



REPORT ON THE HEALTH CONDITIONS IN TAMIL NADU

FOR THE YEAR
1974

(Including the reports of the Government Analyst and
the Chief Water Analyst for 1974)

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GOVERNMENT OF TAMIL NADU
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ANNUAL PUBLIC HEALTH ADMINISTRATION REPORT, 1974.

CHAPTER-I.

Vital Statistics.—The area of Tamil Nadu is 130069 sq. k.m. The population of the State which was 4,11,99,168 as per 1971 census is estimated to have increased to 4,36,83,000 in 1974.

Area.						1971 census popula- tion.	1974 Mid Year Esti- mated population.
(1)						(2)	(3)
Rural	..	..	..	..	..	2,90,92,000	3,01,83,000
Urban	..	..	..	..	..	1,21,07,000	1,35,00,000
Total						4,11,99,000	4,36,83,000

The Registration of Births and Deaths was compulsory. The following are the vital rates recorded in the State during 1974.

Birth Rate 22.15 per 1000 of Mid-Year Estimated population.

Death Rate 7.83 per 1000 of Mid Year Estimated population.

Infant Mortality Rate 46.60 per 1000 live Births.

Still Birth Rate 18.52 per 1000 live and Still Births.

Maternal Mortality Rate 2.01 per 1000 live and Still Births.

Births.—The number of births recorded during 1974 were 9,67,545 of which 5,01,125 were males and 4,66,420 were females, giving a birth rate of 22.15 as against 23.42 in 1973.

Area.						Number of Births.	Birth rate.
(1)						(2)	(3)
Rural	..	..	..	..	..	5,04,948	16.7
Urban	..	..	..	..	..	4,62,597	34.3
State	..	..	..	..	..	9,67,545	22.15

Still births.—The number of still births recorded in the State during the year 1974 were 18,251 of which 9,934 were males and 8,317 were females, giving a still birth rate of 18.51 as against 18.92 in 1973.

Area.						Number of Still Births.	Still Birth Rate.
(1)						(2)	(3)
Rural	..	..	..	..	..	1,935	3.82
Urban	..	..	..	..	..	16,316	34.07
State	..	..	..	..	..	18,251	18.51

Deaths.—The number of deaths recorded in the State were 3,42,343, of which 1,60,454 were males and 1,61,889 were females giving death rate of 7.84 as against 8.17 in 1973.

Area.						Number of deaths.	Death Rate.
(1)						(2)	(3)
Rural	..	..	..	..	..	2,30,227	7.63
Urban	..	..	..	..	..	1,12,116	8.30
State	..	..	..	..	..	3,42,343	7.84

The following table gives the number of deaths in different age groups :—

Age group.	Number of deaths.	Percentage to total deaths.
(1)	(2)	(3)
Under one year	45,070	13.2
1—5 years	42,550	12.4
5—10 years	10,747	3.1
10—15 years	7,839	2.3
15—25 years	16,638	4.9
25—35 years	19,287	5.8
35—45 years	23,778	6.9
45—55 years	29,222	8.5
55—65 years	44,482	13.0
65—75 years	45,704	13.3
75 and above	57,026	16.6
Total ..	3,42,343	100

The following table gives the number of deaths due to various causes in the year 1974 :—

Causes.	Number.	Rate.
(1)	(2)	(3)
Cholera	157	†
Smallpox	4	†
Fevers	66,247	1.52
Dysentery and Diarrhoea	21,819	0.50
Respiratory Diseases	29,867	0.68
Suicide	1,553	0.04
Wounds and Accidents	4,199	0.10
Snake bites	1,248	0.03
Killed by wild beasts	19	†
Rabies	358	0.01
Maternal deaths	1,982	2.01
All other causes	2,14,890	4.92
Total ..	3,42,343	7.84

The number of deaths according to cause given above is as per the birth and death returns received from periphery.]

Sample Registration Scheme.—During 1974, the Sample Registration Scheme made good progress. Half yearly surveys for the period ended 31st December 1973 as well as 30th June 1974 were conducted and the results finalised. The vital rates for the year 1974 for the state (rural) are as follows :—

Birth Rate—31.5 per 1000 of population.

Death Rate—16.2 per 1000 of population.

Infant Mortality Rate 118.3 per 1000 live births.

†Less than .01.

Combining the figures for both rural and urban the Birth rate of the State works out to 29.3 and the Death rate 14.0 per thousand population. Sample Registration Scheme is a combination of longitudinal enumeration of vital events by a part-time enumerator combined with half yearly household survey every six months by a Computer.

Model Registration Scheme.—During the year 1974, the Scheme was continued in the 34 Primary Health Centres of the State. The following table gives the number of deaths recorded under various causes in 1974 :—

Major causes.	Number of deaths.	Percentage to total deaths.
(1)	(2)	(3)
Accidents and injuries	64	3.4
Child birth and pregnancy	23	1.2
Fevers	193	10.3
Digestive Disorders	234	12.3
Cough	240	12.8
Disorders of the Central Nervous system	52	2.8
Diseases of circulatory system	227	12.1
Other clear symptoms	113	6.
Causes peculiar to infancy	196	10.5
Senility	478	25.5
The rest	50	2.7
Total ..	1,870	100

Infant Deaths.—The number of infant deaths recorded during the year 1974 were 45,070 of which 23,720 were males and 21,350 were females, giving an infant mortality rate of 46.59 as against 49.45 in 1973.

Number of Infant Deaths.

Age group.	Rural.	Urban.	Total.
(1)	(2)	(3)	(4)
Under one week	7,210	7,562	14,772
One week to one month	5,607	2,768	8,375
1 month—6 months	7,056	4,807	11,863
6 months—1 year	5,783	4,277	10,060
Total ..	25,656	19,414	45,070

The neonatal mortality rate works out to 23.9 per 1000 live births.

Maternal Deaths.—The number of maternal deaths recorded in 1974 were 1982 giving a maternal mortality rate of 2.01 per 1000 live and still births.

Area.	Number of Maternal deaths.	Maternal Mortality rate.
(1)	(2)	(3)
Rural	1,078	2.13
Urban	904	1.89
State	1,982	2.01

CHAPTER-II.

Control of Communicable Diseases.

Cholera.—During the year 1974, 3,590 attacks and 109 deaths were recorded due to Cholera, as reported by Health Officers. All prompt preventive and control measures were taken.

The Mobile Epidemic Units continued to function. The vehicles attached to these units were utilised for the quick transportation of staff and drugs to the infected places and to transport the cases to the Infectious Diseases sheds and hospitals for inoculation and treatment. They carried out anticipatory anti-cholera inoculations in the vulnerable areas. Similarly the Cholera Combat team and the Epidemic control unit carried out all anti-cholera measures. The Cholera Control Programme was continued. The Epidemiological Unit at Madras Medical College and Headquarters continued to function. The staff were deputed to Cholera affected areas as and when necessary. All sanitary arrangements were made during major fairs and festivals to prevent the outbreak of Cholera.

Smallpox (National Smallpox Eradication Programme).—The State was free from indigenous Smallpox except imported cases of 15 attacks and 4 deaths reported from the districts of Dharmapuri, North Arcot and Madras City. Intensive house to house search for Smallpox cases were carried out and not even a single case of Smallpox was found during these searches thus confirming the Smallpox free status of Tamil Nadu. Intensive vaccination was in full swing during the year under report and 14.59 lakhs of primary vaccinations and 58.98 lakhs of re-vaccinations were done.

Malaria (National Malaria Eradication Programme).—The National Malaria Eradication Programme in the State was implemented first during 1953-54 with three units, giving protection to about four million population. The control programme was switched over to National Malaria Eradication Programme during 1958-59 with the establishment of 31.45 units to cover about 33 million populations. Subsequently 0.35 units in Pondicherry and Karaikal were included.

The attack phase of the programme commenced in 1959-60. D.D.T. spray operations were carried out in all the Units till 1961-62.

23.0. Units entered consolidation phase in 1962-63. After two years the remaining units also entered consolidation phase.

15 Units were projected into maintenance phase during 1964-65 as per the recommendation of the Independent Appraisal team after a thorough critical assessment. 0.25 units in 1965-66 and 4.50 units in 1966-67 entered maintenance phase. The remaining 3.05 unit areas continued to function in the consolidation phase areas. In 1968, the maintenance phase areas in the State were reorganised into 29 administrative divisions in 1968. From April 1969 the basic Health service was constituted at the Primary Health Centre level on the basis of the recommended staffing pattern for catering fully to the needs of vigilance activities.

Urban Malaria.—During the fourth Plan period five urban Malaria Schemes in Madras City, Salem, Rasipuram, Tuticorin and Elampillai were sanctioned for tackling A. Stephensi borne Malaria. All the Schemes except Elampillai are being implemented from the year 1972. These schemes are implemented by the local bodies concerned.

The problems of this State are due to (1) Urban Malaria (2) Importation of cases through migratory labour (3) areas of persistent malaria and (4) occasional focal outbreaks. The problem of Urban malaria is not confined to consolidation areas alone. This problem extended to town in the maintenance areas through imported cases. Resistance developed by A. Stephensi to organochlorines like D.D.T. and H.C.H. inadequate vigilance machinery, inefficient implementation of Schemes of anti-larval measures run by local bodies and other factors complicated the situation and prevented early liquidation of Urban foci. With the Urban Malaria problem on one hand and large scale importations

of malaria cases from other States on the other due to movement of population and due to influx of repatriates the maintenance areas in the State are always subjected to constant threat of local outbreaks. Due to this factor certain vulnerable and receptive areas of Dharmapuri and Ramanathapuram districts experienced wide spread epidemics from 1970.

During the year 1974, 19, 275 malaria cases were recorded as against 4880 cases recorded during the previous year.

Activities in Central Malaria Laboratory and Museum, Madras.—Necessary training courses including lectures on Entomology, Epidemiology, Parasitology and Haematology were conducted at Central Malaria laboratory during the year under report for students from various medical institutions in the State, other health personnel from health centres and from voluntary agencies. State level cross checking of negative blood smears and confirmation of positive slides received from the division/units, preparation and supply of JSB stain required for all the National Malaria Eradication Programme Units were the other activities of the Central Malaria Laboratory.

FILARIA (National Filaria Control Programme).—There are twelve Filaria Control units functioning at Chingleput, Kancheepuram, Vellore, Chidambaram, Cuddalore, Villupuram, Kumbakonam, Thanjavur, Nagapattinam, Srirangam, Pudukottai and Madras city. All the Units carried out anti-larval operations. The Anti-larval operations were carried out with the application of mosquito larvicidal oil over the surface of drains, cesspools, etc., to check the larval breeding in such places. A quantity of 12,44,545 litres of mosquito larvicidal oil was spent during the year 1974.

The overall C. fatigans density was 114.2 per 10 man hours. The overall infectivity rate in C. fatigans was 1.07%. Night blood surveys were carried out. The detected cases were directed to nearby hospitals for treatment.

In the eight night clinics which functioned during the year a total of 33,331 persons were examined and out of which 1,201 persons were found to show microfilaria. During the parasitological surveys conducted during the year 106,021 persons were examined, of whom 6,402 showed micro-filaria giving a micro filaria rate of 6.04 per cent.

Grant-in-aid Schemes.—Grant-in-aid Schemes of anti-filaria/anti-malaria Schemes are under implementation in 166 local bodies/Municipalities 1/3 or 1/4th grant is being given to these local bodies by the State according to the nature of the Scheme. During 1974-75 State grant was released to 160 local bodies which carried out anti-filaria/anti-malaria and anti-mosquito measures.

Yaws.—During the year under report, six yaws control units were functioning in the districts of Madurai, Trichy, Dharmapuri, South Arcot and Salem. A total of 10,001 villages were surveyed 222,251 persons were examined, 371 yaws cases were recorded. A total of 143 cases of yaws were treated with P.A.M./Penidure. Health Education work was also attended to.

GUINEAWORM.—During the year under report 20,032 villages were surveyed and re-surveyed to assess the endemicity of Guinea worm disease. Out of these 32 villages were found to be endemic. A total of 164 guineaworm cases were detected in all the 32 villages and they were treated with carbolic lotion to alleviate pain and irritation of the affected parts and to prevent secondary infection.

KALA AZAR.—During the year under report 2,920 villages and hamlets were surveyed and 5034 sandflies were collected identified and dissected. Five cases of Kala Azar were detected and they were directed to the nearby hospitals for treatment.

CHAPTER III

Maternity and Child Health Services.—Maternity and Child Welfare services form the basic foundation of healthy living. The greatest need for the woman in the rural areas is skilled attention before, during and after confinement. Hence the care of the mother and child who form the major portion of the population receive the highest priority in the Health programmes.

Maternity and Child Health Services by Panchayat Unions.—Under section 65C of the Tamil Nadu Panchayat Act 1958, it is the responsibility of the Panchayat Union Council to open and maintain maternity centres, at the rate of one maternity centre for 10,000 population. The Panchayat Union receive 2/3rd grant from the State Government for the first three centres and from the Central Government for the remaining centres.

Maternity and Child Welfare Centres Services under Backward Area Scheme:—There are 19 maternity and child welfare centres with four sub-centres attached to each, with a staff of one Health Visitor and one Ayah for each main centre and one maternity assistant and an Ayah for each sub-centre. These centres continued to do useful work in 1974.

Maternity and Child Health Centres run by Municipalities:—The Municipalities continued to render skilled maternity services in their respective areas through maternity homes and Maternity and Child Welfare Centres. The Municipalities are given government grant equivalent to 1/4th of the recurring expenditure incurred by them towards the maintenance of the Maternity and Child Welfare Centres.

The total number of Maternity and Child Welfare Centres in Tamil Nadu as on 1st January 1975 was 3,863 as against 3,858 in 1973.

The maternity and child healthwork in rural areas is carried out mainly through Auxiliary Nurse Midwife, Maternity Assistants Health Visitors and Women Medical Officers. During the year under report 10,92,906 mothers were brought under care by these staff. Out of these 5,81,067 were pre-natal, 2,73,944 were labour cases, 6,08,458 were infants and 7,37,380 pre-school children. In Municipalities the number of home visits for pre natal cases made by Maternity Assistants, Health Visitors and Woman Medical Officer were 22,194, 30,121 and 11,738 respectively.

(1)	Maternity homes.		Maternity centres.		Maternity centres without beds.	Total.
	Nos.	BEDS.	Nos.	BEDS.	Nos.	
Institute of Public Health Poonamallee ..	7	34	..	..	1	
Backward area Scheme	..	..	..	..	95	95
Primary Health Centres	..	..	380	2,280	..	380
Panchayat Union Councils	..	..	..	..	2,880	2,880
Municipalities	82	630	165	495	183	430
Corporation of Madras	31	379	..	..	20	51
Corporation of Madurai	15	272	2	13	2	19
Total ..	135	1,315	547	2,788	3,181	3,863

Maternity Assistants.—There were 4,138 posts of Maternity Assistants in all under Government, Local Bodies, Corporation of Madurai and Madras.

