·40	0·15	1·30
29- 7-53 ...	7·70	0·25	0·40	0·50	0·15	1·50
5- 8-53 ...	7·6	0·20	0·30	0·45	0·15	1·35

WATER ANALYSIS TABLE XXI-(d)—*contd*

Chlorine Compounds in Raw Water usiug 3·0 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl p.p m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
12- 8-53 ...	8·0	0·30	0·45	0·50	0·23	1·70
19- 8-53 ...	8·0	0·10	0·40	0·50	0·08	1·30
26- 8-53 ...	7·60	0·10	0·40	0·45	0·15	1·40
11- 9-53 ...	7·2	Nil	0·90	0·50	Nil	1·50
17- 9-53 ...	7·3	0·05	0·60	0·45	Nil	1·45
8-10-53 ...	7·4	0·05	0·45	0·50	0·08	1·60
21-10-53 ...	7·3	0·10	0·35	0·60	Nil	1·20
28-10-53 ..	7·3	0·40	0·15	0·50	0·15	1·40
11-11-53 ...	7·5	0·90	0·20	0·25	0·15	1·70
18-11-53 ...	7·5	0·80	0·20	0·70	0·15	2·00
25-11-53 ...	7·4	0·70	0·20	0·70	0·15	2·00
3-12-53 ...	7·4	0.50	0·15	0·60	0·15	1·80
9-12-54 ...	7·3	0·80	0.20	0.30	0·30	1·70

WATER ANALYSIS TABLE XXI-(e)

Chlorine Compounds in Raw Water using 4·0 p.p.m. of Chlorine dose

Date.	P.H.	Free Chlorine p.p.m.	NH_2Cl p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
19- 8-53 ...	7·7	0·35	0·45	0·70	0·15	2·00
26- 8-53 ...	7·5	0·35	0·40	0·45	0·23	1·70
11- 9-53 ...	7·1	0·10	0·60	0·50	0·15	1·60
17- 9-53 ...	7·1	0·20	0·40	0·60	0·15	1·85
8-10-53 ...	7·2	0·20	0·30	0·60	0·15	1·60
21-10-53 ...	7·2	0·50	0·40	0·60	0·15	2·00
5 p.p.m.						
11- 9-53 ...	7·1	0·35	0·60	0·50	0·23	2·0

WATER ANALYSIS TABLE XXII-(a)

Chlorine Compounds in Filtered Water using 1·0 p p.m. of Chlorine.

Date..	P.H.	Free Chlorine p.p.m.	NH_2Cl p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
5- 1-53 ...	7·4	0·1	0·35	0·25	0·08	0·8
12- 1-53 ...	7·1	0·05	0·35	0·20	Nil	0·7
19- 1-53 ...	7·1	Nil	0·70	0·15	Nil	0·9
27- 1-53 ...	7·2	0·05	0·30	0·25	Nil	0·6
2- 2-53 ...	7·2	0·10	0·30	0·20	0·08	0·7
9- 2-53 ...	7·0	Nil	0·80	0·10	Nil	0·90
16- 2-53 ...	7·5	Nil	0·85	0·05	Nil	0·90
23- 2-53 ...	7·6	Nil	0·60	0·15	Nil	0·75
2- 3-53 ...	7·7	Nil	0·70	0·15	Nil	0·85
9- 3-53 ...	7·2	0·05	0·40	0·10	Nil	0·60
17- 3-53 ...	7·7	Nil	0·70	0·20	Nil	0·90
23- 3-53 ...	7·8	Nil	0·60	0·15	Nil	0·75
30- 3-53 ...	7·7	Nil	0·50	0·10	Nil	0·60
6- 4-53 ...	7·5	Nil	0·55	0·15	Nil	0·70
15- 4-53 ...	7·5	Nil	0·50	0·10	Nil	0·60
23- 4-53 ...	7·45	Nil	0·50	0·05	Nil	0·60
2- 5-53 ...	7·45	Nil	0·35	0·05	Nil	0·40
7- 5-53 ...	7·35	Nil	0·35	0·05	Nil	0·45
28- 5-53 ...	7·85	Nil	0·60	0·05	Nil	0·70
12- 6-53 ...	7·70	Nil	0·45	0·05	Nil	0·55
19 -6-53 ...	7·7	Nil	0·55	0·05	Nil	0·60
26- 6-53 ...	7·5	Nil	Nil	Nil	Nil	Nil
3- 7-53 ...	7·55	Nil	0·15	0·05	Nil	0·20
9- 7-53	7·50	Nil	0·20	0·05	Nil	0·20
16- 7-53 ...	7·35	Nil	0·15	0·05	Nil	0·20
24- 7-53 ...	7.35	Nil	0·50	0·05	Nil	0·60
30- 7-53 ...	7·30	Nil	0·20	0·05	Nil	0·25
6- 8-53 ...	7·4	Nil	Nil	Nil	Nil	Nil
13- 8-53 ...	7·6	Nil	0·65	0·05	Nil	0·70
20- 8-53 ...	7·5	Nil	0·05	Nil	Nil	Nil
27- 8-53 ...	7·5	Nil	0·05	0·05	Nil	0·1
10- 9-53 ...	7·4	Nil	Nil	Nil	Nil	Nil
18- 9-53 ...	7·2	Nil	0·10	Nil	Nil	0·1
9-10-53 ...	7·3	Nil	0·05	Nil	Nil	Nil
22-10-53 ...	7·1	0·05	0·05	Nil	Nil	0·1
30-10-53 ...	7·2	Nil	0·50	0·05	Nil	0·60
4-11-53 ...	7·3	Nil	0·30	Nil	Nil	0·30
12-11-53 ...	7·3	Nil	0·75	0·10	Nil	0·90
19-11-53 ..	7·2	Nil	0·75	0·10	Nil	0·95
26-11-53 ...	7·3	Nil	0·9	0·10	Nil	1·00
4-12-53 ...	7·4	Nil	0·7	0·10	Nil	0·80
10-12-53 ...	7·3	0·1	0·35	0·25	Nil	0·80
15-12-53 ...	7·3	0·10	0·30	0·25	0·08	0·70
24-12-53 ...	7·7	0·05	0·30	0·20	Nil	0·60

WATER ANALYSIS TABLE No. XXII-(b)

Chlorine Compounds in Filtered Water using 2·0 p.p.m. of Chlorine.

Date.	PH.	Free Chlorine p p.m.	NH_2Cl p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
5- 1-53 ...	7·3	0·40	0·15	0·20	0·10	1·20
12- 1-53 ...	7·0	0·30	0·10	0·25	0·10	1·00
19- 1-53 ...	7·0	0·20	0·15	0·25	0·08	1 05
27- 1-53 ...	7·0	0·45	0·10	0·20	0·10	1·20
2- 2-53 ...	7·1	0·40	0·15	0·25	0·15	1·25
9- 2-53 ...	6·9	0·20	0·10	0·20	0·08	0·90
16- 2-53 ...	7·4	0·15	0·15	0·25	0·10	0·95
23- 2-53 ...	7·4	0·05	0·10	0·30	Nil	0·80
2- 3-53 ...	7·5	0·25	0·15	0·30	Nil	0·90
9- 3-53 ...	7·1	0·40	0·10	0·30	0·08	1·10
17- 3-53 ...	7·4	0·05	0·10	0·35	0·08	0·90
23- 3-53 ...	7·5	Nil	0·90	0·20	Nil	1·20
30- 3-53 ...	7·4	Nil	0·85	0·15	Nil	1·10
6- 4-53 ...	7·2	0·05	0·20	0·35	Nil	0·80
15- 4-53 ...	7·3	Nil	0·95	0·25	Nil	1·20
23- 4-53 ...	7·35	Nil	1·10	0·20	Nil	1·30
2- 5-53 ...	7·40	Nil	1·05	0·25	Nil	1·30
7- 5-53 ...	7·25	Nil	0·95	0·15	Nil	1·10
28- 5-53 ...	7·80	0·05	0·60	0·20	Nil	0·90
12- 6-53 ...	7·65	Nil	1·10	0·10	Nil	1·30
19- 6-53 ...	7·65	Nil	1·10	0·10	Nil	1·20
26- 6-53 ...	7·40	Nil	0·35	0·05	Nil	0·50
3- 7-53 ...	7·50	Nil	0·75	0·10	Nil	0 90
9- 7-53 ...	7·30	Nil	0·95	0·15	Nil	1 20
16- 7-53 ...	7·50	Nil	0·90	0·15	Nil	1·05
24- 7-53 ...	7·25	Nil	1·25	0·15	Nil	0·60
30- 7-53 ...	7·3	Nil	1·05	0·20	Nil	1·25
6- 8-53 ...	7·3	Nil	Nil	Nil	Nil	Nil
13- 8-53 ...	7·5	Nil	0·95	0·35	Nil	1·30
20- 8-53 ...	7·4	Nil	0·70	0·10	Nil	0·80
27- 8-53 ...	7·4	Nil	0·75	0·10	Nil	0·95
10- 9-53 ...	7·2	Nil	0·30	0·05	Nil	0·30
18- 9-53 ...	7·2	Nil	0·75	0·15	Nil	0·90
9-10-53 ...	7·2	Nil	0·80	0·15	Nil	1·00
22-10-53 ...	7·0	Nil	0·75	0·15	Nil	0·90
30-10-53 ...	7·1	Nil	0·12	0·10	Nil	1·30
4-11-53 ...	7·2	Nil	1·05	0·15	Nil	1·70
12-11-53 ...	7·2	Nil	1·40	0·20	Nil	1·60
19-11-53 ...	7·1	Nil	1·80	0·15	Nil	2·00
26-11-53 ...	7·1	0·10	1·45	0·30	0·08	1·90
4-12-53 ...	7·3	0·10	0·60	0·30	0·15	1·20
10-12-53 ...	7·2	0·70	0·15	0·25	0·15	1·20
15-12-53 ...	7·2	0·50	0·15	0·20	0·15	1·30
24-12-53 ...	7·5	0·30	0·15	0·20	0·15	1·20
2·5 p.p.m.						
23- 4-53 ...	7·32	Nil	0·95	0·25	Nil	1·30
2- 5-53 ...	7·30	0·05	0·80	0·30	Nil	1·30
7- 5-53 ...	7·25	0·05	0·80	0·30	Nil	1·10
28- 5-53 ...	7·80	0·10	0·35	0·20	0·15	0·90
12- 6-53 ...	7·65	Nil	1·35	0·15	Nil	1·60
19- 6-53 ...	7·65	Nil	1·20	0·15	Nil	1·40

WATER ANALYSIS TABLE XXII-(c)

Chlorine compounds in Filtered Water using 3·0 p.p.m. of Chlorine

Date	P.H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
5–1 –53 ...	7·2	0·60	0·40	0 35	0·10	1·60
12–1 –53 ...	6·9	0·50	0·30	0 45	0·15	1 65
19–1 –53 ...	6·9	0·50	0·35	0·50	0·15	1 70
27–1 –53 ...	6·9	0·70	0·25	0·60	0 10	1·70
2–2 –53 ...	7·0	0·60	0·15	0·45	0·15	1 60
9–2 –53 ...	6·9	0·40	0·20	0·50	0·08	1·40
16–2 –53 ...	7·2	0·30	0·45	0 35	0·08	1·30
23–2 –53 ...	7·3	0·25	0·50	0·65	0·08	1 60
2–3 –53 ...	7·3	0·50	0·15	0·70	0·15	1·65
9–3 –53 ...	7·0	0·70	0·10	0·75	0·08	1·80
17–3 –53 ...	7·2	0·20	0·35	0·45	0·10	1 20
23–3 –53 ...	7·4	0·10	0·60	0·40	0·15	1 20
30–3 –53 ...	7·2	0·15	0·75	0 35	0·10	1·40
6–4 –53 ...	7·0	0·25	0·50	0 40	Nil	1 20
15–4 –53 ...	7·1	0·10	0·70	0·30	Nil	1·20
23–4 –53 ...	7·3	0.10	0·60	0 30	Nil	1·15
2–5 –53 ...	7·3	0·10	0·50	0·30	0·08	1·10
7–5 –53 ...	7·22	0 10	0·55	0·30	Nil	1·05
28–5 –53 ...	7·8	0·25	0·25	0 20	0·15	1·15
12–6 –53 ...	7·55	0·25	1·70	0 15	Nil	2·10
19–6 –53 ...	7·50	Nil	1·40	0 15	Nil	1·80
26–6 –53 ...	7·3	Nil	1·10	0·15	Nil	1 80
3–7 –53 ...	7·4	Nil	1·10	0 30	Nil	1·50
9–7 –53 ...	7·2	Nil	1·40	0·30	Nil	1·75
16–7 –53 ...	7·15	Nil	1·60	0 20	Nil	1·80
24–7 –53 ...	7·25	Nil	1·80	0 20	Nil	2·10
30–7 –53 ...	7·2	Nil	1·70	0 30	Nil	2·00
6–8 –53 ...	7·1	Nil	0 25	0·10	Nil	0 40
13–8 –53 ...	7·4	0·15	0·50	0·59	0·08	1 30
20–8 –53 ...	7·3	Nil	1 35	0·15	Nil	1·50
27–8 –53 ...	7·3	Nil	1·60	0·15	Nil	1·75
10–9 –53 ...	7·1	Nil	0·90	0·20	Nil	1 15
18–9 –53 ...	7·1	Nil	1·65	0·25	Nil	1·90
9–10–53 ...	7·1	Nil	1 65	0·20	Nil	1·80
22–10–53 ...	7·0	Nil	1·60	0·20	Nil	1·80
30–10–53 ...	7·0	Nil	1 25	0·65	Nil	2·50
4–11–53 ...	7·1	Nil	1 70	0.40	Nil	2·50
12–11–53 ...	7·1	0·05	8·90	0·40	Nil	1·60
19–11–53 ...	7·0	0·15	1·00	0·60	0·08	2 10
26–11–53 ...	7·1	0·30	0·65	0 50	0 08	1·50
4–12–53 ...	7·2	0·30	0·50	0·45	0·15	1·40

WATER ANALYSIS TABLE XXII-(d)

Chlorine Compounds in Filtered Water using 4·0 p.p-m. of Chlorine

Date	P. H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Estimated Total Chlorine Compounds p.p.m.
17- 3-53 ...	7·1	0·40	0·30	0·30	0 15	1·20
24- 3-53 ...	7·2	0·30	0·25	0 25	0·15	1·10
30- 3-53 ...	7·0	0·60	0 25	0·30	0·08	1 30
6- 4-53 ...	7·9	0 45	0·30	0·40	0·08	1·30
15- 4-53 ...	7 0	0·35	0·25	0·35	0·15	1·20
23- 4-53 ...	7·25	0·15	0·20	0·25	0·15	1·10
2- 5-53 ...	7·20	0·60	0·20	0 30	0·08	1·40
7- 5-53 ...	7·10	0·40	0·15	0·25	0·15	1·40
26- 6-53 ...	7·30	Nil	1·70	0·20	Nil	2·00
3- 7-53 ...	7·30	0·10	0·70	0·40	Nil	1·40
9- 7-53 ...	7·15	0 05	1·05	0·60	Nil	1·75
16- 7-53 ...	7·05	Nil	2·20	0·40	Nil	2·60
24- 7-53 ...	7·15	Nil	1·60	0 45	Nil	2·30
30- 7-53 ...	7·10	0·05	1·40	0·60	Nil	2·20
6- 8-53 ...	7·10	Nil	0·40	0·20	Nil	0 70
13- 8-53 ...	7·30	0·50	0·25	0·60	0·15	1·70
20- 8-53 ...	7·20	Nil	1·40	0·45	Nil	1·85
27- 8-53 ...	7·20	Nil	1·70	0·40	Nil	2·20
10- 9-53 ...	7·10	Nil	1·70	0·20	Nil	1·90
18- 9-53 ...	7·1	Nil	2·25	0·35	Nil	2·70
9-10-53 ...	7·0	Nil	1·85	0·30	Nil	2·35
92-10-53 ...	6·9	Nil	2·50	0·30	Nil	2·80
30-10-53 ...	6·9	0·15	0·30	0·60	0·08	1 50
4-11-53 ...	7·0	0·10	0·85	0·50	0·08	1·70
12-11-53 ...	7·0	0·30	0·25	0·35	0·15	1·40
19-11-53 ...	6·9	0·15	0·60	0·60	0·08	1·70
4-12-53 ...	7·1	0·65	0·30	0 70	0·23	2·10

WATER ANALYSIS TABLE XXII-(e)

Chlorine Compounds in Filtered Water using 5·0 p.p.m. of Chlorine dose

Date	P.H.	Free Chlorine p.p.m.	NH_2Cl. p.p.m.	$NHCl_2$ p.p.m.	NCl_3 p.p.m.	Chlorine Compound Total p.p.m.
26- 6-53 ...	7·3	0 05	1·30	0·50	Nil	2·20
3- 7-53 ...	7·2	0·20	0·30	0· 5	0·15	1·30
9- 7-53 ...	7·05	0·10	0·45	0·40	0·15	1·35
16- 7-53 ...	6·95	Nil	1·80	0·80	Nil	2·65
24- 7-53 ...	7·05	0·05	0·90	0·60	0·08	1·70
30- 7-53 ...	7·0	0·10	0·60	0·70	0·15	1·70
6- 8-53 ...	7·0	Nil	1·30	0·30	Nil	1·60
20- 8-53 ...	7·1	0·85	0·05	0·40	0·23	1·70
27- 8-53 ...	7·1	0·05	1·25	0·75	Nil	2·20
10- 9-53 ...	7·0	Nil	2·50	0·20	Nil	2·60
18- 9-53 ...	7·0	Nil	2·00	0·65	Nil	2·80
9-10-53 ...	6·9	Nil	1·55	0·75	Nil	2·50
22-10-53 ...	6·9	Nil	2·55	0·45	Nil	3·00
30-10-53 ...	6·9	0·45	0·30	0·60	0·23	1·70
4-11-53 ...	7·0	0·40	0·30	0·40	0·15	1·50
6 p.p.m.						
26- 6-53 ...	7·25	0·10	1·00	0·50	0·08	2·00
16- 7-53 ...	6·92	0·05	1·90	0·70	0·08	2·05
24- 7-53 ...	6.95	0·10	0·65	0·60	0·15	1.60
30- 7-63 ...	7·1	0·40	0·20	0·40	0·15	1.70
6- 8-53 ...	6 8	Nil	1·90	0·40	Nil	2·50
27- 8-53 ...	7·0	0·05	0·75	0·75	0.08	1·90
10- 9-53 ...	6·9	Nil	2·75	0·40	Nil	3·10
18- 9-53 ...	7·0	0·10	1·50	0·65	Nil	2·30
9-10-53 ...	6·9	0·10	1·10	0·70	Nil	2·35
22-10-53 ...	6·8	Nil	2·80	0·50	Nil	3·40
7·0 p.p.m.						
6- 8-53 ..	6·7	Nil	2·00	0·60	Nil	2·70
10- 9-53 ...	7·0	Nil	2·30	0.70	Nil	3·10
9-10-53 ...	6·8	0·20	0·80	0.65	0·15	2·00
22-10-53 ...	6·8	0·05	2·70	0.45	Nil	3·40
8.0 p.p.m.						
6- 8-53 ...	6·7	0·5	1·80	0·60	Nil	2·70
10- 9-53 ...	6·8	Nil	1·90	0·80	Nil	2·80
22-10-53 ..	6·7	0·15	2·00	0·40	0·08	2·80
9·0 p.p.m.						
10- 9-53 ...	6·8	0·10	1·30	0·60	0·08	2·50
10 p.p.m.						
10- 9-53 ...	6·8	0·10	1·30	0·60	0·15	2·50