Agahs.—There were 2,953 posts of Ayahs in all under Government Local Bodies, Corporations of Madras and Madurai as against 2,782 in 1973.

Health Visitors.—There were 618 Health Visitors in all under Government, Local Bodies, Corporations of Madras and Madurai during the year 1974 as against 607 in 1973.

Women Medical Officer.—There were 56 posts of Women Medical Officers in all the Municipalities, 41 in the Corporation of Madras and 13 in Corporation of Madurai during the year under report.

Public Health Nurses: There were six public health nurses in all during the year under report.

Health Visitors Training.—Forty one Health Visitors recruited under the regular course during 1973, and 50 health visitors recruited in July 1972 under integrated course completed their course in December, 1974, 49 candidates recruited during 1973 under the integrated course and 30 candidates recruited under the regular course in 1974 are continuing their course.

Immunisation Programme.—This programme which was launched in 1964 was continued in 1974 also. At present the scheme is being implemented in 380 Primary Health Centres. Recently a special D.P.T. programme has been launched in the Districts of Chingleput and South Arcot at the rate of 10 Primary Health Centres in each district with an extra staff of one Health Visitor for each of these 20 Primary Health Centres and 13 Public Health Nurses at the rate of one per each district in order to strengthen the supervisory machinery. The number of children immunised in 1974 was 1,20,341.

School Medical Inspection.—The Scheme is being implemented in 38 primary health centres and 5 Municipalities. During the year 1974, 77,752 students were examined and out of them 30,566 students were found to be suffering from one disease or other.

CHAPTER IV.

Primary Health Centres—During 1974, one Primary Health Centre at Pillanallur, Salem district was opened bringing the total number of Primary Health Centres to 380.

Out of these 380 primary health centres, 188 primary health centres have their own buildings and buildings for the remaining 192 primary health centres are to be constructed. Out of these 192 primary health centres, construction for 73 primary health Centres were started in November 1974.

Till 1974, the provision available for drugs to each Primary Health Centre was Rs. 10,000 and this has been enhanced to Rs. 12,000 for each Primary Health Centre. Similarly an additional provisions of Rs. 200 per each sub-centre.

CHAPTER V.

Prevention of Food Adulteration :—The provisions of the Food adulteration Act was implemented in 323 local bodies in Tamil Nadu with the help of the following laboratories :

- (i) The Government Analyst, King Institute, Guindy;
- (ii) The Public Analyst, Principal Public Health Laboratory;
- (iii) The Public Analyst, Corporation of Madras.

During the year 1974, 23,073 samples were received for analysis, of which 22,777 were analysed. 5,376 samples representing 23.6 per cent were found adulterated 4,771 prosecutions were launched. A sum of Rs. 7.83,680 was realised by way of fines.

The water analysis department of the King Institute, Guindy, and the Water Analysis branch in the Principal Public Health Laboratory at Coimbatore continued, to maintain analytical control over the hygienic quality of the drinking water supplies in the State and rendered laboratory services in connection with Rural Water Supply Schemes.

7,927 samples were received and tested in connection with periodical and protected water supplies. 1,728 samples were received from Rural Water Supply Schemes of which 14 were found unfit. 13,852 samples were tested for bacteriological, biological, physical and chemical characteristics. 87 important field investigations and researches were carried out.

CARE Assisted Maternity and Child Health Programme.—The supplementary feeding programme was implemented with the assistance of CARE organisation, which donates the required quantity of food commodities such as corn soy milk and salad oil. At present the commodities are distributed through 2,140 feeding centres. About 98,000 daily beneficiaries are there under this programme. A total quantity of about 51 lakhs kilograms of gift food articles were received and distributed during this year.

Drugs and diet supplements.—Standard packages of UNICEF drugs and diets supplements (both primary health centre type and maternity child health type) were received through Director-General of Health Services, New Delhi for distribution through the selected primary health centres and maternity and child health centres. A total number of 376 primary health centres and 77 maternity and child health centres are to be supplied with these drugs and diet supplements in 1975.

CHAPTER VI

Health Education Bureau (a) Administration and Study Unit.—During the year under report, a study on "Primary Health Centre Staff role perception" was undertaken with an object of finding out the role perception and its relation to performance, job satisfaction, morale, etc. Data have been collected from about 120 medical officers equal number of health visitors and about 60 health inspectors. A study on the effects of group size on the perception of physical settings and group interaction was conducted among the trainees who attended the Inservice training. The evaluation reports of the 29th, 30th and 31st batches of Inservice training in Health Education were prepared and the results fed back for improving the subsequent trainings. The problems in the implementation of Malaria Eradication Maintenance Phase Programme in Rameswaram Island were studied and a methodology for leaders information session was developed and demonstrated.

(b) Media Unit.—During the year under report, a total number of 105 items were printed and distributed among educational institutions and to the public. There are 527 films and 327 film-strips in the film library. These are distributed on loan basis free of cost to various departmental and voluntary organisations. Besides, cinema slides were prepared on health topics and distributed through the District Health authorities for screening in the cinema houses. During the year under review 900 cinema slides were prepared and shown. 975 films were distributed for screening purposes. About 300 film shows were conducted in and around the city to educate people in health aspects. The exhibition unit conducted 15 exhibitions to propagate the health aspects among public. 50 puppet shows were conducted all over the State. The Unit also participated in the Inservice training conducted to the medical officers and other para medical personnel.

(c) Teacher Training Unit.—During the year 1974, 77 teachers were given training in Health Education. They were given field training also. They were given opportunities to practice what they were taught. The Panchayat Union School at Porur and Government High School at Nandanam were selected as Model Schools for field training. Students in these schools were examined and necessary advice was given. The Unit participated in the World Health Organisation day celebrations.

(d) Field Study Demonstration Centre.—The Field Study Demonstration Centre continued to have Velacheri Primary Health Centre area as their demonstration centre. During the year 1974, the team mainly concentrated on developing "Family Health" programme in order to strengthen the skill of the maternity assistants working at the Village level.

By involving the Primary Health Centre, Velacheri Staff, Block staff and pupil Health Visitors, the identification of leaders and the Family Health survey were completed in eleven villages and the survey forms were analysed to find out the health problems and a health committee was formed. The follow-up work included medical treatment, environmental sanitation, maternity and child health, control of communicable diseases, school health programme, Family Planning and Health Education.

Regular treatment were provided by the Velacheri Primary Health Centre doctor. Chlorination of wells were done in all the eleven villages. The people were motivated for having RCAP type of latrines. Eight latrines were constructed at Ramakrishnapuram. During village visits the Ante-natal and post-natal mothers were met by the team members along with the Health Visitor and Maternity assistant and they were given proper advice. Vaccination against small-pox was arranged to be carried out in all the 11 villages. In Perungudi, Vajayaragavapuram, Thiruvengeri, Narayanapuram and Lakshmiapuram, DPT education classes were conducted to mothers group. After preparing an eligible children list, all the three doses were completed in the above villages. School medical examinations were carried out in seven schools. After analysis medicines

were distributed. Family Planning Education was given during the Health Committee meetings in all the villages. Leaders information sessions were conducted. Film shows were organised. The team members actively participated in the World Health Organisation day celebrations and the Inservice trainings.

INSTITUTE OF PUBLIC HEALTH.

(a) Health Unit, Poonamallee:

The following are the vital rates recorded in the Health Unit area during 1974.

(1)	Number.	Rate.
(2)	(3)	
Births	3,999	29.6
Deaths	1,353	12.9
Infant deaths	254	88.3
Still Births	59	20.1
Maternal deaths	2	0.7
Neo-natal deaths	140	48.7

All possible steps were taken to improve the Birth and Death Registration in the Health Unit area.

Maternity and Child Health Service is a branch of Health Unit, which plays an important part in the Welfare of mothers and children. Both domiciliary and institutional care are provided. Almost all the expectant and nursing mothers are registered for pre-natal advice. The services are provided through clinics and domiciliary visits.

Along with the maternity and child health clinics, Family Planning clinics are also conducted in each main and sub-centre on fixed days every week. There are four main centres and four sub-centres, 551 pre-natal, post-natal and pre-school clinics 1,092 family planning clinics and 150 well baby clinics were held. During 1974, 234 tubectomy and 15 vasectomy were done. About 28,000 mothers were educated on Family-Planning.

Improvement of rural sanitation is one of the major service programmes of the Unit. For this purpose the public were supplied with water seal squatting slabs at a subsidized rate. The labour for putting up these bore-hole latrine was given free of cost. In the Health Unit area all the villages have protected water supply.

During the year under report the Health Unit area was free from epidemic diseases like Cholera, Small-pox, etc. However adequate sanitary arrangements were made during all the fairs and festivals.

Training is yet another important activity of the Health Unit. During 1974, 250 house surgeons from Madras Medical College were given training. Besides 195 students of sanitary inspectors course, 70 pupil nurses of Stanley Hospital, 93 pupil health visitors from training school, six students of the course Diploma in Maternity and Child Health, 25 B.Sc. nursing students, 12 B.S.Sc. candidates and two diploma in Health Education trainees were given training.

Orientation Training Centre: During 1974, four batches of training were conducted to the personnel of the Primary Health Centres. Totally 47 Medical Officers, 12 Health Inspectors, 13 Health Visitors were trained. The trainees were given necessary field training also.

Research-cum Action Project: During 1974, the Research-cum-Action Project, Poonamallee had three very important major programmes. In the four town panchayats of Villivakkam, Poonamallee, Walajabad and Tiruthani 1,000 dry earth latrines were converted into Research-cum-Action Project latrines. The State Harijan Housing Development Corporation requested the Research-cum-Action Project to manufacture 2,500

latrines and necessary work were started in December 1974. A scheme for the conversion of the existing dry earth type of latrines in selected Panchayats of Chingleput, Thanjavur and Madurai districts at a cost of Rs. 5 lakhs was sanctioned in November 1974 to construct about 2,600 latrines. Necessary action was taken. A Nutrition study at Valarpuram village for the pregnant and lactating mothers and pre-school children was started.

The Research-cum-Action Projects at Thanjavur, Tirunelveli, Dindigul also concentrated on construction of latrines. Besides their activities covered the fields of school health celebration of world health day, village surveys, health education through individual contact, group meetings, involving local leaders, film shows, etc.

District.	Number of latrines Constructed.
(1)	(2)
Chingleput	123
Madurai	382
Thanjavur	332
Tirunelveli	169
Total	1,006

Concluding remarks of the Administration Report, 1974.—The vital statistics indices for the year 1974 revealed the following salient features. The rates given are as per civil registration schemes :—

- A decrease in the birth rate from 23.4 in 1973 to 22.2 in 1974;
- A slight decrease in the death rate from 8.2 in 1973 to 7.8 in 1974;
- A decrease in the Infant mortality rate from 49.1 in 1973 to 46.6 in 1974;
- A slight decrease in the still birth rate from 18.9 in 1973 to 18.5 in 1974;
- A slight decrease in the maternal mortality rate from 2.2 in 1973 to 2.01 in 1974.

Control of communicable diseases—Cholera.—There were 3,590 attacks and 109 deaths due to cholera as against 3,147 attacks and 230 deaths in 1973.

Smallpox.—The State was free from indigenous smallpox. However there were 15 attacks and 4 deaths due to Smallpox (imported cases). 14.59 lakhs of primary vaccinations and 58.98 lakhs of re-vaccinations were performed.

Plague.—The State was free from Plague.

Dysentery and Diarrhoea.—There were 21,819 deaths due to dysentery and diarrhoea during 1974 as against 21,314 in 1973.

Respiratory Diseases.—There were 29,867 deaths due to Respiratory diseases as against 28,694 in 1973.

Malaria.—The National Malaria Eradication Programme was continued to be implemented. 19,275 cases of malaria were recorded in 1974. There was no death.

Filaria.—The twelve Filaria Control Units continued to do anti-filaria work.

Yaws.—During 1974, 10,001 villages were surveyed 222,251 persons were examined and 373 yaws cases were recorded.

Guinea worm.—During 1974, 20,032 villages were surveyed. 32 villages were found to be endemic for guinea worm and 164 cases were detected.

Kala Azar.—During 1974, 2,920 villages and hamlets were surveyed and 5034 sandies were collected, identified and dissected. In all five Kala Azar cases were detected.

Health Services—Maternity and Child Health.—There were 3,863 Maternity and Child Welfare Centres at the end of 1974 as against 3,858 in 1973.

There were 4,138 Maternity Assistants, 618 Health Visitors, 2,953 Ayahs and six Public Health Nurses in 1974.

School Health.—During 1974, 77,752 students were examined and out of them 30,566 students were found to be defective. The sick children were given necessary treatment.

Immunisation Programme.—The number of children immunised in 1974 with all the three doses were 1,20,341.

Primary Health Centres.—The total number of Primary Health Centres at the end of 1974 was 380.

CARE assisted Maternity and Child Health Programme.—The CARE assisted maternity and child health programme was continued during the year. A total of about 51 lakhs kilograms of gift food articles were received and distributed. There were 98,000 daily beneficiaries.

Food Adulteration.—The prevention of Food Adulteration Act was enforced effectively during the year under report. In all 22,777 samples were analysed and 5,370 samples were found to be adulterated. A sum of Rs. 7,83,680 was realised by way of fines.

Institute of Public Health—(a) Health Unit, Poonamallee.—The Unit continued to serve as a Model Unit for all Public Health Programmes.

(b) Orientation Training Centre.—During 1974 four batches of training were conducted.

Research-cum-Action Project.—The Research-cum-Action Project continued their activities in the field of Rural sanitation.

The Administration of the Department was satisfactory.

GOVERNMENT ANALYST LABORATORY

ANNUAL REPORT FOR 1974.

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- 7. ANALYTICAL ADVISORY SERVICE—**
 - (i) HOSPITAL.**
 - (ii) OTHER GOVERNMENT DEPARTMENTS.**
 - (iii) PRIVATE INSTITUTIONS AND PARTIES.**
 - (iv) RAILWAYS.**
- 8. DRUGS AND COSMETICS ACT.**
- 9. TRAINING.**
- 10. IMPROVEMENT SCHEMES.**
- 11. MISCELLANEOUS.**

GOVERNMENT ANALYST SECTION.

Introduction -

Thiru K. Balasubramanian, M.A., A.R.I.C., Government Analyst, King Institute, Guindy, retired on superannuation on the afternoon of 31st August 1974.

Thiru N. Srinivasan, M.A., F.C.S., A.R.I.C., Deputy Government Analyst, Guindy held the additional charge of the post of Government Analyst, Guindy from 1st September 1974 to 29th September 1974.

Thiru K. Ramachandran, M.A., F.I.C., F.R.I.C., took charge as Government Analyst, Guindy from the forenoon of 30th September 1974.

1. *General—Staff.*—The sanctioned staff of this laboratory consist of the Government Analyst, the Deputy Government Analyst, 13 Senior Analysts, 13 Junior Analysts, 1 Technical Assistant, 5 Technicians Grade I, 3 Technicians Grade II, 9 Last Grade Government Servants and one Menial. The Ministerial staff consist of 1 Superintendent, 3 Assistants, 1 Store-keeper, 4 Junior Assistants, 1 Steno-typist, 5 typists and 1 Record Clerk.