CHILD WELFARE STATEMENT I

Showing the cases of Labour which came under the observation of Child Welfare Scheme in 1953

No.	Centre	How Conducted					Caste		Remarks	
		By Nurses of C.W.S.	Taken to Hospital	Taken over after Barber Women conducted	Maternity Ward	Total	Non-Muslims	Muslims	Twins	Still-births
1	Tondiarpet ...	150	78	19	951	1198	1163	35	10	31
2	Royapuram ...	430	19	20	...	469	328	141	5	11
3	Palmyrah kuppam	221	34	7	...	262	205	57	10	10
4	Washermenpet ...	698	65	16	1150	1929	1469	460	16	66
5	Sanjiviroyanpet ...	320	67	25	1056	1468	1415	53	9	35
6	George Town ...	372	25	5	605	1007	933	74	8	22
7	Muthialpet ...	632	16	10	...	658	468	190	7	11
8	Kothawal Bazaar.	282	40	10	516	848	649	199	10	31
9	Treveleyan Basin.	582	55	11	712	1360	1354	6	3	25
10	Park Town ...	208	28	5	...	241	240	1	2	9
11	Maternity Home, Choolai ...	426	124	11	1118	1679	1662	17	19	30
12	Sembiam ...	519	133	41	465	1158	1058	100	10	35
13	North Perambur.	536	51	40	496	1122	1005	117	4	25
14	Pulianthope ...	679	136	51	888	1754	1442	312	14	56
15	Purasawalkam ...	634	56	37	699	1426	1359	67	12	33
16	Kilpauk ...	140	47	12	345	544	519	25	2	19
17	Chetpet ...	205	45	8	423	681	666	15	10	20
18	Egmore ...	575	27	7	...	609	481	128	6	16
19	Saidapet ...	270	85	29	1207	1591	1537	54	15	44
20	Periamet ...	243	33	2	196	474	412	62	2	12
21	Kodambakkam ...	241	59	7	499	806	766	40	6	26
22	Triplicane ...	690	60	14	671	1435	935	500	8	32
23	Mirsahibpet ...	639	21	11	...	671	399	272	3	10
24	Mylapore ...	645	45	4	...	694	604	90	7	23
25	Royapetah ...	450	19	6	...	475	403	72	5	6
26	Mandavalli ...	489	13	1	...	503	498	5	2	8
27	Adyar ...	152	22	1	392	567	559	8	6	19
28	Thyagaraya Nagar	382	20	5	...	407	402	5	3	12
29	Teynampet ...	484	17	4	...	505	488	17	1	13
30	Ayanavaram ...	577	68	32	...	677	625	52	3	16
		12870	1508	451	12389	27218	24044	3174	218	706

CHILD WELFARE STATEMENT II

Showing the number of visits paid by the Staff of Child Welfare Scheme in 1953

No.	Centre.	Visits paid by			Total
		Midwives	Health Visitors	Assistant Surgeons	
1	Tondiarpet ...	8531	6716	1105	16352
2	Royapuram ...	6242	4713	586	11541
3	Palmyrah Kuppam ...	3429	4680	602	8711
4	Washermanpet ...	12098	5325	548	17971
5	Sanjiviroyanpet ...	8105	3720	821	12646
6	George Town ...	10820	4577	909	16306
7	Muthialpet ...	8863	3854	551	13268
8	Kothwal Bazaar ...	4969	2389	851	8209
9	Treveleyen Basin ...	11658	3164	315	15137
10	Park Town ...	3915	3881	910	8706
11	Maternity Home, Choolai ...	11779	9350	795	21924
12	Sembiam ...	8618	3370	668	12656
13	North Perambur ...	8105	3686	371	12162
14	Pulianthope ...	12649	7926	416	20991
15	Purasawalkam ...	11238	4897	938	17073
16	Kilpauk ...	4047	4591	1149	9787
17	Chetpet ...	5081	4036	977	10094
18	Egmore ...	7162	3887	800	11849
19	Saidapet ...	9902	8054	862	18818
20	Periamet ...	5728	5349	588	11665
21	Kodambakkam ...	5318	3378	977	9673
22	Triplicane ...	10853	9257	638	20748
23	Mirsahibpet ...	7922	4450	794	13166
24	Mylapore ...	5481	4560	765	10806
25	Royapetah ...	5473	3099	529	9101
26	Mandavalli ...	5877	4273	721	10871
27	Adyar ...	4256	4760	933	9949
28	Thyagaroya Nagar ...	4410	1967	72	6449
29	Teynampet ...	4543	1914	70	6527
30	Ayanavaram ...	7313	7054	14	14381
	Total ...	224385	142877	20275	387537

CHILD WELFARE STATEMENT III

Showing the number of Prenatal cases registered and the Number of booked Cases in 1953

No.	Centre	No. of Pre-natal cases registered	No. of Booked cases which attended the Ante-natal clinic	Cases not confined but brought over to account in the next year
1	Tondiarpet ...	1228	1178	109
2	Royapuram ...	1149	1055	136
3	Palmyrah Kuppam ...	713	615	111
4	Washermanpet ...	2478	2478	199
5	Sanjivirayanpet ...	1284	1282	184
6	George Town ...	1426	1426	231
7	Muthialpet ...	1246	1227	104
8	Kothwal Bazaar ...	911	893	128
9	Treveleyan Basin ...	1701	1680	184
10	Park Town ...	519	509	82
11	Maternity Home, Choolai.	1912	1912	333
12	Sembium ...	1287	1256	109
13	North Perambur ...	1404	1391	88
14	Pulianthope ...	1983	1927	236
15	Purasawakum ...	1893	1882	190
16	Kilpauk ...	680	679	37
17	Chetpet ...	934	912	54
18	Egmore ...	1299	1187	132
19	Saidapet ...	1813	1791	224
20	Periamet ...	955	868	105
21	Kodambakkam ...	878	870	...
22	Triplicane ...	1911	1854	160
23	Mirsahibpet ...	1297	1217	122
24	Mylapore ...	1209	1199	98
25	Royapetah ...	1057	964	133
26	Mandavalli ...	975	974	30
27	Adyar ...	640	576	51
28	Thyagaraya Nagar ...	632	586	67
29	Teynampet ...	883	823	131
30	Ayanavaram ...	992	974	120
		37289	36185	3888

Showing Pre-natal cases registered and ailments of Pregnancy diagnosed and Patients advised in 1953

Number	Centre.	Cardio—Vascular diseases			Respiratory diseases				Alimentary Tract diseases				Diseases of Urinary tract			Toxaemia of Pregnancy				Deficiency diseases			Pyrexias			Debility	Specific diseases				Other diseases & abnormalities of Pregnancy					Normal	Other diseases	Total
		Valvular diseases of the Heart (V.D.H.)	Hyper Tension	Varicose Veins	Bronchitis	Pneumonia	Pulmonary Tuberculosis	Asthma	Constipation	Dyspepsia	Diarrhoea	Dysentery	Scanty Micturition & Retention of Urine	Albuminuria	Pyelitis	Pre Eclamptic Toxaemia	Eclampsia	Acute yellow atrophy of the liver (Jaundice)	General Anasarca	Calcium deficiency	Vitamin deficiency	Other Nutritional deficiency	Influenza	Malaria	Rheumatism	General debility (Emaciation)	Skin diseases	Ear, Nose, Throat	V.D. Syphilis Gonorrhoea	Leucorrhoea	Morning Sickness	Anaemia	Hydramnios	Antepartum Haemorrhage	Breast abscess			
1	Tondiarpet ...	4	2	...	13	...	2	1	3	12	1	11	...	14	...	16	...	2	...	35	73	...	48	2	...	23	7	...	5	...	...	335	...	1	3	559	6	1178
2	Royapuram ...	1	...	1	24	...	...	...	42	30	3	10	51	15	...	30	1	...	12	25	44	5	26	15	1	35	6	...	1	...	...	194	3	3	1	294	182	1055
3	Palmyrah Kuppam,	1	...	...	30	...	3	1	33	7	3	10	7	1	...	1	...	...	2	...	...	29	3	...	...	7	...	...	...	3	...	145	1	...	1	293	33	615
4	Washermanpet ...	2	22	1	57	...	...	9	100	212	28	37	43	24	3	30	11	...	...	41	102	...	13	15	1	88	24	13	3	15	70	240	3	13	3	957	299	2478
5	Sanjiviroyanpet ...	2	13	...	40	...	...	7	43	11	9	23	16	27	...	13	...	...	...	46	94	23	73	...	...	14	9	..	1	...	1	345	...	2	2	417	51	1282
6	George Town ...	16	...	31	55	15	...	27	49	59	61	80	86	63	...	...	...	2	25	43	17	...	64	61	...	59	4	34	12	12	68	85	22	15	16	319	26	1426
7	Muthialpet ...	3	...	...	16	...	...	3	27	35	8	9	36	...	...	...	...	4	...	3	34	57	...	4	4	58	4	...	...	6	...	228	...	...	4	420	267	1227
8	Kothwal Bazaar...	2	...	...	12	...	...	6	...	16	2	1	...	2	...	3	...	...	4	1	47	4	1	13	...	41	...	...	...	...	...	162	...	...	...	473	103	893
9	Trevelyen Basin.	5	49	2	43	1	1	...	20	96	21	51	22	8	...	13	32	...	3	56	...	29	1	...	...	142	20	...	2	2	...	162	5	...	2	690	202	1680
10	Park Town ...	4	...	...	40	...	...	...	112	...	4	...	14	16	...	2	...	...	36	15	5	...	10	12	...	48	9	2	...	...	1	12	...	...	1	166	...	509
11	Maternity Home, Choolai	22	91	3	97	3	1	3	96	19	17	9	54	9	...	74	4	2	43	23	75	...	5	...	4	50	22	...	173	4	2	160	2	1	...	722	122	1912
12	Sembiam ...	1	...	...	55	...	...	116	...	...	27	28	57	...	...	17	...	...	2	...	144	...	2	...	...	12	...	...	...	...	...	224	...	...	...	348	223	1256
13	North Perambur...	...	...	...	36	...	..	21	116	287	8	13	157	2	3	...	...	...	19	4	56	3	...	...	...	4	...	...	...	...	...	118	...	...	...	342	202	1391
14	Pulianthope ...	...	3	...	69	...	...	2	38	69	30	18	76	...	...	13	...	...	...	...	107	...	15	...	...	57	2	...	8	5	...	332	...	...	...	746	337	1927
15	Purasawalkam ...	2	20	...	38	...	...	1	295	684	8	15	350	1	...	3	...	...	3	67	46	9	9	1	...	51	6	1	..	2	...	65	...	2	...	176	27	1882
16	Kilpauk ...	4	...	...	44	...	...	...	46	91	1	1	27	2	...	9	...	...	2	...	15	3	4	...	...	45	7	...	1	...	...	189	1	...	...	187	...	679
17	Chetpet ...	8	9	3	22	2	2	5	111	165	22	15	75	40	...	20	7	1	15	68	74	15	19	3	...	118	8	3	4	11	...	72	6	4	3	14	68	912
18	Egmore ...	...	...	...	22	...	...	1	164	25	9	2	111	5	...	...	...	...	10	...	66	49	4	1	...	32	9	...	3	2	...	130	1	...	...	503	38	1187
19	Saidapet ...	2	...	...	5	...	1	4	14	13	2	5	14	...	...	24	1	...	...	14	84	...	4	...	8	7	12	...	109	...	...	104	...	2	3	1297	62	1791
20	Periamet ...	1	3	...	13	...	...	1	474	18	6	6	7	4	...	1	...	...	5	6	...	4	2	1	...	24	9	...	3	3	...	85	...	...	1	34	157	868
21	Kodambakkam ...	...	...	2	14	...	...	...	14	50	...	25	...	...	...	16	...	...	...	...	97	...	...	...	...	12	...	...	1	...	...	217	...	...	...	314	108	870
22	Triplicane ...	12	2	2	128	...	1	10	184	192	13	14	71	8	...	10	...	1	3	...	127	...	30	...	...	106	14	2	1	8	...	225	1	...	...	582	107	1854
23	Mirsahibpet ...	...	...	...	73	...	...	6	...	169	32	22	...	16	69	6	...	...	...	...	189	...	69	1	2	24	4	...	...	2	...	203	...	...	...	286	44	1217
24	Mylapore ...	...	...	...	26	...	...	5	...	53	16	16	...	10	45	20	2	2	10	...	118	64	5	4	...	40	39	...	...	10	...	139	...	...	2	526	47	1199
25	Royapetah ...	2	...	...	42	...	...	2	99	54	2	13	108	...	...	41	...	...	...	...	125	...	9	...	...	26	2	...	1	...	...	87	...	...	...	239	112	964
26	Mandavalli ...	9	...	...	28	...	1	12	...	86	14	5	...	...	10	9	...	...	2	15	107	11	5	3	...	75	1	4	2	5	...	114	...	1	2	453	...	974
27	Adyar ...	4	...	...	...	...	...	...	...	18	2	4	...	...	...	2	...	...	...	...	145	...	15	...	...	14	...	...	...	...	...	197	..	...	...	172	3	576
28	Thyagaroya Nagar	3	...	...	11	...	...	...	48	28	3	3	66	...	...	7	...	...	...	...	46	5	...	...	...	16	1	...	...	...	...	66	...	...	....	188	95	586
29	Teynampet ...	...	...	...	22	...	...	...	65	33	5	2	96	...	...	9	...	...	...	...	76	18	...	...	...	6	1	..	...	...	...	100	...	...	...	243	147	823
30	Ayanavaram ...	3	1	...	46	...	...	2	47	79	9	8	45	9	...	21	...	2	3	1	72	36	3	...	...	3	9	3	..	...	...	177	2	...	....	319	64	974
	Total ...	113	215	45	1121	21	12	245	2240	2511	366	564	1588	276	130	410	58	16	199	460	2185	364	439	136	20	1247	229	62	330	90	142	4912	47	44	44	12279	3133	36185

APPENDIX

Showing Meternal Morbidity (Puerperal) in the year 1953.