The following posts have been vacant from the dates noted against them :—

1. One post of Technical Assistant vacant from 22nd December 1971.
2. Two posts of Technician Grade I vacant from 15th July 1972 and 10th September 1972.

Scientific Work.—As in the previous years, the work of the Government Analyst's section comprised the following :—

I. Analysis of foods, drugs and cosmetics under various penal statutes and control orders.

II. Examination of foods involved in cases of food poisoning and of foods suspected to be contaminated with chemicals.

III. Analysis of diet articles from Hospitals, stock mixtures, drugs, etc., from Hospitals and Dispensaries and food samples from other Institutions of the State as well as the Central Government and private parties.

IV. Advising the local bodies on the problems arising out of the enforcement of the Prevention of Food Adulteration Act, and proposing appeals in food adulteration cases which have been acquitted in lower Courts.

2. *Finance.*—The estimated expenditure for the year was Rs. 4,69,060 and the estimated revenue was Rs. 5,11,155.

3. *Prevention of Food Adulteration Act.*—Samples of food were received under the Prevention of Food Adulteration Act from 285 local bodies comprising one Corporation, 79 Municipalities, 8 Township Committees, 2 Cantonment boards, 163 Town Panchayats, 3 Panchayat Unions and 29 others as well as samples from Southern Railway. The total number of samples received during the year was 17,038. The number of samples analysed during the year was 17,150. Twenty-six per cent of the samples analysed were found to be adulterated or misbranded, etc. Details of the samples received and analysed during the year are given in Table I.

TABLE—I.

Serial Number.	Nature of sample.	Number of samples received.	Number of samples analysed	Number found adulterated and misbranded, etc.	percentage of adulteration
(1)	(2)	(3)	(4)	(5)	(6)
1	Non-Alcoholic Beverages	242	245	151	61.6
2	Spices and Condiments	1,056	997	117	11.8

3 Sugar and Artificial sweeteners	325	337	98	29.0
4 Coffee and Tea	1,601	1,562	225	14.2
5 Milk	6,982	7,171	3,216	44.8
6 Other Dairy Products	216	193	59	30.6
7 Edible oils and Fats	2,969	2,991	212	7.0
8 Fruit Products	..	..	..	..
9 Cereal and Cereal Products	2,834	2,913	172	5.9
10 Other Miscellaneous Foods	813	721	164	22.7
Total	17,038	17,150	4,414	25.7

4. Nature of Adulteration :

Vegetable Oils and Fats.—1474 samples of Gingelly oil were analysed during the year and 176 samples were reported as adulterated. Of these 110 samples were found to contain Free Fatty Acids in excess of the maximum permitted under the Prevention of Food Adulteration Rules and 59 samples were found to be admixed with **Arachis oil**.

648 samples of Groundnut Oil were analysed during the year. Out of these 14 were found to contain Free Fatty Acids in excess of the maximum allowed under the Rules and one was found to be an admixture with Vanaspathy intruding in the process provision 44 (f) of the Prevention of Food Adulteration Rules.

912 samples of Coconut oil have been analysed during the year and 41 of the samples analysed were found to be admixture in varying proportions with **Arachis oil** and 3 samples were reported as adulterated due to high Free Fatty Acids content.

Turmeric.—444 samples of turmeric were examined during the year and 98 samples were reported as adulterated. 81 of these were found to contain an yellow highly toxic inorganic pigment, Lead Chromate of late, face lift of turmeric roots to conceal its poor quality with lead chromate is reacting menacing proportions. 3 samples were reported to contain tapioca starch.

Milk Fat and substitutes—61 samples of butter have been analysed during the year and 21 samples were adulterated. Adulteration includes substitution of milk fat partially with Vanaspathy and deficiency in milk fat content.

120 samples of Ghee were examined during the year and 21 samples were reported as adulterated. 20 were found to be adulterated with Vanaspathy and one was found to contain Free Fatty Acids in excess of the maximum allowed under the relevant provision of the Prevention of Food Adulteration Rules.

Sugar : 300 samples of cane sugar were analysed during the year and 79 samples were found to contain saccharin, a non-nutritive, a non-colic artificial sweetener and hence reported as adulterated.

Tea Infusions : 411 samples of tea infusions were analysed to detect the presence of any coal tar dye in the sample, and for identification of caffeine in the sample. Of these two samples were reported as adulterated as the samples were found to contain saccharin and 78 samples were reported as misbranded since they were found to contain coal tar colours, the presence of which in Tea beverages is prohibited under the Prevention of Food Adulteration Rules.

Carbonated Beverages : 268 samples of soft drinks were examined during the year and 158 samples were reported as adulterated or misbranded. Of these 59 samples were found to contain saccharin in excess of the maximum permissible limit and 64 samples were reported for violation of Rule, 24 and 47 of the Prevention of Food Adulteration Rules.

Milk and Milk Products :—7,154 samples were analysed and reported during the year and 3,211 samples were found to be adulterated. Of these 428 samples were declared to contain added water, 2,694 samples were reported as deficient in solids-non fat, 83 samples as deficient in fat content and 94 samples as deficient in both fat and solids-non-fat. 2 samples of milk were found to contain foreign fat. 2 samples of skimmed milk were found to contain excess fat and hence infringed relevant rule for fat content of Skimmed Milk under the Prevention of Food Adulteration Rules.

15 samples of Rose Milk were analysed and 7 samples were reported as adulterated. Of these 2 samples of Rose Milk were found on analysis to contain starch and also a non-permitted basic dye besides being deficient in fat content and solids content. 3 samples of Rose Milk were reported as deficient in solids.

Of the 14 samples of Ice cream analysed 8 were reported as deficient in solids and protein contents.

One sample of condensed milk was found to be Genuine.

10 samples of Khoa were analysed and 8 samples were found to be deficient in Milk fat content.

Coffee : 802 samples of Coffee were analysed and 100 samples were reported as adulterated. Of these 43 samples were found to contain Chicory, 2 to contain preparation from Wild Date seeds, 3 to contain a preparation from both Wild Date and Chicory, 24 samples were reported under Rule 42 A and 1 sample under 2 (i) (1) and 4 samples under Rule 42 A of the Prevention of Food Adulteration Rules.

Tea : 412 samples of tea were examined and 22 samples were reported as misbranded due to addition of coal tar dye and 9 samples were found to contain extraneous matter not derived from Tea.

Dhall : 1949 samples of dhall were analysed during the year and 100 samples were found to be adulterated. Of these 80 samples contained a coal tar dye and 16 samples were found to contain Lak Dhall, a poisonous cereal, the movement of which into our State is prohibited.

Flour : 858 samples of flour were analysed during the year and 48 samples were found to be adulterated since they contained either partly or wholly Lak Dhall flour. 8 samples of flour were found on analysis to be admixtures of smooth pea and Bengal gram dhall. A sample of pea flour was found to consist entirely of Tapioca flour. 4 samples of Arrow-root flour was found to consist entirely of Tapioca flour and reported as adulterated.

5. Convictions and sentences under the Prevention of Food Adulteration Act : 2994 cases have ended in conviction during the year 1974. Sentences of imprisonment for varying terms (i.e.) from "till rising of the Court" to One year imprisonment were imposed in 29 cases. A fine of Rs. 3,000 with one year Rigorous Imprisonment was levied in one case and a fine of Rs. 1000 with 6 months Rigorous Imprisonment was levied for 5 cases. A fine of Rs. 1000 was levied for 7 cases. The total fines levied during the year was Rs. 5,82,118.

6. Food Toxicology : Four samples of C. S. M. Powder were received and all of them were found to be unfit for human consumption. Samples of Bulgar wheat, C.S.M. Powder, Salad oil, Blackgram and Mustard forming the ingredients said to have gone into a prepared food alleged to have caused food poisoning were received from a Pan-chayat Union School in Chettipatty in Athoor Block. Examination of the sample revealed the presence of Parathion, a deadly poison present in lethal doses. Parathion

was absent in the other samples. Two samples of C. S. M. powder and 2 samples of Atta were reported unfit for human consumption. A sample of boiled rice contaminated with oil and sent by the Food Corporation of India, for analysis was found to contain mineral oil and hence declared unfit for human consumption. A sample of red wheat contaminated with fertiliser and sent by the Food Corporation of India was found to contain Ammonium Sulphate. One sample of Atta flour received from Madurai and one sample of wheat soya bean received from Arantangi were found on analysis to be unfit for human consumption. Three food poisoning samples received from Poonamallee were found to be free from chemical poisons. One sample of wheat sweepings and one sample of Maidha received from Food Corporation of India were found on analysis to be contaminated with Sulphur and Sodium Sulphate.

One sample of Erythrosine was found on examination to be of pure variety. Five samples of Bulgar wheat received from Ramanathapuram on Chemical examination revealed the presence of 1.0 per cent of an oil the smell of which resembled that of gasoline and as such the sample was found unfit for human consumption. One sample of Damaged Coffee seeds received from Southern Railway on examination revealed the presence of traces of diesel oil which is unlikely to vitiate the quality of the seeds and it was reported as fit for human consumption. One sample of sugar received from Southern Railway was analysed and reported fit for preparation of confections. One sample of Groundnut Oil (Hydrogenated) received from Army Headquarters, St. Thomas Mount was found on analysis to be unfit for human consumption. One sample of mice feed, one sample of Horse feed and three samples of poultry feed received from King Institute, Guindy were analysed, their protein contents estimated and reported. One sample of Aroma oil received from Sanitary Inspector, Rasipuram Municipality was analysed and the oil was found to conform to the specifications given by the manufacturer.

One sample of C.S.M. powder received from the Executive Officer, Mannargudi Municipality was found on analysis to be heavily infested with insects and larvae and was declared unfit for human consumption. One sample of Horse Feed received from the Director, King Institute, Guindy was analysed for its protein and ash content and reported. Two samples of Milo received from the Port Health Officer, Madras Harbour was examined and the samples were found to contain datura seeds. The seeds were examined for the presence of alkaloids; the alkaloids were identified and reported.

Magistrate Special Samples.—22 samples of Carbonated Waters were received from the Sub-Magistrate, Palayamkottai. 5 samples were labelled as original. The data on analysis of the samples of Carbonated Waters alleged to be spurious as compared with the data on analysis of the carbonated waters said to be original revealed that the alleged spurious were not the same as those said to be original.

Private Samples.—One sample of glucose and one sample of sucrose received from a private party were found on analysis to conform to I.P. specifications.

7. *Analytical Advisory Service—I. Hospitals.*—9,276 diet articles consisting of Milk, Bread, Edible oils, Biscuits, Coffee, Brownsugar, Dhall, etc., were received for analysis. 8,722 samples were analysed out of which 923 were found either adulterated or not conforming to the standards laid down in the tender schedules.

II. Other Government Departments :—

Name of Institution.	Number of samples analysed.	Result.
(1)	(2)	(3)
1 Superintendent, E. S. I. Hospital, Madras-23.	80 samples consisting of different food articles.	10 samples were reported to be either adulterated or not-satisfactory.
2 Superintendent, E.S.I., Hospital, Madurai.	75 samples consisting of different food articles.	30 samples were reported to be either adulterated or not-satisfactory.
3 Director, Central Leprosy Teaching and Research Institute, Chingleput.	12 samples consisting of different food articles.	12 samples were found to be adulterated.

Name of Institution.	Number of samples analysed.	Result
(1)	(2)	(3)
4 Superintendent, Central Jail ..	One sample of rice ..	Sample was reported as satisfactory.
5 Officer Commanding, 30th Battalion S. R. A. P. Camp, Avadi.	One sample of condensed milk ..	Sample was reported as unfit for human consumption.
6 Port Health Officer, Madras ..	One sample of Cotton seed oil.	Sample was reported as standard quality.
7 Municipal Health Officer, Thanjavur.	One sample of Farisin 550 ..	Sample was found to contain 105% w/w saccharin sodium 4.6 per cent w/w Dulcin and the rest sodium bi-carbonate.
8 Do.	One sample of Sugar Rose ..	Sample was found to contain 9.0% w/w saccharin sodium, 5.0 per cent w/w Dulcin and the rest Sodium bi-carbonate.
9 Director Social Welfare, Madras-6	One sample of bread ..	Sample was analysed and reported accordingly.
10 Southern Railway, Royapuram ..	2 samples of Blackgram dhall and one sample of Toor Dhall.	All the samples were found to be Genuine.
11 Forest Range Officer, Sholavandan	One sample of Honey ..	Sample was found to be Genuine.
12 CARE, Tamil Nadu, Madras ..	2 sample of C.S.M. Power and Balgar wheat.	Samples were analysed and reported as unfit for human consumption.
13 Divisional Judicial Magistrate, Thanjavur.	4 samples of Maidha. ..	Samples were analysed and reported as Maida.
14 Director, King Institute, Guindy. .	One sample of Mice feed ..	Sample was analysed and reported accordingly.
15 Food Corporation of India, Madras	2 samples of Rice ..	One sample was reported as fit for human consumption while other sample was reported as unfit for human consumption.
16 Salem District Co-operative Society, Salem.	6 samples of Groundnut Oil.	Samples were analysed and reported as genuine.
17 Air Force Depot, Avadi ..	One sample of condensed milk ..	Sample was reported as fit for human consumption.
18 Chief Judicial Magistrate, Salem	4 samples of dhall. ..	Samples were found to contain 100 per cent Lak Dhall.
III. Private Institutions and Parties.		
1 Madras Medical College, Madras	8 samples of formal DehydeLiquid	Samples were analysed and found that none of them conformed to Pharmacopoeal standards in respect of formal Dehyde content and therefore they are reported as not of standard quality.
2 Janatha Syrup Company, Madurai	2 samples of Pine Apple and Nan-nari.	Samples were analysed and reported accordingly.
3 Commercial Branch, Southern Railway, Madras.	One sample of Groundnut oil ..	Sample was analysed and reported to be confirmed to the specification under the Act.
4 Janatha Syrup Company, Madurai.	3 samples of Lemon Serbath, Rose, Serbath and Cola Serbath.	All the samples were analysed and found to conform to the standards under the Act.
5 Savilas Industries, Madras-24	2 samples of Malt milk food ..	Samples were analysed and reported as adulterated.
6 Hotel Impala,, Madras-8	2 Samples of ghee and Butter. ..	Samples were analysed and reported as adulterated.
7 Thiru Panchanatha Sarma, Tiruchirappalli.	One sample of Sunflower oil ..	Sample was analysed and reported as genuine.
8 Messrs. Nation Camphor and Hing Trading Company, Madurai.	2 samples of B Mark yellow colour and D.G. Mark brown Black.	Samples were analysed and reported accordingly.