No.	Centre.	Normal Pregnancy: Respiratory diseases: Bronchitis	Pneumonias	Pulmonary Tuberculosis	Asthama	Normal Pregnancy: Other diseases: Extreme Debility	Venereal diseases	Heart diseases	Pyrexias	Infectious diseases	Skin diseases	Deficiency diseases	Gastro-Intestinal disorders	Diseases of Pregnancy: Pre-Eclampsia	Eclampsia	Hyperemesis	Acute Yellow atrophy of the Liver (Jaundice)	Antepartum complications (before delivery): Haemorrhage Accidental	Placenta Praevia	Anaemia	Abnormal Presentation	Hydatidiform mole	Ectopic Gestation	Intra & Post partum Complications: Placenta Praevia	Retained Placenta	Post Partum Haemorrhage	Anatomical Abnormality contracted Pelvis	Malposition and Disproportion	Tedious Labour delayed 2nd Stage	Perineal & cervical Lacerations	Complications during puerperium: Urinary Complications	Puerperal Sepsis	Phlebitis, Thrombosis	Pyrexias	Uterine disorders	Puerperal Toxaemias	Anaemia	Psychosis	Disorders of lactation	Other diseases	Total
1	Tondiarpet ...	2	2	...	2	7	...	1	7	...	6	2	6	9	3	...	5	...	...	26	18	...	...	..	2	33	..	...	13	104	1	4	...	44	5	3	186	...	16	63	570
2	Royapuram ...	2	...	...	...	4	...	...	...	...	...	...	...	1	1	...	..	1	1	27	9	...	...	..	...	1	1	...	16	12	1	...	..	...	...	..	...	...	...	14	91
3	Palmyrahkuppam ...	1	...	...	...	1	...	...	...	...	...	..	..	...	...	...	..	...	...	14	....	...	...	..	1	2	..	..	...	8	...	2	...	5	...	...	...	...	2	3	39
4	Washermanpet ...	15	1	5	10	47	3	1	31	4	18	52	27	18	4	3	..	11	2	68	15	...	...	..	5	22	..	..	....	49	12	15	...	22	...	1	54	...	...	94	609
5	Sanjiviroyenpet ...	10	1	...	2	46	2	1	15	..	3	25	22	15	...	...	..	...	...	28	19	4	...	1	1	20	..	...	25	48	...	...	...	20	...	...	52	...	...	16	376
6	George Town ...	26	5	7	13	27	8	7	...	17	...	7	28	4	8	14	8	7	5	39	9	...	...	2	...	12	5	..	25	16	48	8	...	38	8	6	45	...	8	...	460
7	Muthialpet ...	8	...	...	...	...	...	...	...	...	...	...	....	...	...	...	..	...	...	30	10	...	...	..	...	...	..	...	...	14	...	...	...	...	...	..	...	....	...	...	62
8	Kothwal Bazaar ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	....	..	...	...	..	...	...	...	12	...	...	...	27	...	81	...	...	18	138
9	Treveleyan Basin ...	10	4	3	4	5	...	12	7	...	20	32	15	12	4	...	..	2	...	5	3	1	...	1	3	4	3	15	17	...	5	...	6	10	...	28	...	...	7	2	240
10	Park Town ...	30	...	...	3	13	...	6	8	...	...	...	11	1	...	...	..	1	...	27	2	...	...	..	1	...	...	..	19	6	...	2	...	...	...	..	...	...	...	...	130
11	Maternity Home, Choolai.	20	3	5	3	25	3	2	50	...	10	61	14	18	4	...	2	3	1	19	12	..	...	..	2	12	2	..	30	90	8	18	...	21	...	5	...	...	...	26	469
12	Sembiam ...	57	3	...	10	109	26	1	13	...	...	137	...	32	...	...	..	...	...	197	5	...	...	..	1	14	..	14	64	14	...	...	...	50	...	..	191	...	...	220	1158
13	North Perambur ...	5	...	...	7	...	27	...	20	...	2	16	1	...	1	...	..	5	..	299	2	...	...	..	2	...	..	..	..	...	...	...	..	14	...	..	12	...	..	3	346
14	Pulianthope ...	75	...	1	2	25	1	...	8	...	1	...	77	16	8	3	14	...	1	144	3	..	...	..	6	7	...	...	63	8	...	2	...	19	...	4	223	...	..	7	718
15	Purasawakkam ...	34	...	...	1	2	...	2	9	...	4	35	...	...	....	...	..	...	...	...	...	...	...	1	...	...	...	..	37	...	...	...	...	29	...	....	40	1	..	15	210
16	Kilpauk ...	3	1	1	3	5	...	3	1	...	7	3	11	5	...	..	1	1	2	35	4	...	...	..	1	1	...	2	22	9	3	...	...	10	...	12	24	...	..	4	174
17	Chetpet ...	...	1	2	...	3	...	...	2	...	1	...	4	4	5	..	..	4	1	5	...	...	...	1	...	8	2	2	12	14	...	5	..	9	....	1	1	...	..	...	87
18	Egmore ...	30	...	...	1	14	...	...	20	...	...	27	...	...	2	..	..	...	...	44	1	...	...	..	...	...	..	...	...	...	1	12	...	...	46	3	..	31	...	..	47	279
19	Saidapet ...	1	...	...	...	4	...	...	...	...	2	...	1	12	...	..	..	7	...	...	12	...	...	..	5	7	3	...	49	80	...	3	...	126	...	7	10	...	...	5	334
20	Periamet ...	7	...	...	...	15	...	3	4	...	...	...	6	...	1	..	1	..	...	20	3	...	...	..	1	3	1	...	7	23	1	1	..	48	..	..	49	...	...	13	207
21	Kodambakkam ...	...	...	1	...	2	1	1	8	...	...	...	...	7	...	..	..	1	...	...	1	...	...	..	2	...	3	...	33	29	28	...	...	2	..	..	2	...	..	22	143
22	Triplicane ...	14	...	...	5	5	...	1	4	1	4	6	...	...	1	..	..	2	...	3	...	...	...	..	1	10	...	...	11	38	4	...	...	14	..	...	23	...	..	20	167
23	Mirsahibpet ...	22	...	...	3	5	...	..	27	...	13	37	...	2	...	..	..	...	...	48	...	...	...	1	2	6	..	...	...	...	...	..	..	...	...	...	45	...	....	6	217
24	Mylapore ...	...	...	....	4	2	...	...	...	...	...	...	...	1	...	..	..	1	...	...	...	...	...	..	...	...	...	...	...	...	3	...	...	..	...	2	..	...	...	10	23
25	Royapetah ...	17	...	...	...	9	...	...	6	...	5	6	...	6	...	..	..	...	...	16	...	...	...	..	...	..	...	...	11	...	13	...	..	...	..	..	9	...	...	1	99
26	Mandavalli ...	10	...	...	3	...	...	...	4	1	1	7	...	1	...	...	..	...	...	5	...	...	...	..	...	...	...	...	...	1	...	...	...	4	..	..	35	...	...	14	86
27	Adyar ...	...	...	...	...	2	...	2	...	1	...	...	...	6	...	..	..	6	...	197	6	...	...	..	1	8	..	2	25	15	2	5	..	21	2	2	53	1	...	75	432
28	Thyagaroyanagar ...	5	...	...	...	..	...	...	...	...	6	...	...	5	...	..	...	...	...	3	2	...	...	1	1	5	...	..	7	5	6	...	...	...	..	...	..	....	...	...	46
29	Teynampet ...	7	...	...	...	...	...	...	...	...	...	...	12	...	1	..	...	...	...	2	...	...	...	...	...	4	...	...	13	6	7	...	...	3	..	...	...	...	10	...	65
30	Aynavaram ...	16	1	...	3	10	...	1	2	3	7	6	2	2	2	1	2	...	...	27	5	...	...	..	1	2	1	5	23	11	...	...	...	1	9	...	7	...	...	18	168
		427	22	28	79	387	71	44	246	27	110	459	237	177	45	21	33	52	13	1258	141	5	...	8	39	181	21	40	522	601	166	65	6	556	54	71	1173	2	43	716	8143

APPENDIX

CHILD WELFARE STATEMENT VI-A

Showing deaths among cases came under the treatment of C.W.S. Private Doctors etc. during the year 1953.

No.	Centre	Deaths among cases brought under care of C.W.S. but not under treatment			Deaths among cases brought under care and treatment of C.W S.	Total
		Under Private Doctor	Under Vidians treat-ment	In Hospital		
1	Tondiarpet ...	...	...	4	...	4
2	Royapuram ...	...	...	...	...	...
3	Palmyrah Kuppam ...	...	...	...	1	1
4	Washermanpet ...	...	...	2	...	2
5	Sanjeevarayanpet ...	...	...	1	...	1
6	George Town ...	...	...	2	1	3
7	Muthialpet ...	...	...	2	...	2
8	Kothwal Bazaar ...	...	...	1	...	1
9	Treveleyan Basin ...	...	...	...	...	...
10	Park Town ...	...	...	2	...	2
11	Maternity Home, Choolai ...	...	...	...	...	...
12	Sembiam ...	1	...	3	...	4
13	North Perambur ...	...	...	1	...	1
14	Pulianthope ...	...	...	5	...	5
15	Purasawalkam ...	...	...	2	1	3
16	Kilpauk ...	...	...	1	...	1
17	Chetpet ...	...	...	...	...	...
18	Egmore ...	...	...	1	...	1
19	Saidapet ...	...	...	3	...	3
20	Peraimet ...	...	...	1	...	1
21	Kodambakkam ...	...	...	2	...	2
22	Triplicane ...	...	...	1	...	1
23	Mirsahibpet ...	...	...	2	1	3
24	Mylapore ...	...	...	2	...	2
25	Royapetah ...	...	...	...	...	...
26	Mandavalli ...	...	...	1	...	1
27	Adyar ...	...	...	3	...	3
28	Thyagarayanagar ...	...	...	1	...	1
29	Teynampet ...	...	...	...	...	...
30	Aynavaram ...	...	...	...	...	...
	Total ...	1	...	43	4	48

Showing the causes of deaths among cases brought to the notice of Child Welfare Scheme during 1953 (vide Statement VI-A.)

No.	Centre	Cordio Vascular diseases of Heart			Respiratory diseases		Alimentary diseases			Urinary Tract diseases	Toxæmias		Heamorrhage				Shock				Infectious diseases				Puerperal sepsis	Total
		Valvular diseases of Heart	Heart failure	Anaemia	Pneumonia	Tuberculosis	Tubercular enteritis	Dysentery	Insestinal obstruction	Renal failure	Pre-eclamptic Toxeamonia	Eclampsia	Accidental Heamorrhage	Placenta Praevia	Intra and Post Partum Haemorrhage	Retained Placenta	Obstetric Shock	Shock due to Internal Manipulation	Post operative Shock	Reptured Uterus	Typhoid	Meningitis	Other Fevers	Small-pox, Measles, etc	Puerperal Sepsis	
1	Tondiarpet ...	...	—	—	1	—	—	2	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	4
2	Royapuram ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Palmyrahkuppam ...	...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
4	Washermanpet ...	...	—	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2
5	Sanjiviroyanpet ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
6	George Town ...	...	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	3
7	Muthialpet ...	...	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2
8	Kothaval Bazaar ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
9	Treveleyan Basin ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	Park Town ...	...	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	2
11	Maternity Home, Choalai ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	Sembiam ...	...	—	—	—	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	4
13	North Perambur ...	...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
14	Pulianthope ...	...	—	1	—	—	—	—	2	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	5
15	Purasawalkam ...	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	3
16	Kilpauk ...	...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
17	Chetpet ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	Egmore ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
19	Saidapet ...	...	1	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	3
20	Periamet ...	...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1
21	Kodambakkam ...	...	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	2
22	Triplicane ...	...	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
23	Mirsahibpet ...	...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	3
24	Mylapore ...	...	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	2
25	Royapettah ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
26	Mandavalli ...	...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
27	Adyar ...	...	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	3
28	Thyagaraya Nagar. ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
29	Teynampet ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	Ayanavaram ...		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total ...	1	3	2	1	1	1	5	2	2	1	2	6	1	5	6	1	—	5	2	—	—	—	—	1	48

Showing Infants born in the year 1952 and kept under observation for a period of one year after birth