<i>Name of Institution.</i>	<i>Number of samples analysed.</i>	<i>Result.</i>
(1)	(2)	(3)
9 Messrs. Meenakshi Cottage Industries, Madurai.	One sample of compounded Asafoetida.	Sample was analysed and reported as to contain excess moisture.
10 Messrs. Ramanujam and Company Madras.	One sample of korakam Malt	.. Sample was analysed and reported accordingly.
11 Mysore Products, Madras-3	One sample of Ragi Malt	.. Sample was analysed and reported to conform to standards.
12 Messrs. Ramesh Food Industries, Madras	One sample of Ramesh (Food) India.	Sample was analysed and reported to conform to standards.
13 Messrs. Parnar and Company, Madurai-2	One sample of Parnar Nafco	.. Sample was analysed and reported accordingly.
14 District Cooperative Supply and Marketing Society, Salem-9.	2 samples of Groundnut oil	.. Samples were analysed and reported accordingly.
15 Messrs. Netaji Tea and Coffee Company, Tuticorin.	One sample of Tea dust	.. Sample was analysed and reported.
16 Messrs. Kali Mark Aerated Water works, Madras-14.	2 samples of aerated water	.. Samples were analysed and reported to contain excess saccharin.
17 Thiru Palaniappa Mudaliar, Madurai.	One sample of starch powder	.. Sample was analysed and reported
18 Messrs. Coca-Cola Soft Beverage (P) Limited, Madras.	One sample of grape.	.. Sample was analysed and reported.
19 Mr. Peer Mohammed Madurai	Two samples of Special dust	.. Samples were analysed and reported to be genuine.
20 Messrs. Brooke Bond India Limited Madras-18.	Two samples of Coffee Blended with chicory.	.. Samples were analysed and reported
21 Messrs. Narayanaswami Chetti and Sons, Salem-9.	One sample of Turmeric	.. Sample was analysed and reported.
22 Messrs. Kali Aerated Water Works Madras-14.	One sample of Cherry Aerated Water.	.. Sample was analysed and reported upon.
23 Messrs. Jyothi Aerated Water Works, Sivakasi.	Two samples of Aerated Water	.. Samples were analysed and reported upon.
24 Eagles Chicory Firm, Madurai	Two samples of Chicory	.. Samples were analysed and reported to conform to the standards.
25 Messrs. Karpagambal Bakery, Madras-5	Two samples of Bakery cream	.. Samples were analysed and reported not fit to be used as pastries.
26 Messrs. Netaji Tea Company Tuticorin.	One sample of Tea	.. Sample was analysed and reported
27 Sri Meenakshi Cottage Industries, Madurai.	One sample of compounded Asafoetida.	.. Sample was analysed and reported as genuine.
28 Mr. R. Krishnamurthy, Madras-33.	One sample of P.S. Special Tamarrind.	.. Sample was analysed and reported as satisfactory.
29 Messrs. A. R.R. Seeval Factory, Kumbakonam.	One sample of Carmoisine	.. Sample was analysed and reported upon.

IV. *Railways* : 460 samples consisting of different food articles were received from different Railway Food Inspectors of Southern Railway during the year. The Number of samples analysed during the year were 362.

8. DRUGS AND COSMETICS ACT :

	<i>Number of samples received.</i>	<i>Samples reported as standard.</i>	<i>Samples reported as not of standard.</i>
(1)	(2)	(3)	(4)
Drugs and Cosmetics Act	534	351	17
Hospital and E.S.I	160	99	93

During the year 534 samples of drugs were received from the Drugs Inspectors under the Act and 160 samples from the Hospitals and E.S.I.

534 samples received from Drug Inspectors were analysed and 117 samples were found to be not of standard quality.

Out of 160 samples received from the Hospitals and E.S.I., 93 samples were found to be not of standard quality.

A sample Carbimazole was reported as Not of standard quality.

A sample of Quinalbarbitone sodium did not pass disintegration test for tablets.

A sample of Vitamin (Multivitamin tablets) did not contain Vitamin A.

A sample of Atropine Sulphate was found to be entirely of Phenacetin instead of declared drug.

Three samples of Woodwards celebrated Gripe water, bearing the labels with Batch No 919 M370 were found to be spurious-Sodium Bicarbonate was completely absent instead of declared 0.04 gm. per 4 ml. and Alcohol content was only 0.66 per cent instead of the label claim 4.96 per cent.

Samples of Gripe water, Ferrous sulphate, Tincture vasaka and Isoniazoid were found to be not of standard quality.

Mixtures prepared in the hospitals were found to be not correctly compounded.

Lice powder was found to contain B.H.C. and Isoniacid tablets did not contain Isoniazid at all.

Sulphadimidies and Sulphadiazine tablets were found to be adulterated.

Kasolin samples on analysis were found to be not of standard quality.

Ayurvedic preparation Kacheyams were found to contain Chloral hydrate a hypnotic.

9. *Training*.--The training of three batches of 71 Food Inspectors in Food sampling and food inspection work has been completed during the year.

10. *Improvement Schemes*.--The building for the District Laboratory at Madurai has been completed and orders for the furniture required for the Laboratory have been placed with the Tansi furniture works at Madurai. The construction of the Thanjavur District Laboratory is under completion.

11. *Miscellaneous*.--The Government Analyst attended the following meetings :--

(1) Meeting of Food Hygiene, sampling and Analysis Sectional Committee, AFDC : 36 and its sub-committees held on 28th December, 1974 at New Delhi.

(2) Central Committee for Food Standards Meeting held on 30th and 31st December 1974 at New Delhi.

Government Analyst.

Office of the Government Analyst,
King Institute, Guindy, Madras-32,
Dated : 28th June 1975.

CHIEF WATER ANALYST.

Thiru S. Venkataraman, M.A., D.Stat., A.R.I.C.

ASSISTANT WATER ANALYSTS.

1. Selvi S. Chellam, M.A.
2. Thiru K. Venkatakrishnan, B.Sc.
3. Thiru A. V. Varadarajan, B.Sc. (From 4th September 1974).
4. Thiru K. Sankaran, B.Sc. (Leave from 9th September 1974 onwards).
5. Thiru R. M. Veerappan, B.Sc.
6. Thiru R. Srinivasan, M.Sc.
7. Thiru G. Rajendran, B.Sc. (From 26th September 1974).
8. Thiru V. Sathyamoorthy, B.Sc.
9. Thiru B. Kamalakkannan, B.Sc.

MEDICAL BIOLOGIST.

10. Dr. K. M. Veeranan, M.A., M.Sc., Ph.D.

JUNIOR WATER ANALYSTS.

1. Thiru C. Bhasker, B.Sc., A.I.C.
2. Thiru T. S. Venkataraman, B.Sc.
3. Thiru T. G. Kuppuswamy, B.Sc.
4. Thirumathi C. Parvathy, B.Sc.
5. Thirumathi S. Meenakshisundaram, B.Sc.
6. Thiru G. Balasubramanian, B.Sc.
7. Thirumathi A. Indirani, B.Sc.
8. Thiru Jacob M. Arulappan, M.Sc.
9. Thirumathi Juliet Vanaja, B.Sc. (Leave from 23rd December 1974).
10. Thiru P. Kalidoss, M.Sc.
11. Thiru S. A. Mohamed Tahar, B.Sc. (From 18th May 1974).

OTHER LABORATORY STAFF.

Technical Assistant	...	...	...	...	1
Sample Takers	...	...	...	...	2
Algae-Collector	...	...	...	...	1

OTHER LABORATORY STAFF—cont.

Technician, Grade I	...	...	...	...	11
Technician, Grade II	...	...	...	...	8
Laboratory Peons	...	...	...	...	6
Gardener	...	...	...	...	1
Lowest Grade Government Servants	...	...	...	...	4
Driver	.....	...	...	...	1
Cleaner	...	...	...	...	1
Sweeper	...	...	...	...	1 (From 6th February
...					1974).

OFFICE STAFF

Thiru K. Radhakrishnan	...	...	...	...	Accountant (in the grade of Assistant)
Stores-Clerk in the grade of Assistant	...	...	...	...	1
Junior Assistants	..	...	...	...	2
Junior Assistant-cum-Typist			...	...	1
Steno-typist	...	...	...	...	1
Typists	...	...	...	...	3
Record Clerk	...	...	...	...	1

FINANCE.

Receipts.—Income derived by cash, cheques and adjustment bills towards the analytical fees and other services rendered to private bodies, local bodies and others amounted to Rs. 80,634.68. The value of free services rendered in the collection, field and laboratory tests on samples taken from the protected water supplies and other water-supply schemes worked out to Rs. 22,920.00. The total income for the year would amount to Rs. 1,03,554.68.

Expenditure.—This department incurred an expenditure of Rs. 5,09,883.18 towards pay and allowances of laboratory and office staff, travelling allowance, contingent, cost of instruments and chemicals and sundries.

GENERAL.

The quantum of both analytical and administrative work has shown a further increase during the year 1974. The diversion of scientific personnel to administrative work had to be continued due to this and for lack of adequate ministerial and office supervisory staff. The activities of the Tamil Nadu Water and Sewage Purification Committee has increased considerably during this year and the Chief Water Analyst who is the Secretary of this high level committee has to shoulder lot of administrative work as no ministerial staff has been sanctioned for assistance.

There are already about 120 major industries and numerous medium and minor industries in Tamil Nadu. Several new types of industries are also being set up and these have to be studied in detail for granting clearance certificate from the point of environmental pollution. The problem of pollution of the land, air and water is increasing day by day due to the industrialisation and the periodical inspection becomes a necessity. The analytical and field investigation activities have to be escalated. In order to carry out these effectively proposals have been submitted already in this regard.

At present the Chief Water Analyst is in general administrative charge of the department. He directs and co-ordinates the work of the different sections of the department. There are eight sections each headed by an Assistant Water Analyst (Gazetted). The Chief Water Analyst has to go through all reports relating to the periodical examination of water supplies, private supplies, rural water supplies, sewage and industrial waste analysis, air pollution surveys, research schemes, annual reports, special reports, etc., He is also the Ex-officio Secretary of the Tamil Nadu Water and Sewage Purification Committee and has to carry out the deliberations of the meetings, inspections, follow up action, etc., relating to the activities of the Committee.

He has also to attend meetings held by organizations like the Indian Standards Institution (I.S.I.) for drafting standards and also to participate in Seminars and Symposia held at different parts of the country.

He has also to give lectures to trainees, Engineers and Health Officers undergoing training.

It would be physically and extremely difficult for the Chief Water Analyst to shoulder the ever increasing load of administrative and technical work without the assistance of a Deputy Chief Water Analyst.

In this connection it is to be stated that the Government Analyst for Food and Drugs is provided with a Deputy Government Analyst who is of great assistance to the Government Analyst in looking after some major portion of work in that department. This department which is having both indoor and outdoor activities unlike the Food Analysis laboratory, has not been provided with a Deputy Chief Water Analyst all these years, though the variety and nature of work and the load has been mounting beyond measure. In view of all these facts, the sanction of a Deputy Chief Water Analyst is absolutely essential and proposals have been submitted already in this regard.

In order to avoid diversion of scientific personnel to office work proposals have been submitted for creation of a Gazetted Assistant and other supporting staff. The Gazetted Assistant would be relieving the work of scientific Gazetted personnel who attend to the work of scrutiny and signing of pay bills, contingent bills, advances, T.A. Bills and also to attend to Establishment matters and cheque transactions. A full time Gazetted Assistant who will be able to have transaction with the Treasury for the scientific and ministerial staff will greatly relieve the burden on the scientific staff. The ministerial supporting staff is also too inadequate and since this department has frequent field investigation activities and sample collections, the bills relating to T.A. and contingencies have to be dealt with promptly as otherwise subsequent trips would get hindered. A minimum of 80 to 90 bills have to be scrutinised, passed and encashed at the treasury every month. Proposals in this regard have already been submitted.

In G.O. Ms. No. 90, Public Works Department, dated 20th January 1970, the Government have ordered the construction of a permanent type of building towards some additional accommodation for this department. While the Public Works Department completed the construction, the amenities to the new building have not been provided for fully. The funds provided towards furniture, plumbing, gas and water-supply, electrical work, provision of overhead tank, furniture of reception counter, etc., have been diverted towards the cost of construction of new building probably due to the upward increase in cost of construction. For example, out of 16 laboratory work tables only five have been provided for. As such the functioning of the units housed in these is greatly handicapped. The Public Works Department has been addressed to complete the pending works.

The Government have sanctioned Regional Food Analysis Laboratories for Madurai and Thanjavur and the Madurai laboratory has already been inaugurated. Starting similar regional laboratories for water, sewage, industrial waste, air pollution, etc., is also very essential so as to expand and intensify the laboratory services to the public and in monitoring the extent of environmental pollution. This would also achieve the cherished objective of the Government for providing safe and wholesome protected water to the villages, towns and cities in the region. It would facilitate frequent inspections and analytical check up of the quality of the water supplies. More and more new water supplies are being executed by the Tamil Nadu Water Supply and Drainage Board and the periodical examination will have to be carried out in this regard. Hence it would be imperative to start regional laboratories at Madurai and Thanjavur for carrying out analysis of water, sewage and industrial wastes for controlling the environmental pollution.

The Government were addressed to enhance the analytical charges which were not revised for a long time. The Government have in G.O. Ms. No. 339, Health, dated 14th February 1975 have accordingly increased the fees for different types of analysis. The fee for imparting training in this department has also been increased from Rs. 150 to Rs. 300 for a quarter. This revision of scheduled rates would bring additional revenue to the Government.

ACTIVITIES OF THE DEPARTMENT.

The periodical collection and examination of samples of water from urban water supplies and supplies to hospitals, jails, railway stations and other institutions were continued. The particulars of these water supplies, filtration, treatment, etc., are given in Table-I.

This organization offers an integrated and comprehensive laboratory field service to deal with practically all aspects of environmental sanitation relating to protected water supplies, new water supply investigations, rural water supplies, sewage treatment and disposal, solids, liquid and gaseous industrial waste treatment and disposal, air pollution sanitary microbiology, food bacteriology, etc.

The department continued to receive a large number of water samples from the various rural water supply schemes to assess potability for giving piped water-supply through ground level reservoirs or over head tanks. Samples of water were also received from many individuals, firms and projects executed under private and public sectors, etc., to assess suitability of water for specific industrial purposes and necessary advice on the treatment aspects, etc.

Special attention is given to the examination of city hospital water supplies because of vulnerable population and for maintaining the hygienic quality of the hospital supplies. A Sample Taker with Sanitary Inspector qualification visits the hospitals thrice a month to check up the residual chlorine content in the supplied water and also collects samples from various points for bacteriological examination.

The various problems relating to water pollution, air pollution control and water treatment and disposal were investigated by this department and remedial measures suggested for abatement of pollution. The demand on the laboratory services on environmental pollution continued to be heavy.

TRAINING AND VISITORS.

Miss Girija S. Warriar, Chemist of Messrs. Oriental Germicides and Chemicals, Ettamanoor, Kottayam, Kerala was given practical training in the methods of testing of disinfectants for one month.

Students and trainees from the following institutions were received and taken round and explained of the activities of this department.

1. Students from the Chingleput Medical College, Chingleput.
2. Students of the College of Engineering, Guindy, Madras-600 025 studying Post-graduate course and Short-term course in Public Health Engineering.
3. Students of the Queen Mary's College, Madras, studying B.Sc., and M.Sc Home Science.
4. Students from the Madras Medical College, Madras.
5. Students from the Tirunelveli Medical College, Tirunelveli.
6. Trainees from the Orientation Training Centre, Poonamallee (Medical and Health Personnel).

The Chief Water Analyst participated in the Seminar on Water for Industry sponsored by the Tamil Nadu Water Supply and Drainage Board conducted by the Public Health Engineering Department, College of Engineering, Madras at the Engineering College, Madras and presented two papers for the Seminar on (1) Re-use of water in industry; (2) Water for Industries—The effect of Impurities of water on their use and the quality requirements.

The Chief Water Analyst participated in the National Conference on "Industrial Safety" at Madras convened by National Safety Council held at the College of Engineering, Guindy between 27th and 29th November 1974. He also presented a paper on Environmental Sanitation.

The Chief Water Analyst participated in the Seventh All-India Convention of the Indian Water Works Association held between 24th and 27th January 1975 and presented a paper at the convention.

This Department participated in the exhibition held in connection with the Inter-Collegiate Science Fair at Pachaiyappa's College, Madras on 7th and 8th December 1974 and also took part in the Exhibition conducted by the National Safety Council at Engineering College, Guindy and put up stalls in both these exhibitions and explained to the visitors, by means of charts and other exhibits the public health hazards associated with the indiscriminate discharge of untreated industrial effluent and the dire necessity of undertaking ameliorative and abatement measures as a measure of industrial safety and also impressed upon them the necessity of having discriminatory approach in knowing the water quality and the adoption of hygiene and health measures in conserving the water sources and supplies.

The Honourable Minister for Health, visited this department on 3rd October 1974, along with the Secretary, Health and Family Planning Department, Director of Medical Education and Director of Health Services and Family Planning.

Thiru A. Padmanabhan, I.A.S., Secretary to Government, Health Department, visited this department on 21st December 1974 with others in connection with the Hospital Improvement Committee.

Division of Bacteriology.—The division of bacteriology carried out the routine bacteriological examination of samples of water collected thrice a year by the department Sample Takers from all the protected water supplies in Tamil Nadu. The particulars of these are given in Table I. Samples of water from private agencies were also received and tested for their sanitary quality for human consumption and for use in food processing industries. Particulars regarding the number of samples tested under each category are given in Table II.

The Routine bacteriological examination of water for drinking purposes consists of the following three tests :—

1. Standard plate count on agar at 37°C.
2. M.P.N. of col-aerogenes group of bacteria.
3. The differential test for coli-forms (IMVIC reaction).

The division of bacteriology continued to maintain and supply stock cultures of *Salmonella typhi* 786 and *Staphylococcus aureus* NCTC 3750. Fifty one samples of *Salmonella typhi* and thirty-nine samples of *Staphylococcus aureus* cultures were supplied.

Thirty samples were tested for Proteolytic and hypolytic bacterial count. Samples of black phenyl disinfectant received from I.S.I. and other private agencies were tested for Rideal Walker and *Staphylococcus aureus* coefficient and for stability. Particulars of the tests are given in Table III.

General Discussion on the Sanitary Quality of the Protected Water Supplies in Tamil Nadu :—

In Table IV furnished the percentage of hygienically satisfactory samples of water taken from different water supplies under periodical examination are summarised.

City Hospital Supplies.

A sample taker is posted for city hospital work. He visits the various Government hospitals thrice a month and carries out spit tests to check residual chlorine and also collects samples of water from the sumps and distribution system for bacteriological examination. Excepting R.S.R.M. hospital and T.T.B. Hospital chlorination is being practised by all the other hospitals by manual addition of bleaching powder solution in the sumps. R.S.R.M. and T.B. Hospitals are provided with 'Birds' chlorinator. One thousand and seventy two spot tests were carried out on the various hospital samples during the year under report.

Division of Chemistry.—During the year 1974 five thousand nine hundred and eleven samples (5911) were received for the assessment of physical, chemical and mineral characteristics and to ascertain the suitability for drinking and domestic purposes and also for various non-domestic or industrial uses such as air conditioning, boiler feed, construction agriculture, textile manufacture, ice making, laundering, etc.

Two hundred and seventy-six samples (276) of bleaching powder, five samples of alum from water treatment plants in the State were also analysed to assess the suitability for water treatment.

Twenty-nine (29) field investigations were conducted during which four hundred and sixty-six (466) "spot tests" were carried out. Samples were also collected during field investigations and examined in detail at the laboratory in Guindy for various characteristics and reported.

Seven samples of water suspected to be contaminated with organophosphorous or organochlor pesticides, etc. (like Parathion, malathion, endrin, dieldrin) were received from rural health, medical and administrative authorities. They were analysed and reports sent recommending detoxication measures.

A sample of bone (scrapings) taken from an inpatient in Government Stanley Hospital, Madras suspected to be suffering from Osteosclerosis was received for the estimation of fluorine content and found to be of the order of 0.231%.

At the request of M/s. Salem Steel Limited, Salem a major systematic, comprehensive survey and investigation was arranged and twenty-four trips were made to carry out field tests and sample collection at the two proposed intake points in the River Cauvery at Poolampatti, Idapaadi taluk, Salem District, in order to assess the variations in

The chemical and mineral characteristics due to seasonal changes and fluctuations in the flow of the river. Two hundred and twenty four samples were collected in all and examined.

DIVISION OF RURAL WATER SUPPLY :—

This division continued to do useful service of selecting potable water supply sources to the various villages in our State which lack the basic amenity under the Rural Water Supply and other Welfare Schemes.

During the period under review one thousand five hundred and twenty eight samples were received for physical and sanitary chemical analysis under the various Government schemes.

Ninety sources (1.8%) were declared as unfit for drinking domestic uses because of their high dissolved mineral matter content, brackish nature or excessive flurine content.

District war data of the total number of sources tested during this period, total number of samples declared unfit, cases for their rejection etc., have been furnished in the Table VII. The total number of identical samples received from the various districts are given in Table VIII.

Salient points :—

1. The maximum number of samples were received from Salem District. (i.e., 139 sources).
2. The minimum number of samples were received from Kanyakumari District (1 source).

Nilgiris—Nil.

Pudukottai District—5 sources.

3. Highest flurine content—

Kanakamuthu—Krishnagiri taluk, Dharmapuri district—5 ppm.

Danishpet (Salem District)—4.4 ppm.

Manjanaickanur (Coimbatore)—4.4 ppm.

4. High mineral matter content—

Kabilakurichi (Salem District)—E.C. 6000

Total Hardness 1250 mg/l
Chlorides 1260 mg/l

Vambaneri (Salem District)

E.C. 3200
Total Hardness 2390 mg/l

Sowripalayam (Salem District)

Total Hardness 1940 mg/l
Chlorides 1340 mg/l

Pothpuram (Salem District)

Total Hardness 2030 mg/l
Chlorides 1450 mg/l

Omalur (Salem District)

E.C. 5000
Total Hardness 1830 mg/l
Chlorides 1920 mg/l

5. Sixty one samples with identical chemical features were continued to be received during the year also.

Besides arranging for special sample collection through the District Health authorities, A special investigation unit under the guidance of a Senior Analyst of the department to carry out field survey and spot tests, was sent during the year to Veerapandy and Kolathur Panchayat Unions of Salem District in order to expedite.

the analysis and for speedy executions of water supply schemes. It was observed that most of the samples sent by the above two panchayat union authorities differed very much in their chemical quality when compared with the samples taken on the spot by the Analyst.

In many cases samples were collected and sent from entirely different sources other than the ones for which Ground level reservoirs' and Over head tanks are proposed in order to get a favourable potability certificate. ...

Division of Water Biology.—This division continued to carry out microscopical and biological examination of samples of water, effluent, sewage and industrial wastes. Slime growths, incrustations on rocks and pipelines and other biological growths also formed a subject of study. The main object of study was exercising control and abating algae growths in drinking water reservoirs, lakes and water supplies with reference to colour, odour and turbidity with a view to provide aesthetic and hygienic quality water for consumers.

A total of 2,552 examinations were carried out during this year. Microscopical examination of the samples from impounded reservoirs carried out periodically at Chidambaram municipality, Annamalai University, Dindigul and Mannargudi Municipalities, Kayalpatnam and Tiruchendur water supplies showed considerable algale growths from March to September. During early summer, Chlorophyceae group of algae comprising mainly *Scenedesmus*, *Volvocales*, filamentous group *Spirogyra* were noticed. This was followed in Mid and late summer months by blue green group of algae comprising chiefly of *Anacystis* species, *Chroococcus* *Oscillatoria* species followed by diatom consisting of *Navicula*, *Cymbella*, *Synedra* and *Pinnularia*. It was therefore considered necessary to adopt algae control measures on a systematic basis to avoid impediment in the efficient working of the water purification system.

A detailed microscopic study was carried out on samples collected from various places at the Cauvery river course during the one year field survey in connection with Salem Water Supply Scheme.

There are certain notable features. In an investigation at Perumbahalli, in the course of Cauvery river, abundance of *Anthophysa*, a colorless oblique animalcule with branching pedicels was observed. This is an organism indicative of swamp waters.

In the samples collected from Pykara, abundance of *Saprolegnia*-a-sewage fungus, tufts of *Draparnalia*-a-chlorophyceae algae and *Botryococcus*-a rare exanthophyceae (yellow) algae were noticed.

In a private well at Isabella Hospital in Madras city, a culture of *Chlamydomonas*, an unicellular green algae was found to grow to the exclusion of all other algae which is a rare phenomenon. The usual habitat of this algae is stagnant ponds, lakes and slow flowing rivers.

In the samples collected from Papanasam Hydro-Electric Project, massive red coloration of the rocks sprayed by the water was reported. Examination revealed extensive growth of *Rivularia*-blue green algae commonly found in calcareous strata, a rock boring form with distinct mucilage sheath. This was mixed with *Scytonema*, another filamentous blue green algae with false branching. There was a complaint of sulphuretted hydrogen and massive growth of *Beggiatoa* species—sulphur bacteria was observed. *Dinabryon cylindricum*, a chrysophyceae algae characteristic of iron bearing, acidic waters of altitudes continued to be present.

In a railway reservoir at Villakkam, a large number of *Arthrodesmus octo-cornis*, a rare resmid characteristic of purer types of water containing relatively scanty nutriment was observed.

In a bore well at a Film Centre, Madras-87, *Gallionella*, an iron bacteria with twisted bands containing lots of iron deposits were observed.

In a sample taken from an air-conditioning cooling tower at Madras Airport, desmids and dictyons comprising of cosmarium, synodra and navicula were abundantly present thereby interfering with the cooling process.

In a sample collected from Hindustan Photofilms, Ooty, abundant growth of Anacystis, a blue green mucilaginous algae and desmid arthrodesmus species caused interference with the photographic plates resulting in fogging.

In Poondi camp a sample collected at the spill way contained lot of green algae ulothrix, Ankistrodesmus and blue green oscillatoria and chroococcus which were responsible for offensive odour and unaesthetic appearance.

In samples collected from Pudukavayal and Tirukalukundram wells, Tolypothrix and polycystic were seen which have characteristic thick gelatinous sheath.

Fifteen municipalities continued to adopt systematic algicidal measures. Advice and reference was asked from this department in connection with treatment of temple tanks and bathing places during festival times.

The biological study of the aerobic and anaerobic lagoons of Trichy Distilleries and Chemicals Limited is being continued.

This division of water biology participated in the International Symposium on Algae held for a fortnight in December 1974 at the University of Madras.

Division of Mobile Field Unit.—The main activities of this section relate to field investigations on air pollution problems and to carry out collection and analysis of air samples in the urban and industrial areas in the State of Tamil Nadu. The following industries were visited during the year and air pollution studies were conducted to assess the ambient air quality, to suggest suitable control measures to be adopted for the abatement of atmospheric pollution and to find out the efficiency of the control measures already in practice.

1. M/s. Vir Glass Works, Madhavaram, Madras-600 060.
2. M/s. Dharangadhara Chemical Works, Sahupuram, Tirunelveli District.
3. M/s. Sun Paper Mills Limited, Ariyanayakipuram, Tirunelveli District.
4. M/s. Kothari and Sons, Superphosphate Fertilizer Factory, Ennore, Madras-600 057.
5. M/s. E.I.D. Parry Limited, Compound Fertilizer Factory, Ennore.
6. M/s. Seshasayee Paper and Boards Limited, Pallipalayam, Salem.
7. M/s. Madras Refineries Limited, Manali, Madras-600 068.

Division of sewage and industrial Wastes.—Field investigations on the treatment and disposal of effluents from thirteen industries carrying out electroplating, yarn bleaching, textile, bleaching, mercerising and dyeing, manufacture of alcohol, paper and chemicals, etc were carried out.

Four hundred and eighty-eight number of samples of industrial effluents before and after treatment were collected and examined to assess their physical, chemical and biological characteristics and the efficiency of treatment provided.

Twenty-two number of samples of sewage from sewage treatment works of Ooty Municipality, Department of Atomic Energy, Kalpakkam were collected and examined to assess their efficiencies.

Fifteen technical references and problems of treatment and disposal of effluents received from the Director of Health Services and Family Planning and from various industries were studied and technical opinion offered.

Since the presence of mercury pollution is noticed from the admixture point of the surplus course with Cauvery the entire surplus course was surveyed and the only one industry using mercury in the manufacturing process in that area viz. Mettur Industrial Complex—Mettur Chemical and Industrial Corporation Limited, was also taken up for investigation. A sample of water collected from mercury cell section waste with floor washings, shows concentration to the extent of 72 mg/l and a sample of sludge after 'recovery' to the extent of 298 mg/l. The concentration levels on samples of water, bottom sediment and fish collected from the surplus course of Cauvery after the admixture of this industrial waste ranges between 280 mg/l and 86 mg/l, 12 mg/kg and 5 mg/kg and 120 mg/kg and 20 mg/kg respectively.

The Chief Engineer, Irrigation was requested to furnish individual maps of each river course in Tamil Nadu, indicating important dams, reservoirs, canals, estuaries etc., so as to select points for sample collection and to arrange programmes for surveys. The Central Survey Office, Madras is also being contacted for this purpose. The data particulars are being gathered from the District Health Officer's and Inspectors of Factories of Tamil Nadu for continuing that study.

Division of Medical Biology.—The data collected in connection with the parasitic survey of 679 in-patients undergoing in the T. B. Sanatorium, Tambaram were processed and the results brought out the following points:—

Single & Multiple Infection.—Out of 679 faeces samples examined 565 (83.17 per cent) were positive for one or more parasitic protozoans or Helminths. In 279 (41.09 per cent) samples, only one parasite was present. In 196 (28.85 per cent) samples, two parasites, in 74 (10.89 per cent) samples, three parasites, in 16 (2.36 per cent) samples, four parasites were present.