No.	Centre	Total Number of Infants born in 1952	Number of still births in 1952	Died within												Total number of deaths excluding Still births	Left the City or otherwise not traceable	Said to be well	Out-of Division	No. of living children in the city when one year old	No. of living children when one year old
				1 to 7 days		8 days to 1 month		2 to 3 months		4 to 6 months		7 to 9 months		10 to 12 months							
				Died	Not Traceable	Died	Not Traceable	Died	Not Traceable	Died	Not Traceable	Died	Not Traceable	Died	Not Traceable						
1	Tondiarpet ...	1463	41	34	...	18	2	34	...	38	8	29	2	23	...	176	12	52	208	974	1234
2	Royapuram ...	581	19	17	...	8	...	8	...	12	2	10	5	9	31	64	38	76	...	384	460
3	Palmyrah Kuppam ...	376	9	13	...	3	...	8	...	6	...	8	6	2	11	40	17	67	...	243	310
4	Washermanpet ...	2342	80	78	7	21	7	32	21	75	61	67	71	44	94	317	261	389	10	1285	1684
5	Sanjtviroyanpet ...	1782	34	32	19	23	5	18	7	27	12	24	11	12	39	136	93	183	...	1336	1519
6	George Town ...	1006	26	19	36	6	22	4	8	5	14	28	12	18	13	80	105	106	...	689	795
7	Muthialpet ...	788	27	21	...	7	...	23	...	17	7	23	21	16	33	107	61	58	...	530	588
8	Kothwal Bazaar ...	847	29	22	10	17	2	15	2	16	5	21	8	13	34	104	61	131	...	522	653
9	Treveleyen Basin ...	1442	39	34	41	7	5	9	16	26	14	22	31	15	53	113	160	202	...	928	1130
10	Park Town ...	297	4	9	...	1	...	4	2	1	3	9	2	5	2	29	9	14	...	241	255
11	Maternity Home, Choolai ...	2063	50	37	44	19	33	39	11	51	34	31	67	28	68	205	257	337	...	1214	1551
12	Sembiam ...	1446	48	47	1	7	2	25	...	37	2	34	7	26	20	176	32	286	115	789	1190
13	North Perambur ..	1371	32	27	33	5	...	6	...	16	...	6	...	3	20	63	53	240	7	976	1223
14	Pulianthope ...	2207	85	50	46	40	9	40	25	46	33	22	64	31	101	229	278	135	111	1369	1615
15	Purasawalkam ...	1696	48	33	16	19	11	20	8	21	5	10	3	8	12	111	55	209	...	1273	1482
16	Kilpauk ..	713	15	17	4	16	3	9	...	9	1	19	5	5	2	75	15	28	15	565	608
17	Chetpet ..	913	33	13	8	12	...	19	2	22	7	11	5	8	14	85	36	72	...	687	759
18	Egmore ...	804	16	18	...	10	...	15	2	20	11	25	21	17	28	105	62	120	...	501	621
19	Saidapet ..	1930	51	52	34	17	13	38	22	45	43	37	54	36	74	225	240	148	166	1100	1414
20	Periamet ...	681	15	12	7	14	...	11	2	17	6	23	15	15	9	92	39	95	...	440	535
21	Kodambakkam ...	578	22	23	10	13	8	3	12	9	9	1	13	8	...	57	52	90	33	324	447
22	Triplicane ...	1699	34	31	33	23	64	36	27	42	37	37	22	27	25	196	208	205	...	1056	1261
23	Mirsahibpet ...	888	16	9	6	2	...	7	1	14	...	10	...	10	...	52	7	99	...	714	813
24	Mylapore ...	818	25	7	1	28	...	12	1	17	2	8	6	14	14	86	24	82	...	601	683
25	Royapetah ...	550	14	9	1	8	2	8	1	17	5	15	11	14	27	71	47	62	...	356	418
26	Mandavalli ...	570	16	11	...	5	1	3	...	17	...	14	...	7	6	57	7	42	..	448	490
27	Adyar ...	578	13	10	...	1	...	2	...	5	...	7	...	4	8	29	8	17	86	425	528
28	Thyagaroya Nagar ...	449	13	12	...	2	1	8	...	16	...	5	11	8	46	51	58	75	...	252	327
29	Teynampet ...	614	14	16	...	9	2	7	...	13	2	11	3	12	105	68	112	91	...	329	420
30	Ayanavaram ...	777	26	18	...	9	...	19	...	17	3	18	9	25	20	106	32	63	...	550	613
	Total ...	32,264	894	731	357	370	192	482	170	694	326	585	485	463	909	3,305	2,439	3,774	751	21,101	25,626

APPENDIX

Showing causes of deaths among Infants born in 1952 and kept under observation during 1st year of life

No.	Centre	Total number of Infants born in 1952	No. of still births	Neo-natal deaths				Cardio vascular diseases		Respiratory diseases				Alimentary diseases				Urinary diseases	Septic conditions		Specific diseases			Deficiency diseases			Pyrexias			Infectious diseases					Other diseases						Total number of deaths excluding still births	Left the city or otherwise not traceable	Said to be well	Out of division	No. of living children in the city when one year old	Total No. of living children when one year old
				Pre-maturity	Asphyxia	Birth Injury.	Congenital Pyloric Stenosis	Congenital Heart Diseases	Anaemia	Broncho-pneumonia	Tuberculosis	Diphtheria	Whooping Cough	Intestinal Obstruction	Diarrhoea	Enteritis	Dysentery	Nephritis	Tetanus	Pyaemic Abscess	Skin Diseases	Congenital Syphilis	Marasmus	Rickets	Scurvy	Malnutrition	Typhoid	Influenza	Malaria	Small-pox	Chicken-pox	Measles	Mumps	Cholera	Infantile biliary cirrhosis	Debility	Accidents, bites & stings	Prisoning	Convulsion	Causes unknown						
1	Tondiarpet ...	1465	41	26	4	1	7	—	—	32	—	—	1	—	33	22	7	1	—	2	3	3	3	3	—	3	2	14	—	2	—	—	—	3	—	—	1	—	—	3	176	12	52	208	974	1234
2	Royapuram ...	581	19	7	8	6	—	—	—	4	—	—	2	—	12	3	2	—	—	—	1	—	—	1	—	—	2	—	—	—	—	—	—	—	1	—	—	5	10	64	38	76	—	384	460
3	Palmyrah Kuppam...	376	9	14	—	—	—	—	—	2	—	—	—	—	5	3	2	—	—	—	1	—	—	—	—	1	6	2	—	—	—	—	—	—	—	—	—	2	2	40	17	67	—	243	310
4	Washermanpet ...	2342	80	84	8	—	—	—	6	25	1	—	7	5	—	51	22	10	—	—	9	2	6	4	11	18	1	4	—	6	—	—	1	8	—	14	—	2	2	10	317	261	389	10	1285	1684
5	Sanjiviroyanpet ...	1782	34	32	10	—	—	—	—	20	—	—	—	—	—	39	8	5	—	—	1	—	1	1	—	2	—	12	—	2	—	—	—	—	—	2	—	—	—	2	136	93	183	—	1336	1519
6	George Town ...	1006	26	4	8	—	7	—	—	10	—	2	9	3	...	14	3	—	—	—	—	—	—	—	—	2	—	4	—	2	—	—	—	—	—	—	—	—	—	12	80	105	106	—	689	795
7	Muthialpet ...	783	27	20	—	—	—	—	—	4	—	—	3	—	20	—	9	—	—	—	1	—	3	4	—	6	—	7	—	—	—	—	—	—	—	5	—	—	4	11	107	61	58	—	530	588
8	Kothwal Bazaar ...	847	29	9	11	—	2	—	—	19	—	—	3	1	—	28	1	—	—	—	3	—	15	—	—	1	—	—	—	3	—	—	—	—	—	5	—	—	—	3	104	61	131	—	522	653
9	Treveleyen Basin ...	1442	39	21	12	1	—	—	1	10	—	2	1	1	—	24	4	2	—	7	2	—	1	3	—	—	1	8	—	1	—	1	2	—	—	5	—	—	—	4	113	160	202	—	928	1130
10	Park Town ...	297	4	2	3	—	4	—	—	1	—	—	1	1	4	—	—	—	—	—	—	—	—	—	—	2	—	1	—	3	—	—	—	—	—	1	—	—	6	—	29	9	14	—	241	255
11	Maternity Home, Choolai ...	2063	50	24	13	—	—	—	—	29	4	4	—	—	46	—	12	4	—	1	—	—	3	1	—	4	3	3	—	2	—	—	1	2	2	1	—	1	31	16	205	257	337	—	1214	1551
12	Sembiam ...	1446	48	18	24	9	—	—	—	3	—	1	—	—	40	—	2	—	—	2	—	—	2	—	—	4	—	49	—	—	—	—	—	—	14	—	—	8	—	176	32	286	115	789	1190
13	North Perambur. ...	1371	32	5	22	—	—	—	—	—	—	—	—	13	—	—	4	—	—	—	—	—	2	1	—	—	1	6	—	2	—	—	—	—	6	—	—	—	—	63	53	240	7	976	1223
14	Pulianthope ...	2207	85	—	30	1	19	—	—	11	—	—	—	—	64	—	2	—	—	—	5	—	4	—	7	—	—	22	—	—	—	—	—	—	—	—	—	12	52	229	278	135	111	1369	1615
15	Purasawalkam ...	1696	48	4	30	—	—	—	—	19	—	—	1	—	—	16	2	—	—	—	4	—	—	—	—	2	—	27	—	—	—	—	—	—	—	—	—	4	2	111	55	209	—	1273	1482
16	Kilpauk ...	713	15	17	—	—	—	—	—	—	1	—	—	1	18	—	2	—	—	—	2	—	—	—	—	—	—	10	—	—	—	—	—	—	2	—	—	8	14	75	15	28	15	565	608
17	Chetpet ...	913	33	12	5	1	1	—	—	7	—	—	—	—	—	17	5	1	1	3	—	1	5	6	—	5	2	7	—	1	—	—	—	1	1	—	—	—	3	85	36	72	—	687	759
18	Egmore ...	804	16	12	5	1	—	—	—	29	—	—	1	5	—	20	5	1	—	1	3	—	1	—	—	1	13	—	3	—	1	—	2	1	—	—	—	—	105	62	120	—	501	621
19	Saidapet ...	1930	51	31	15	—	—	6	20	65	—	—	3	—	6	39	10	—	—	—	5	—	—	7	—	—	—	—	—	—	—	—	—	—	5	—	—	5	8	225	240	148	166	1100	1414
20	Periamet ...	681	15	3	8	3	5	—	—	3	—	—	3	—	10	—	13	—	—	1	—	—	2	—	—	—	—	29	—	—	—	—	—	—	3	—	—	—	9	92	39	95	—	440	535
21	Kodambakkam ...	578	22	12	3	6	2	2	—	2	—	—	—	—	—	1	6	—	—	—	2	2	3	3	—	—	1	4	1	—	—	—	—	—	4	—	—	—	3	57	52	90	33	324	447
22	Triplicane ...	1699	34	35	—	—	—	—	—	21	—	—	—	1	—	47	17	—	—	—	1	—	—	1	—	6	—	49	—	1	—	—	—	—	—	1	—	15	1	196	208	205	—	1056	1261
23	Mirsahibpet ...	888	16	9	—	—	—	—	—	16	—	—	—	—	—	16	3	—	—	—	—	—	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	—	1	52	7	99	—	714	813
24	Mylapore ...	818	25	4	3	—	—	—	—	10	—	1	6	—	11	—	11	—	—	—	4	—	—	2	4	1	—	6	—	2	—	—	—	—	8	—	—	13	—	86	24	82	—	601	683
25	Royapettah ...	550	14	15	3	—	—	3	—	7	—	—	—	—	—	13	4	2	4	1	—	—	2	—	—	1	—	13	—	—	—	—	—	—	—	—	—	—	3	71	47	62	—	356	418
26	Mandavalli ...	570	16	5	4	2	—	1	1	4	—	—	—	—	3	5	—	—	—	—	—	—	—	—	—	1	—	25	—	—	—	—	—	—	2	—	—	1	3	57	7	42	—	448	490
27	Adyar ...	578	13	6	—	4	—	—	—	4	—	—	—	12	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	29	8	17	86	425	528
28	Thyagaroya Nagar ...	449	13	12	2	—	—	—	—	6	—	—	—	—	—	20	2	1	—	—	—	—	—	—	—	—	—	5	—	—	—	—	—	—	—	—	—	—	3	51	58	75	—	252	327
29	Teynampet ...	614	14	18	7	—	—	—	—	10	—	—	—	—	—	28	3	—	—	—	3	—	14	1	—	1	—	13	—	—	—	—	—	—	14	—	—	—	2	68	112	91	—	329	420
30	Ayanavaram ...	777	26	22	8	—	—	—	—	15	1	—	1	—	7	—	3	2	—	—	3	—	14	1	—	1	—	13	—	—	—	—	—	—	—	—	—	—	1	106	32	63	—	550	613
	Total ...	32264	894	493	246	35	47	12	29	388	7	10	42	31	288	404	170	29	5	18	50	8	67	37	22	60	20	340	—	33	—	—	412	5	94	2	3	118	178	3305	2439	3774	751	21101	25626