Rate of infection and age.—Generally, the rate of Protozoan infection increases steadily with increase of age upto 50 years above which there is a slight decline. However, such a trend has not been observed with regard to helminthic infection. Another interesting finding is the significant reduction in the infection rate of *Giardia lamblia* with increase of age.

Rate of infection and sex.—There is no appreciable difference in the rate of infection of both Protozoan and helminth parasites in the two sexes.

Rate of infection and diet.—Out of 679 patients examined only 38 are vegetarians. The rate of parasitic infection is significantly higher in the case of non-vegetarians when compared to the values obtained for vegetarians.

The results also indicate that factors such as type of latrine, type of drainage, and source from which drinking water is drawn have not significantly influenced the rate of parasitic infection in the case of T.B. patients.

Further, 22 faeces samples from private parties were received for microscopic examination and the results are given below:—

	No	percent
<i>Entamoeba coli</i>	1	(4.55)
<i>Entamoeba histolytica</i>	6	(27.30)
<i>Giardia lamblia</i>	4	(18.20)
<i>Trichomonas hominis</i>	2	(9.10)
<i>Trichuris trichocephalus</i>	2	(9.10)
<i>Ascaris Lumbricoides</i>	20	(11.00)
Pus cells and macrophages	3	(13.65)

In addition 13 faeces samples positive for parasitic organisms were re-examined microscopically after treatment to assess the curative effect of the drugs used.

FIELD INVESTIGATIONS AND RESEARCHES.

1. An investigation on the Treatment and Disposal of Wastes From M/s-Dhrangadhara Chemicals Works Limited, Sahupuram, Tirunelveli district.

SAHUPURAM, TIRUNELVELI DISTRICT.

A field investigation was carried out at Messrs. Dhrangadhara Chemical Works Limited to assess the characteristics of effluent discharge from the industry and the efficiency of the measures adopted for innocuous treatment and disposal of wastes and the effect of discharge of the effluent into the creek.

The products manufactured are caustic soda, liquid chlorine, hydrochloric acid, trichloro-ethylene, perchloro-ethylene, tetrachloroethane and beneficiated ilmenite. Caustic soda and chlorine are produced by the electrolysis of brine. Trichloroethylene, perchloroethylene and tetrachloroethane are obtained by the interaction of chlorine and acetylene. Ilmenite sand is roasted with coke and then leached with 33% acid to remove iron. The beneficiated ilmenite is washed, dried and stored.

About 3272 m³ of water per day is derived from thambaraparani river for various process uses water for boiler feed and cooling is softened prior to use. About 25563 m³ of creek water is used for cooling of caustic soda drums, hydrochloric acid furnaces and for the dilution of the effluent from the ilmenite plant.

The effluent discharge from this industry comprises mainly of cooling waters from the caustic soda, hydrochloric acid and ilmenite beneficiation plants. About 23000 to 27000 m³ effluents are discharged per day into an open sandy channel discharging into the southern arm of the creek.

Effluents from various stages of discharge were collected and examined.

The chief characteristics of effluents from the alkali plant were:

Total solids	..	..	..	3340 mg/l
Chlorides	..	..	..	1648 mg/l
pH	..	..	..	3.9
Mercury as Hg	..	..	..	0.72 mg/l
Mineral acidity	..	..	..	200 mg/l
Free chlorine	..	..	..	620 mg/l

The characteristics of effluent discharge from the ilmenite beneficiation plant were:—

Total solids	..	..	..	4940 mg/l
Chlorides	..	..	..	3351 mg/l
pH	..	..	..	1.3
Mineral acidity	..	..	..	2000 mg/l
Titanium as Ti	..	..	..	39.5 mg/l
Ferrous iron	..	..	..	1083 mg/l

The composite mixture of effluents from the factory showed the following characteristics:—

Total solids	..	..	..	4100 mg/l
Chlorides	..	..	..	2641 mg/l
pH	..	..	..	1.5
Mineral acidity	..	..	..	1000 mg/l
Free chlorine	..	..	..	372 mg/l
Titanium as Ti	..	..	..	5.0 mg/l
Mercury as Hg	..	..	..	0.65 mg/l
Ferrous iron	..	..	..	94.7 mg/l

As a result of discharge of effluent into the creek, the creek water has been considerably affected as evidenced by the results of analysis.

pH	..	..	..	1.7
Mineral acidity	..	..	..	1000 mg/l
Titanium as Ti	..	..	..	7.5 mg/l
Mercury as Hg	..	..	..	0.035 mg/l

As the effluent creek is connected to the sea near Gulf of Mannar and also separated by a cross bund from the northern arm of the main creek where fishing activities are stated to take place, it was recommended that the industry should ensure that the cross bund put up in the creek prevents the pollution in the northern arm of the creek at all seasons. It was also suggested that the company should adopt suitable implant control measures to avoid the loss of mercury through spillage and the possibility of recovering iron, titanium and hydrochloric acid from the waste.

2. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF EFFLUENTS FROM M/S. PROTEIN PRODUCTS OF INDIA LIMITED, OOTACAMUND.

The products manufactured in this industry are Ossein, Gelatin and Dicalcium phosphate.

The degreased and crushed bones are treated with 5% hydrochloric acid to extract the mineral matter. The demineralised product, left over, is called Ossein. The Ossein is washed with water. The washed Ossein is then treated with lime slurry and impregnated for two to three months. The Ossein is then drained of from the lime liquor and washed repeatedly with water. The washed material containing gelatin is then extracted with hot water. The gelatin is then filtered, demineralised in ion exchange column, then concentrated, chilled and solidified.

The acid liquor obtained from bone extraction is then treated with lime to precipitate dicalcium phosphate. The precipitated dicalcium phosphate is filtered and dried.

Water for industrial purposes amounting to 2700 m³ day is derived from Kamaraja Sagar, dechlorinated and alum coagulated.

The total quantity of effluent discharged from the industry is about 2250 m³ day. The effluents are equalised in a tank and then clarificated. Ferric alum is used for flocculation. The effluents from the clariflocculated are then aerated in two aeration tanks in the presence of returned sludge from secondary clarifier. The effluents from the aerated are then taken to the secondary clarifier. The effluents from the secondary clarifier are taken to the dilution tank, then diluted with cooling water and fresh water from Kamaraja Sagar and then discharged through Pykara flume channel. Effluents from various stages of treatments and also water samples from Kamaraja Sagar and Pykara reservoir were collected and examined.

The effluents collected from the equalisation tank had the following characteristics:

Total dissolved solids	.. ..	14,550 mg/l
B.O.D.	.. ..	120 mg/l
Chlorides	.. ..	4,760 mg/l
pH	.. ..	6.5
Calcium as Ca	.. ..	24.88 mg/l

The effluents from secondary clarifier (i.e.) after treatment had the following characteristics:—

Total dissolved solids	.. ..	4660 mg/l
B.O.D.	.. ..	5 mg/l
Chlorides	.. ..	1500 mg/l
pH	.. ..	7.1
Calcium as Ca	.. ..	760 mg/l

The effluents after dilution showed the following characteristics:—

Total dissolved solids	.. ..	1080 mg/l
B.O.D.	.. ..	1.6 mg/l
Chlorides	.. ..	340 mg/l
pH	.. ..	7.4
Calcium as Ca	.. ..	195 mg/l

As the effluent discharged from the industry into the flume channel did not conform to requirements in respect of chlorides, 250 mg/l and calcium, 75 mg/l the need for increasing the dilution on the effluents was pointed out in the report.

3. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF EFFLUENTS FROM M/S. BIMETAL BEARINGS LIMITED. COIMBATORE.

In this industry bearings, bushings and washers for automobiles and other machines are electroplated with an alloy of lead, copper and tin, or plated with thin deposits of tin depending upon requirements. The metal parts to be electroplated are first degreased with trichloroethylene treated with hydrochloric acid for the removal of rusts rinsed with water, plated with a thin layer of Nickel and again rinsed and then alloy plated with a required thickness and finally rinsed and dried. For tin plating the metal parts are electro-cleaned in an alkaline cleaning bath, rinsed with water dipped in 1:1 hydrochloric acid, rinsed and tin plated in alkaline tin bath, rinsed with water and dried.

The chemicals used for plating are hydrochloric acid, fluoboric acids, fluorates of copper, lead and tin, chlorides and sulphates of Nickel, sodium stannate and alkaline cleaners. Total quantity of water for industrial purposes amounting to about 20,000 gallons/day is derived from a bore well.

The liquid waste discharge from this industry comprises mainly of dragouts from plating baths, rinse waters and floor washings. The total quantity of wastes discharge from this industry is stated to be about 20,000 gallons/day.

The effluent discharge from this industry is conveyed through a closed masonry drain, treated with lime solution and settled in a masonry tank having two compartments. The settled effluent is pumped into a shallow soak pit.

Samples of effluents were collected from various stages of processes and treatment and examined.

The chief characteristics of effluents from the factory before and after lime treatment were—

Name of test.	Before lime treatment.	After lime treatment.
(1)	(2)	(3)
Total Solids m/l	2180	2320
pH	4.0	10.0
Lead as Pb., mg/l	7.2	7.1
Copper as Cu, mg/l	1.23	1.14
Nickel as Ni, mg/l	22.5	Nil.
Tin as Sph mg/l	10.0	Nil.
Fluoride as F, mg/l	58.0	50.0

The effluent collected from the soak pit also contains copper, nickel, lead, boron and fluoride.

The industry was advised that their disposal measures should be better planned and designed for more effective treatment. In particular the fluoride containing waste should be segregated and evaporated to dryness in a shallow impervious pond.

4 WATER POLLUTION SURVEY AT KALLAR WATER SUPPLY HEAD WORKS OF ARKONAM MUNICIPALITY.

It was represented to this department that many of the yarn dyeing industries at Sambathurayanpet, a village near Arkonam were discharging their effluents into Kallar river which forms a source of water supply to Arkonam thereby posing a potential risk to public.

There are about ten small scale yarn bleaching and dyeing industries at Sambathurayanpet about 10KM away from Arkonam. In these industries yarn is either kier boiled bleached and dyed or simply bleached and dyed depending upon requirements. For kier boiling yarn is boiled in a solution of caustic soda, washing soda and lessible oil soaps and then washed with water. For bleaching bleach liquor is used. For dyeing direct and vat dyes are used.

The effluent discharge from these industries comprise mainly of wash waters after kier boiling and bleaching processes. The waste discharge from these industries are conveyed underground through a masonry drain and then evaporated to dryness in an open space about 200 M away from the river.

Kallar Head Works is situated at a distance of about 6 KM downstream with reference to the industries and on the opposite bank of the Kallar river. As there was no flow in the river the water was drawn through sub-surface springs of the river and then through an infiltration gallery into a suction well. From here it is pumped to an overhead tank having two compartments, chlorinated and supplied.

Samples of effluents from the industry and Kallar river waters from various stages of treatment were collected and examined. The characteristics of effluents from the industries were:—

Suspended solids	400 mg/l
B.O.D.	400 mg/l
Permanganate value in 4 hrs	220 mg/l
PH	7.5

The water samples collected from various points indicated that they were of acceptable quality for human consumption.

It was advised that it is necessary on the part of the industries to ensure that their effluents are not let out into the river at any time. The effluents may be disposed off collectively in a shallow impervious pond of sufficient size and evaporated to dryness by solar heat. The site selected for the pond should be far away from the river to avoid any chance of pollution.

5. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF EFFLUENTS FROM M/S. METAL FINISHERS, COIMBATORE.

In this industry mild steel parts used in the textile machinery are electroplated with copper, nickel and chromium. Prior to electroplating the metal parts are pre-cleaned in an alkaline solution, degreased in an electrolytic alkaline bath, washed with water, dipped in dilute hydrochloric acid and again washed. For copper plating potassium cyanide and copper are used as electrolytes. Sulphates and chlorides of nickel and boric acid are used for nickel plating. In chromium plating chromic acid and sulphuric acid are used.

Water for industrial purposes amounting to 3000 to 5000 litres/day derived from a bore well. A part of the water required for electroplating is demineralised.

The effluents discharged from the industry comprise mainly of dragouts from plating baths, swill waters and floor washings. The total waste discharge from the industry is stated to be 3000 litres/day.

The chromium nickel, cyanide and acid bearing wastes are segregated for treatment. The chromium bearing waste are acidified to the pH of 2 to 3 with sulphuric acid and then treated with sodium disulphite for the reduction of hexavalent chromium. Then lime is added to raise the pH to 7 to 9, settled and let out into the adjoining lands within the factory premises.

Nickel wastes are neutralised with lime to raise the pH to 7 to 9, settled and let out similarly. The alkaline cyanide wastes are treated with sodium hypochlorite, mixed, allowed to settle and let out similarly.

The acidic wastes from the two swills are treated with lime to raise the pH to 7 to 8; settled overnight and let out.

Samples of effluents before and after treatment were collected and examined to assess the efficiency of the treatment provided. Samples of effluents even after the treatment showed the presence of chromium 20 mg/l (Total), cyanide 2.0 mg/l and Nickel 0.5 mg/l. Further samples after treatment showed high pH ranging between 11.9 and 13.9. This indicates that though the methods adopted by the industry for the removal of cyanide, chromium, nickel etc., are conventionally accepted ones they are not implemented in actual practice. Necessary corrective measures are suggested to the industry.

6. INVESTIGATION ON THE TREATMENT AND DISPOSAL OF WASTES FROM M/S. RAMNATH METAL FORGING, INDUSTRIAL ESTATE, GUINDY.

In this industry brass components for automobile, agricultural and electrical industries are manufactured. The manufactured parts are then given chromic acid brightening dip to remove scales. The components are first dipped in an hydrochloric acid pickling bath and then rinsed with water. They are then dipped in chrome dip solution containing sodium dichromate and sulphuric acid and then rinsed twice with water and then dried.

The industry derives its water requirements amounting 800 to 900 litres/day from Industrial Estate supply.

The effluent discharge from the industry comprises of spent acid pickle liquor, chrome dip solution, drag outs and rinse waters. The total quantity of effluent discharge is about 800 to 900 litres per day.

Samples of bath liquors and rinse waters were collected and examined to assess their characteristics. The pickle liquor had a pH of 0.5 and a mineral acidity of 3,300 mg/l. The chrome dip solution had a pH of 1.2 and a total chromium content of 4.24 per cent. The composite of effluent inclusive of rinse waters had a pH of 1.6 and a total chromium content of 0.87 per cent.

As this is a newly started industry detailed instruction for effective removal of chromium prior to disposal into sewer were furnished to the company.

7. INVESTIGATION ON THE TREATMENT AND DISPOSAL OF WASTES FROM S. S. M. FINISHING AND SIZING CENTRE, KUMARAPALAYAM, SALEM DISTRICT.