APPENDIX

CHILD WELFARE STATEMENT IX

Showing the total Number of Priority milk consumers from 1st January to 31st December 1953.

No.	Centre	Number of Infants	Number of Toddlers	Total
1	Tondiarpet ..	104	..	104
2	Royapuram ..	73	..	73
3	Palmyrah Kuppam ..	89	..	89
4	Washermanpet ..	112	..	112
5	Sanjiviroyanpet ..	126	..	126
6	George Town ..	227	..	227
7	Muthialpet ..	94	94	188
8	Kothwal Bazaar ..	104	..	104
9	Treveleyan Basin ..	103	..	103
10	Park Town ..	76	..	76
11	Maternity Home, Choolai	101	..	101
12	Sembiam ..	79	..	79
13	North Perambur ..	35	..	35
14	Pulianthope ..	135	..	135
15	Pursawalkam ..	103	..	103
16	Kilpauk ..	80	..	80
17	Chetpet ..	109	..	109
18	Egmore ..	103	..	103
19	Saidapet ..	95	..	95
20	Periamet ..	97	..	97
21	Kodambakkam ..	97	..	97
22	Triplicane ..	96	..	96
23	Mirsahibpet ..	83	..	83
24	Mylapore ..	122	..	122
25	Royapetah ..	108	..	108
26	Mandavali ..	75	..	75
27	Adyar ..	121	..	121
28	Thyagaroyanagar ..	..	..	..
29	Teynampet ..	..	..	..
30	Aynavaram ..	..	..	..
	Total ..	2747	94	2841

CHILD WELFARE

Statement showing the number of labour cases that came under the care and observation of Child Welfare Scheme, Infant mortality rate and Maternal mortality rate of C. W. S. from 1940 to 1953.

Year	No. of labour cases that came undea the eare and observation of C. W. S.	Insant Mortality rate (per 1000) of C. W. S.	Maternal mortality rate (per 1000) of C. W. S.
1940 ...	14,439	136·2	2·5
1941 ...	14 984	121·9	2·6
1942 ...	8,390	157·8	3·6
1943 ...	11,236	150·9	2·4
1944 ...	10,591	140·6	2·2
1945 ...	14,002	141·9	1·57
1946 ...	19,147	102·8	2·5
1947 ...	18,412	81·7	1·95
1948 ...	26,051	83·0	1·91
1949 ...	28,129	74·4	2·31
1950 ...	26,957	95·5	2·00
1951 ...	29,861	123·1	1·90
1952 ...	32,264	125·4	1.73
1953 ...	27,218	114·2	1.76

Statements showing number of births conducted in 1952 and the number of Infant mortality during the period of one year after birth among the principal communities.

Community	No. of births conducted	Number of infant deaths
1. Anglo Indians ...	25	3
2. Indian Christians ...	588	88
3. Muslims ...	4133	518
4. Hindus ...	27288	2643
5. Others ...	230	53
Total ...	32264	3305

Statement showing the distributions of Infant deaths in the different age periods of one year after births.

1. Under 7 days	...	731
2. 8 days and under 1 month	...	370
3. 2 months to 3 months	...	482
4. 4 months to 6 months	...	674
5. 7 months to 9 months	...	585
6. 10 months and under 1 year	...	463
		3305

CHILD WELFARE

STATEMENT X

Showing the total number of attendance of Expectant and Nursing Mothers and Children at the Out-patient Clinic in 1953

No.	Centre.	Attendance at Clinic								Total New Attendance	Total Old Attendance	Grand Total	Diseases treated—(New)													
		Infants		Pre-School		Expectant Mothers		Nursing Mothers					Respiratory	Alimentary	Skin affection	Influenza	Ear and Eye diseases	Anaemia	Malaria	Vitamin deficiency	Syphilis	Toxaemia	Fever	Pyrexia	Normal	Other diseases	Total
		New	Old	New	Old	New	Old	New	Old																		
1	Tondiarpet ...	2615	10759	1997	8223	1178	3325	3584	10597	9374	27904	37278	835	1282	507	1394	367	829	86	200	4	...	...	...	1624	2246	9374
2	Royapuram ...	1425	6106	686	5753	1055	2490	1701	5194	4867	19543	24410	716	813	103	372	22	480	74	270	...	..	...	...	1228	789	4867
3	Palmyrah Kuppam ...	1540	2340	836	885	615	1863	1558	2215	4549	7303	11852	796	827	218	494	42	265	31	45	...	...	...	...	623	1208	4549
4	Washermanpet ...	3638	10343	635	504	2478	4365	3733	10067	10484	25277	35761	1475	1500	593	567	360	676	375	656	20	...	...	...	2166	2096	10484
5	Sanjivirayanpet ...	3003	6527	2119	1980	1282	2822	3028	6446	9432	17775	27207	1506	1483	266	749	160	374	64	215	...	...	...	...	880	3735	9432
6	George Town ...	2678	10836	900	1668	1426	4904	2768	9152	7772	26560	34332	936	1144	68	241	31	210	186	179	...	12	...	176	...	4589	7772
7	Muthialpet ...	1967	6410	885	1680	1227	3545	1810	5694	5889	17322	23218	706	869	79	565	20	309	47	26	...	..	...	...	386	2882	5889
8	Kothawal Bazaar ...	2491	5428	1525	1495	893	2979	2537	5652	7446	15554	23000	1433	905	255	649	60	659	165	188	..	...	...	...	686	2446	7446
9	Treveleyan Basin ...	2989	8545	1290	2298	1680	7360	3118	8938	9077	27141	36218	1464	1910	730	905	364	324	254	358	...	...	...	....	696	2072	9077
10	Park Town ...	1021	2992	726	996	509	1484	1090	2266	3346	7738	11084	793	659	172	270	46	139	45	106	...	...	...	...	475	641	3346
11	Maternity Home, Choolai ...	4647	9706	2608	4008	1912	7335	3649	9740	12816	30789	43605	2857	2504	950	2508	319	1443	161	1108	...	...	...	...	266	700	12816
12	Sembiam ...	2197	5333	810	777	1256	2948	3037	5978	7300	15036	22336	1691	1182	619	1380	719	938	215	156	...	...	...	...	...	400	7300
13	North Perambur ...	2340	5548	1044	785	1391	2196	3004	5455	7779	13984	21763	1205	1502	69	289	712	423	20	177	...	...	...	....	529	2853	7779
14	Pulianthope ...	3407	9083	1638	1299	1927	2941	4581	9910	11553	23233	34786	1649	4466	947	2097	701	663	53	229	5	...	...	...	...	743	11553
15	Purasawalkam ...	3449	7672	2097	1712	1882	2920	3492	6850	10920	19154	30074	2577	2307	439	854	392	724	7	925	...	...	....	...	1110	1585	10920
16	Kilpauk ...	1262	4863	1155	1142	679	1468	1701	3857	4797	11330	16127	987	931	193	215	85	502	...	166	...	...	...	...	1423	295	4797
17	Chetpet ...	1943	5977	2056	8391	912	1717	1973	5490	6884	21575	28459	972	1284	833	1046	406	348	...	258	...	...	...	...	1043	694	6884
18	Egmore ...	1528	4638	1002	1344	1187	2314	1493	3854	5210	12150	17360	1218	1185	178	727	81	296	26	330	...	...	...	...	890	279	5210
19	Saidapet ...	2735	10774	629	860	1791	6517	3147	12571	8302	30722	39024	486	2046	157	591	53	323	26	195	13	...	59	...	3228	1125	8302
20	Periamet ...	2689	4587	3249	2987	868	2571	2203	4547	9009	14692	23701	1876	1790	454	1658	299	834	133	653	...	...	....	...	258	1054	9009
21	Kodambakkam ...	1594	3917	600	676	870	2027	2113	4222	5177	10741	15918	607	770	168	254	...	403	34	97	53	...	...	...	1504	1287	5177
22	Triplicane ...	8111	9980	1101	2152	1854	5622	2303	8931	8369	26685	35054	1528	1292	307	804	149	823	108	484	...	...	...	...	1649	1225	8369
23	Mirsahibpet ...	2193	4862	1306	1734	1217	3295	1484	4163	6200	14054	20254	1308	1206	378	1010	4	423	13	310	...	...	...	...	225	1313	6200
24	Mylapore ...	1527	5632	832	1074	1199	2843	1523	4596	5081	14145	19226	727	938	215	714	55	524	13	356	...	...	...	...	572	967	5081
25	Royapettah ...	1332	5752	666	1295	964	3012	1260	3659	4222	13718	17940	1066	1032	192	747	23	226	14	280	...	...	....	...	642	....	4222
26	Mandavalli ...	2257	4316	1896	2106	974	3267	2456	4374	7583	14063	21646	1221	1167	617	852	312	592	14	1114	...	4	...	...	807	883	7583
27	Adyar ...	2074	3112	1650	1331	576	2206	2602	3994	6902	10644	17547	1098	963	546	792	320	574	24	949	...	...	...	...	554	1078	6902
28	Thyagarayanagar ...	...	...	...	...	586	233	...	...	586	233	819	14	82	1	...	...	66	...	51	...	...	...	...	188	184	586
29	Teynampet ...	...	...	..	...	823	262	...	...	823	262	1085	22	105	1	...	...	100	...	94	...	...	...	...	243	258	823
30	Ayanavaram ...	821	2448	53	51	974	1888	863	2375	2711	6762	9473	123	288	35	...	10	343	...	104	...	...	...	107	1492	209	2711
		64478	178486	35991	54105	36185	92720	67811	170785	204460	496096	700556	33892	38432	10290	22748	6112	14833	2188	10289	95	16	59	283	25387	39836	204460

APPENDIX

CHILD WELFARE — FORM A

Annual Return—Maternity and Child Welfare—from 1st January to 31st December 1953

No.	Centre	Brought under Care					Women Medical Officer	Home Visits						Clinic								Maternal Mortality and Morbidity	
								Health Visitors				Midwives		Attendance									
		Maternity Cases-Total Number of Mothers	Ante-Natal	Labour	Infants	Pre-School		Ante-Natal	Post-Natal	Infants	Toddlers	Ante-Natal	Post-Natal	Number held	Ante-Natal	No. held	Infants	No. held	Pre-School	No. held	Nursing Mothers	Morbidity	Mortality
1	Tondiarpet ...	1228	1178	1198	1167	1234	1105	202	49	5503	962	1953	6578	157	4503	156	13374	156	5220	156	14181	4	570
2	Royapuram ...	1149	1055	469	458	460	586	467	200	3461	585	786	5456	143	3545	143	7531	143	6439	143	6895	...	91
3	Palmyrahkupam ...	713	615	262	252	310	602	754	190	3296	440	945	2484	143	2478	143	3880	143	1721	143	3773	1	39
4	Washermenpet ...	2478	2478	1929	1863	1684	548	402	26	2953	1944	3336	8762	157	6843	314	13981	314	1139	314	13798	2	609
5	Sanjeeviroyanpet ...	1284	1282	1468	1433	1519	821	101	40	2404	1175	2700	5405	157	4104	314	9530	314	4099	314	9474	1	376
6	George Town ...	1426	1426	1007	985	795	909	492	745	2482	858	1210	9610	158	6330	303	13514	303	2568	303	11920	3	460
7	Muthialpet ...	1246	1227	658	647	588	551	210	323	2593	728	896	7967	143	4772	143	8377	143	2565	143	7504	2	62
8	Kothwal Bazaar ...	911	893	848	817	653	851	178	42	1585	584	480	4489	157	3872	157	7919	157	3020	157	8189	1	138
9	Trevelyen Basin ...	1701	1680	1360	1335	1130	315	161	59	1882	1062	1536	10122	156	9040	156	11534	156	3588	156	12056	...	240
10	Park Town ...	519	509	241	232	255	910	119	93	3380	289	1353	2562	143	1993	52	4013	52	1722	52	3356	2	130
11	Maternity Home, Choolai ...	1912	1912	1679	1649	1551	795	164	82	7534	1570	3539	8240	228	9247	312	14353	312	6616	312	13389	...	469
12	Sembiam ...	1287	1256	1158	1123	1190	668	206	38	1084	2042	6691	1927	160	4204	160	7530	160	1587	160	9015	4	1158
13	North Perambur ...	1404	1391	1122	1097	1223	371	29	64	2398	1195	751	7354	156	3587	160	7888	160	1829	160	8459	1	346
14	Pulianthope ...	1983	1927	1754	1698	1615	416	127	60	5959	1780	1625	11024	147	4868	93	12490	93	2937	50	14491	5	718
15	Purasawalkam ...	1893	1882	1426	1393	1482	938	189	53	3330	1325	1611	9627	171	4802	126	11121	126	3809	54	10342	3	210
16	Kilpauk ...	680	679	544	525	608	1149	205	52	3809	525	1037	3010	156	2147	155	6125	52	2297	52	5558	1	174
17	Chetpet ...	934	912	681	661	759	975	194	79	3003	760	1449	3632	157	2629	156	7920	156	10447	156	7463	...	87
18	Egmore ...	1299	1187	609	593	621	800	371	203	2846	667	1745	5417	138	3501	104	6166	104	2346	104	5347	1	279
19	Saidapet ...	1813	1791	1591	1547	1414	862	383	142	6742	787	1780	8122	155	8308	155	13509	155	1489	155	15718	3	334
20	Periamet ...	955	868	474	462	535	588	569	131	4049	600	1446	4282	143	3439	52	7276	52	6236	52	6750	1	207
21	Kodambakam ...	878	870	806	780	447	977	136	197	2551	494	1436	3882	133	2897	75	5511	57	1175	52	6335	2	143
22	Triplicane ...	1911	1854	1435	1403	1261	638	207	26	7830	1194	1702	9151	157	7476	156	13091	156	3253	156	11234	1	167
23	Mirsahibpet ...	1297	1217	671	661	813	794	263	66	3195	926	1898	6024	138	4512	56	7055	56	3040	...	5647	3	217
24	Mylapore ...	1209	1199	694	671	683	765	161	155	3557	687	481	5000	138	4042	56	7159	56	1906	...	6119	2	23
25	Royapetah ...	1057	964	475	469	418	529	122	83	2366	527	1314	4159	138	3976	56	7084	56	1961	56	4919	...	99
26	Mandavalli ...	975	974	503	495	490	721	170	163	3509	431	1014	4863	138	4241	56	6573	56	4002	52	6830	1	86
27	Adyar ...	640	576	567	548	528	933	221	252	3759	528	1034	3222	...	2783	...	5186	...	2981	...	6596	3	432
28	Thyagaroya Nagar ...	632	586	407	395	327	72	26	115	1376	450	893	3517	112	819	...	...	...	...	...	...	1	46
29	Teynampet ...	883	823	505	492	420	70	32	68	1286	528	966	3577	42	1085	...	...	...	...	...	...	...	65
30	Ayanavaram ...	992	974	677	661	613	14	173	106	6162	613	4822	2491	86	2862	33	3269	33	104	33	3238	...	168
	Total ...	37289	36185	27218	26512	25626	20275	7034	3902	205685	26256	52429	171956	4207	128905	3342	242959	3721	90096	3485	238596	48	8143

APPENDIX

Central Despatch Section,
Corporation of Madras.

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