In this industry grey cloth in piece lengths are kier boiled, bleached/mercerised and dyed. The grey clothes are first "singd" over a flame to remove protruding fibres, desized and then kier boiled to remove waxes, oil etc. Clothes are then subjected to bleaching using calcium hypo chlorite, washed, sketched, dried and finished with tinopal and blue.

The bleached clothes are mercerised if necessary with 25 per cent caustic soda, washed and dried.

The clothes are dyed with vat naphthols, reactives, indigosol, or direct colours depending upon requirements. The dyeing is carried out by padding method.

Water for industrial purposes amounting to 605.5 m³ (1,33,300 gallons per day) is derived from Cauvery river. A part of the water is softened in a zeolite softener.

Total liquid waste discharge from the industry is about 237.7 m³ (53,200 gallons) per day and this comprises mainly of periodical discharge of bath liquors and wash waters from various processes.

The wastes discharged from the industry are equalised in four open masonry tanks, neutralised if necessary to pH 7.0 and then discharged into open drains and finally disposed off into Cauvery river.

Effluent discharge from various processes, before and after treatment and water samples from Cauvery river were collected and examined to assess their characteristics.

The composite effluent from the industry as it is pumped out into the open drain leading to the river had the following characteristics:

Total suspended solids—60 mg/l.

5 day B.O.D.—440 mg/l.

Permanganate value in 4 hours—120 mg/l.

pH—6.8.

It was noticed that Cauvery river was not materially affected due to effluent discharge from the industry as it had copious flow at the time of the visit. However, the effluent discharge from the industry did not conform to IS: 2490-1963 "Tolerance Limits for Industrial Effluents Discharged into Inland Surface Waters" mainly in respect of 5 day B.O.D. (440 mg/l). It was pointed out in this connection that though the effluent discharge from the industry did not alter materially the quality of Cauvery river which afforded many fold dilution, this situation could not be anticipated, to persist during extreme drought conditions. Hence, it is necessary on the part of the industry to institute necessary treatment measures to render the waste discharge innocuous prior to disposal into the river. Necessary guidelines were furnished to the company for proper treatment and disposal of effluents.

8. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF EFFLUENTS FROM MESSRS. AMARAVATHI SRI VENKATESA PAPER MILLS LIMITED, MADATHUKULAM, COIMBATORE DISTRICT.

In this industry about 19 to 20 tonnes of paper chiefly writing, printing, coloured etc., are manufactured, from pulp derived from street rags, waste cotton, waste paper, bagasse and soft wood. The raw material is cut to desired size and cooked in a digester with alkali. The pulp formed in the digester is blown off and washed several times, then leached with a bleach liquor and washed again. The pulp is then refined and mixed with rosin for sizing, required dye and then adjusted to uniform consistency of 0.5 per cent suspension in water. It is then delivered on to the paper machine to form a sheet of paper. The paper formed is dried, calendered, rolled and packed.

Water for industrial purposes amounting to about 5454 m³ to 6745 m³ (12 to 14 lakh gallons) per day is derived from Amaravathi river. Water for cooling purposes is softened.

The effluent discharged from this industry comprises mainly of black liquor from the digester and washings, and white water from the paper machine. The total quantity

of effluent discharged from the industry is about 4515m (10 lakh gallons) per day. The effluents are taken in a common drain to two masonry tanks and settled. The effluents from the settling tanks come to a sump and then to fields on the eastern side and allowed to cascade. It was also noticed that the effluents from the factory are directly discharged into Amaravathi river.

The effluents from the factory from various stages of discharge and before and after settlement and also water from Kadathur channel were collected and examined.

The most pollutional waste discharge from the industry arises from the digester.

Total suspended solids	320 mg/l.
5 day B. O. D.	1000 mg/l
Permanganate value in 4 hours	700 mg/l
Sodium percent	94.8

The composite effluent from the factory as it is pumped out for irrigation is characterised by total suspended solids 780 mg/l; 5-day B.O.D. 500 mg/l; Permanganate value in 4 hours 323.5 mg/l and sodium percent 88.5. The effect of discharge of wastes into Kadathur channel only slightly altered the quality of channel water as there was copious flow in the channel effecting enormous dilution of the effluent.

It was advised that the industry should be directed to stop the discharge of effluent into Amaravathi river or Kadathur channel. They should also treat their effluents properly to make it conform to the requirements for land disposal

9. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF WASTES FROM MESSRS. UNITED BLEACHERS, METTUPALAYAM, COIMBATORE DISTRICT.

This is a textile processing industry located on the southern bank of Bhavani river at Mettupalayam.

In this industry grey cotton fabrics are bleached and mercerised and cotton and terricotton fabrics are dyed. The grey cotton fabric is first 'desized' in a rope form using pancreatic enzyme and sodium chloride and washed. It is then saturated with 4 per cent caustic and passed on to J-Box and steamed directly for two hours and then

taken out washed, treated with dilute acid in a saturator and again washed. For bleaching hydrogen peroxide is used. The cloth is mercerised using 28 percent caustic soda and for dyeing vat dyes, reactive dyes, azoic dyes, sulphur dyes and solubised vats are used. The fabric is dyed in jiggers and washed in soaper. The terricotton fabric is dyed with dispersed colours in a high temperature beam dyeing machine. Khaki dyeing is also carried out using sodium dichromate reduced with jaggery solution and ferrous sulphate in acid medium.

Water for industrial requirements amounting to 6 lakh gallons/day is derived from a well dug on the bank of Bhavani river.

The waste water discharge from the industry comprise mainly of wash waters and the periodical discharge of wash waters and the periodical discharge of bath liquors. The total quantity of waste discharge from the industry is about 5.4 lakh gallons/day. The entire waste discharge from the industry is let out into the Bhavani river without any treatment. A cascading arrangement is however being provided, near the outfall of the effluent drain into the river.

Samples of the effluent from various stages of processing and the composite effluent from the factory and the water samples from Bhavani river were collected from the factory the composite effluent from the factory had the following characteristics:—

Total solids	...	...	...	...	...	...	400 mg/l
5 day B.O.D.	...	...	...	...	...	...	700 mg/l
Permanganate value in 4 hours	...	...	...	...	...	...	186 mg/l
pH	...	...	...	...	...	...	10.2

The cascading arrangement reduced the B.O.D. level to 230 mg/l. The effluent discharge from the industry did not conform to I.S. 2419-1963 "Tolerance Limits for Industrial Effluents Discharged into Inland Surface Waters" in respect of total suspended solids, 5-day B.O.D. and pH. It was also observed as a result of discharge of effluents into Bhavani river the total suspended solids content and the B.O.D. of river water slightly increased from 20 to 30 mg/l and 1.8 to 2.8 mg/l respectively. However it is not appreciable owing to copious dilution afforded by the river flow. Detailed guidelines for segregation of wastes discharge and their treatment for innocuous disposal were furnished to the company.

10. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF WASTES FROM M/S. VORION CHEMICALS AND DISTILLERIES LIMITED, VEDANARAYANAPURAM, CHENGALPATTU DISTRICT.

A field investigation on the treatment and disposal of wastes from M/s. Vorion Chemicals and Distillery was carried out to ascertain whether the effluents discharged from the distillery were properly treated and disposed off according to recommendations made by the Tamil Nadu Water and Sewage Purification Committee.

In this distillery 9000 to 10,000 litres of rectified spirit is manufactured daily from sugar cane molasses using readymade yeast. The molasses is diluted, fermented, distilled and rectified in the conventional way.

Water requirements of the factory amounting to 150m (33,000 gallons) per day, is derived from a bore well sunk within the factory premises and from Palar river. A part of the water is softened by base exchange method.

Waste waters discharge from this industry comprise mainly of spent wash, yeast tank washings, floor washings, etc. The total quantity of liquid wastes discharge from the distillery is about 113.6 to 136.4 m³ (25,000 to 30,000 gallons) per day. The waste discharge from the distillery was found to be stored in seven earthen pits in series within the factory site. During the time of the visit it was noticed that the effluents from the last pit was discharged into Ozhalur channel. The flow in this Ozhalur channel was solely due to the effluent discharge from the distillery. The Manapakkam channel running parallel to Ozhalur channel was practically dry.

Yeast tank washings were found to be stored in an earthen pit serving as a solar evaporation pond.

The effluent discharge from the last pit and the samples of effluent from Ozhalur channel and also water samples from suction wells at Head works were collected and examined. The effluent discharged from the last pit had the following Chief characteristics:—

Total suspended solids	...	...	...	...	2800 mg/l
5 day B.O.D.	...	...	...	...	40000 mg/l
Permanganate value in 4 hrs.	...	...	...	...	20000 mg/l
Potassium as K	...	...	...	...	0.81%
pH	...	...	...	...	5.4

The Tamil Nadu Water and Sewage Purification Committee recommended that (1) the effluent discharged from the industry should not be let into Ozhalur channel either by direct flow or percolation or by seepage (2) the entire volume of effluent discharged from the distillery should be transported, to Attur site for disposal on land after adequate dilution of not less than 20 times of its volume and (3) the effluent discharged from the industry should be collected in an impervious sump and arrangements be made to transport to Attur site without allowing to accumulate in the industry site.

This surprise investigation revealed that the stipulations of the committee were not complied with by the industry. The effluents are continued to be discharged into Ozhalur channel. The findings of the survey were then brought to the notice of the committee for consideration.

II. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF SOLID WASTE FROM MESSRS. B. & C. MILLS AND GROUND WATER POLLUTION SURVEY AT RED HILLS.

A field investigation to assess the quantum and characteristics of solid waste discharged from sodium bichromate plant of B & C Mills, Perambur and the effect of disposal of solid waste on their site at Pozhal village on the quality of ground water sources in the vicinity were carried out.

Sodium dichromate is manufactured starting from chrome ore, as raw material. Chrome ore, soda ash, lime and magnesia are mixed together and fed into a furnace and heated to 800 to 1000 °C. The fused mass is leached with water and then concentrated and acidified. Solid waste arises during leaching process and it amounts to about 50 tonnes per day. This solid waste contains about 1.9 per cent water soluble chromium of which 1.1 per cent is hexavalent chromium.

The solid wastes from this plant are carted away through lorry by a contractor and dumped at a place at the 8th milestone, S. No. 454 at Pozhal village outside city limits.

A field survey was carried out and spot tests conducted and samples of well waters from 8 places surrounding the disposal site at varying distances were collected and examined to assess the extent of pollution if any. Of the eight sources examined three of the sources found to contain total chromium ranging between 0.02 and 3.6 mg/l. A second survey was carried out to assess the effect of heavy rains on the leaching of chromium. During this survey also the same sources were found to be contaminated with chromium ranging between 0.1 and 0.63 mg/l.

Based on the findings of this survey and sight inspection carried out by the committee, the committee recommended that the company should choose altogether an alternate site where it does not cause ground water pollution or any health hazard.

12. AN INVESTIGATION ON THE TREATMENT AND DISPOSAL OF EFFLUENTS FROM YARN BLEACHING INDUSTRIES, VEPPAMPATTUPUR, SALEM DISTRICT.

There are two yarn bleaching industries (1) Shanmugarajan and Ganapathy Yarn Bleaching Industry and (2) Subramanyam Yarn Bleaching Industry at Veppampattupur in Namakkal taluk, Salem district.

In these industries raw yarn is bleached using bleach liquor. For this the raw yarn in bundles are soaked in water containing a little of bleach liquor in masonry tanks. The bundles are then taken out and immersed in bleach liquor in another masonry tank, squeezed, dried in sun on poles, finished with black and tnapai, finally dried in shade and then bundled and supplied to powerlooms.

The waste discharge from these industries comprises mainly of soak waters from bleach liquor tanks, the squeezed waters from the yarn and floor washings. The total quantities of wastes discharge from these industries are about 1,300 to 1,500 litres/day each.

The waste discharges from the industries are merely let out into Kutchas drains which empty into soak pits.

Samples of effluents from various stages of manufacture and samples of water from wells in the vicinity of waste disposal sites were collected and examined.

The chief characteristics of waste discharges from these industries collected from soak pits are as follows:—

Characteristics.	Industry No. I.	Industry No. II.
(1)	(2)	(3)
Total solids	14,340 mg/l	9,320 mg/l
Total suspended solids	240 mg/l	180 mg/l
5-day B.O.D.	460 mg/l	460 mg/l
Chlorides as Cl	3,043 mg/l	2,872 mg/l
Total hardness as CaCo ₃	8,800 mg/l	4,300 mg/l

In this connection 4 well water samples were examined to assess the extent of ground water pollution, if any. Of the four samples collected in this connection three of them showed moderate to excess amount of dissolved mineral matter. As the effluents are allowed to stagnate in earthen pits, possibility of inorganic pollution to ground water sources in the vicinity of the industries could not be entirely ruled out.

Hence the need for proper treatment and disposal of effluents from these industries was emphasized. The industries were advised to construct small solar evaporation basin rendered impervious for the evaporation of their effluents by solar heat.

13. GROUND WATER POLLUTION SURVEY AT TIRUPPUR, COIMBATORE DISTRICT IN RELATION TO EFFLUENT DISCHARGE FROM M/S. ASHER TEXTILES LIMITED, TIRUPPUR, COIMBATORE DISTRICT.

A field investigation was carried out to assess the extent of pollution to ground waters in Padmavathipuram, Tiruppur was carried out in relation to effluent discharge from Messrs. Asher Textiles Limited.

In this industry only yarn mercerising is carried out using 25 per cent sodium hydroxide. For mercerising the yarns are placed on hanks in the form of skins and passed through mercerising machines, containing alkali. The yarns are then washed, squeezed and then again washed with hot and cold water inside the merceriser. The

yarns are then removed, given acid washing using 2 per cent hydrochloric acid, washed with 1 per cent sodium carbonate solution and then washed with plain water. They are then squeezed, centrifuged dried and packed.

About 9,000 to 10,000 gallons per day of water derived from a well is used for processing. Water for cooling and boiler feed is softened by base exchange process.

In this industry waste waters arise from the washings of yarn at various stages and regeneration wastes from the softener. About 7000 to 8000 gallons of waste water discharged from the industry are disposed off into shallow pit within the factory site and evaporated to dryness by solar heat.

There are about twelve private wells in the locality located about 500 feet away from the waste disposal site of the factory. There are also three small scale bleaching and dyeing industries in this locality. On the day of the inspection these industries were not functioning. The effluent discharge from these industries are discharged into kutchas drain emptying into an earthen pit about 500 feet away on the other side. This drain was however dry during the time of investigation.

Sample of effluents from Asher Textiles and water samples from nine wells were collected and examined.

The chief characteristics of the composite effluents from the factory were:

Total suspended solids—340 mg/l

5-day B.O.D.—190 mg/l

Chlorides—3190 mg/l

PH—11.9

Of the nine well water samples examined three samples showed evidence of contamination having a total solid concentration ranging between 7960 and 9680 mg/l, permanganate value in 4 hours from 3.7 and 100 mg/l and chlorides 3439 and 4963 mg/l.

The nature of pollution observed in the above three wells indicated that it would have been caused due to waste discharge from the Asher Textiles. In as much as the cottage industries do not treat their effluent prior to discharge, it was advised that the effluent discharged from all these industries should be treated properly prior to discharge. The problem was then placed before Tamil Nadu Water and Sewage Purification Committee for consideration.

14. AN INVESTIGATION ON THE PROBLEM OF EROSION OR CORROSION OF THE LINING OF THE PARAMBIKULAM MAIN CANAL WHICH TAKES OFF FROM TIRUMURTHI DAM—PARAMBIKULAM—ALIYAR PROJECT.

The Executive Engineer, Pollachi Division reported that the lining of the Parambikulam main canal which took off from Tirumurthy Reservoir had worn out in some places and the slabs were falling down. Hence an investigation was done to ascertain whether the problem was due to erosion or corrosion.

It was observed during the survey that the soil was black cotton clay soil and due to the force of water from the dam into the canal the slabs were slipping and falling in some places, which was due to both erosion and corrosion.

It was advised to put good earth, about six inches layer in places where the concrete slabs had slipped down and then fix the slabs, so that the earth below would grip and bind the slabs together. The water was found to be corrosive. Corrosive water causes deterioration in the cement matrix by dissolving the lime and calcium aluminates in the cement. So it was advised that aluminous cement or Pozzolana should be used for preventing the concrete slabs, as this resists the aggressive action of the water or granolithic concrete used.

15. AN INVESTIGATION ON THE PROBLEM OF RED DEPOSITS ON ROCKS AND IRON PIPES NEAR THAMBARAPARANI DAM, PAPANASAM PROJECT.

The Divisional Engineer, Papanasam Project reported that between 10-4-75 and 25-4-75 the discharged water from Hope Lake had the smell of "Sulphuretted hydrogen" and that the pipes and rocks near the dam had a reddish coloration. So a field investigation was carried out to find out the cause for the discolouration and spot tests were done and samples of water collected from different points for detailed examination at the laboratory at Guindy.

During the sanitary survey of the Hope Lake lots of submerged dead trees were noticed and also twigs were seen floating on the water. There was no foul smell but the rocks near the dam and discharge valves and pipes were reddish brown in colour. Rock scrapings and pipe scrapings were collected for microscopical and chemical examination. Algae RIVULARIA and Dinobryon were present in the samples. Dinobryon cylindrum is a chryophycean algae characteristic of iron bearing acidic waters of altitudes. This form in abundance is reported to give a reddish brown colour on moist rocks heavily sprayed with water.

It was advised in the report to scrub and remove the reddish masses on rocks and sprinkles blanching power over them to prevent further growths.

16. STUDIES ON CORROSION PROBLEMS AT PYKARA POWER HOUSE, NILGIRIS.

In pursuance of the discussions of the Chief Water Analyst with Divisional Engineer, Pykara Division, Glenmargen, Nilgiris regarding corrosion problems on the hubs of runners, etc., at Pykara Power House at Singhara, a field investigation was carried out for an 'on the spot' assessment of the causative factors responsible for corrosion and to suggest ameliorative measures. Field tests were carried out and samples of water from Kamaraj Sagar, Glenmorgen Forebay and various places at Singhara Power House including tail race water were collected and examined in detail at the laboratory.

During this survey, surprise spot tests and collection of effluent sample from one of case in and gelatin manufacturing industries (letting and organically bound wastes into Pykara Reservoir) were also made in order to assess contributory factors, if any of such waters influence corrosion at the power house.

It was found on the basis of the investigation and subsequent detailed examination at this laboratory that the combined effluent of this casein and gelatin manufacturing industry in the upper reaches of the power house contains high suspended solids (190 mg/l), B.O.D., 5 days at 20 C (40 mg/l), chloride (2080 mg/l as Cl), and calcium (432 mg/l as Ca) which exceeds the stipulated limits viz., 30 mg/l, 20 mg/l, 250 mg./l and 75 mg./l respectively. Hence the electricity department has been advised to instruct the company to treat their effluent effectively as to conform to the quality stipulations so as to prevent contamination of Pykara reservoir and the hydro-electric project. It was also found that the mild acid pH, the presence of free CO₂ and negative Langelier Index coupled with low solids content would have induced corrosive action due to galvanic action in as much as machinery in the power generation unit are made of dissimilar metals. Hence it was recommended that the corroded parts made out of mild steel such as lockplates, jam plates, nuts, bolts, etc., may be replaced by parts made of stainless steel as in the case of runners, hubs, nozzles, etc., to avoid galvanic corrosion.

17. FIELD INVESTIGATION AND AIR POLLUTION SURVEY SURROUNDING THE AREA OF MESSRS. VIR GLASS WORKS, MADHAVARAM.

The Chairman of the Murari Hospital Syndicate, Madhavaram and other neighbouring residents had complained that the atmospheric air has been adversely polluted by the smoke and fumes discharged from Messrs. Vir Glass Works, Madhavaram, Madras-60. Hence this department carried out an investigation on 13th August 1969 and examined air samples in the vicinity of this industry. Opal glass and amber coloured glasswares are manufactured here utilising about 1 to 1.5 tonnes of raw materials per day. It was found that the air samples showed the presence of fluorine compounds to the extent of 3.86 ppm v/v as F. Fluorine compounds like Hydrogen fluoride are irritants in nature and cause damage to plants. So it was suggested that the stack height should be raised from the present height of 60 feet to 150 feet as a measure to provide for wider dispersal and dilution of the gaseous pollutant.

It was informed by the Manager Messrs. Vir Glass Works that the chimney height has been raised to 90 feet, the maximum height possible taking into consideration the topography and meteorological conditions.

In order to find out whether the additional increase of stack height has brought about any improvement with regard to the pollutional characteristics in air, a check up survey and air sampling were made during 28th March 1974 to 23rd April 1974. The factory was functioning normally during this period. The results of the air samples analysis showed sulphur dioxide in the range of nil to 1.22 ppm v/v and fluorides ranged between nil to 3.09 ppm v/v as F.

Judged from the results of air analysis carried out, it is seen that the additional height provided for the stack has not brought about any improvement with regard to the pollutional characteristics. Hence it was suggested to examine the feasibility of increasing the stack height to 150 feet. Some in plant control measures such as installation of scrubbers to absorb the gaseous contaminants were also suggested.

18. FIELD INVESTIGATION AND AIR POLLUTION SURVEY OF THE AREA SURROUNDING MESSRS. DHARANGADHARA CHEMICAL WORKS AND MESSRS. PLASTIC RESINS AND CHEMICALS LIMITED, SAHUPURAM, TIRUNELVELI DISTRICT.

Both these industries are located side by side at Sahupuram on Tuticorin-Tiruchendur trunk road and about 10 Km. from Tiruchendur. Based on the complaints made by the President, Tiruchendur Panchayat Union and the local public, field investigation and air sampling were carried out by this department between 20th and 22nd November 1974 to assess the characteristics of the gaseous wastes discharged from these industries and to assess the efficiency of the control measures adopted by them for minimising air pollution.

(i) *Messrs. Plastic Resins and Chemicals Limited.*—This factory manufactures Polyvinyl chloride resins from Nephtha. This probable gaseous contaminants from this industry are hydrocarbons, oxides of sulphur and carbon and organic sulphur compounds. At the time of the visit the factory was under shut down. Hence the nature and extent of pollution owing to gaseous wastes discharged from this industry could not be assessed.

(ii) *Messrs. Dharangadhara Chemical Works.*—The products manufactured in this industry are caustic soda, liquid chlorine, hydrochloric acid, trichloroethylene, perchloroethylene and tetrachloroethylene, and beneficiation of illeminite to get Titanium dioxide. The probable gaseous wastes discharged from this industry which are likely to be of nuisance are chlorine and hydrogen chloride gas. During this survey analysis of air samples showed the presence of free chlorine and hydrogen chloride gas in the range of 0.035 to 0.052 ppm and 0.405 to 0.454 ppm respectively. Since these are gaseous products formed during the manufacture of caustic soda and hydrochloric acid the factory authorities have been advised to take necessary preventive measures for arresting the escape of these gaseous contaminants into the atmosphere.

19. AIR POLLUTION SURVEY AROUND MESSRS. SESHASAYEE PAPER AND BOARDS LIMITED, PALLIPALAYAM, SALEM DISTRICT.

In order to assess the ambient air quality prevailing in the neighbourhood of Messrs. Seshasayee Paper and Boards Ltd., Pallipalayam an air pollution survey was carried out during 1st July 1974 to 3rd July 1974. About 105 tonnes of paper (kraft, printing, writing and paper boards) are manufactured per day by this industry from bamboo and hard wood by sulphate process. The probable gaseous pollutants discharged from this factory, are sulphur dioxide, hydrogen sulphide and mercaptans. The gases are likely to escape into the atmosphere from the furnace stacks evaporators, pulp digester and heat recovery units and soda recovery plant of the paper mill.

The environmental air at Erode and Pallipalayam Panchayat areas showed the presence of trace amount of sulphur dioxide hydrogen sulphide and mercaptans. The maximum concentration of these pollutants observed were 0.8 ppm, 0.26 ppm and 0.71 ppm, respectively. The concentration of these pollutants in Erode Town area is almost nil. The atmosphere at these areas were not foul smelling during the period of survey as judged also by the sensory tests.

20. AIR POLLUTION SURVEY AROUND MESSRS. SUN PAPER MILLS LIMITED, ARIYANAYAKIPURAM, TIRUNELVELI DISTRICT.

The Tamil Nadu Water and Sewage Purification Committee at its meeting held on 14th December 1973 resolved that a field survey should be carried out for checking the presence of gaseous pollutants discharged into the atmosphere due to manufacturing of pulp and paper by M/s. Sun Paper Mills Limited, Ariyanayakipuram, Tirunelveli District. Hence a detailed survey of the manufacturing processes of the pulp and paper mills and its surroundings with special reference to the environmental air pollution was carried out by this department on 9th January 1974 and 10th January 1974. The mill produces daily about 45 tonnes of paper products. Air sampling was carried out for the gaseous pollutants like hydrogen sulphide and mercaptans during different parts of the day and at a radial distance of 200 yards. The results of analysis revealed that the atmospheric air near the mill and its surroundings has not been polluted with the abnoxious pollutants viz. hydrogen sulphide and mercaptans.

However as the mill employs a variety of pulp processings from time to time depending upon the availability of the raw materials the following recommendations have been made:—

1. If at any time the paper mills resorts to sulphite pulping process using sulphite liquor for cooking, then it is advisable to have a water scrubber for the removal of gases like hydrogen sulphide and all other organic sulphides.

2. When sulphate pulping is adopted employing sodium sulphate and caustic soda and the required caustic soda recovery plant is set up it would then be necessary for the mills to install a suitable de-odourising plant for the removal of all offensive gases.

21. AIR POLLUTION SURVEY CARRIED OUT AT THE MADRAS REFINERIES LTD., MANALI.

The Madras Refineries Limited is located at Manali near Madras on the western bank of North Buckingham Canal. It was put to commission in 1969. In the year 1970, it was brought to the notice of the Tamil Nadu Government that a persistent 'stench' was felt by the residents of northern part of the city of Madras. Therefore an air pollution survey was carried out in 1970 in the industrial area at Manali and Ennore to study and to identify the unusual odour complained of in many parts of the city. The studies have revealed the presence of hydrogen sulphide and other oxides of sulphur in the atmospheric air, apparently discharged by the Madras Refineries at Manali. So the refinery authorities were informed to adopt suitable inplant control measures to abate the odour nuisance.

The Refinery Manager has stated in his letter No. 500:89:01 dated 28-9-1973 that the concentration of pollutants in the atmospheric air around the refinery are well within the allowable limits and the refinery does not contribute to air pollution.

Hence a check up survey was carried out on 13-5-74 and 14-5-1974 to find out the general quality of ambient air at Manali area. The complex process of turning crude oil into gasoline and oil products involves a series of steps like vapourisation, multi stage distillation, desulphurisation, hydrogenation etc. The probable gaseous pollutants from these refinery operations are hydrocarbon gases, hydrogen sulphide, sulphur dioxide and traces of mercaptans. The results of the analysis of the air samples collected during this survey showed, the absence of hydrogen sulphide in the atmospheric air. Sulphur dioxide was however present and its atmospheric concentration ranged between 0.25 ppm to 1.1 ppm v/v. On one occasion the concentration of sulphur dioxide was however critically at the permissible ground level concentration of 1 ppm. Malodourous conditions were not prevalent during the period of survey as judged by sensory observations.

22. AIR POLLUTION SURVEY CONDUCTED AROUND MESSRS. E.I.D. PARRY LIMITED AND MESSRS. KOTHARI AND SONS, FERTILIZER FACTORIES, ENNORE, MADRAS-57.

The Executive Officer, Kathivakkam Township, Chingleput district had complained that the gaseous fumes and smoke discharged from the fertilizer factories of M/s. E.I.D. Parry Limited and M/s. Kothari & Sons caused suffocation and cough among the people of the township and this has become a health hazard. Further it was also complained that the trees such as Palmyra and other small plants in the vicinity perished on account of air pollution. Hence a field survey collection and analysis of air samples were carried out by this department during November 1974 and February 1975 to ascertain the extent of air pollution caused by these factories.

M/s. E.I.D. Parry Limited, manufactures sulphuric acid, phosphoric acid, ammonia, compound fertilizers and ammonium sulphate fertilizer. M/s. Kothari & Sons produces sulphuric acid, superphosphate fertilizer and N.P.K. Mixtures. The probable gaseous pollutants from these factories are sulphur dioxide, sulphur dioxide, flourine compounds and ammonia.

The results of analysis of the samples of air collected during these surveys showed that the SO_2 concentration into ambient air near Ennore Foundries and Nehru Nagar were above the permissible limits.

The level of hydrogen fluoride observed during November 74 was also above the permissible limits. Certain recommendations were made by Government in their G.O. Ms. No. 1782, Health, dated 16-11-67 for adoption by the Sulphuric Acid and fertilizer plants in Tamil Nadu for minimising atmospheric pollution. It was again reiterated to follow these recommendations strictly.

Air sampling and analysis were also conducted in some of the busy thoroughfares in Madras city in order to assess the extent of air pollution caused by automobiles (Petrol and diesel driven) that ply on the roads. These studies are however being continued to obtain full data on the nature and extent of obnoxious pollutants in the city ambient air.

TAMIL NADU WATER AND SEWAGE PURIFICATION COMMITTEE.

During the year 1974 the Tamil Nadu Water and Sewage Purification Committee held five regular meetings and 12 inspection meetings. At these meetings and inspections, detailed discussions were held and resolutions passed on the problems relating to treatment and disposal of effluents from various industries. The list of industries visited by the committee are furnished below:

1. M/s. Vorion Industries and Chemicals (Distillery) Ltd., Vedanarayanapuram, Chingleput District.
2. M/s. Aruna Sugars Limited, Pennadam, S.A. district.
3. M/s. Southern Boraax Limited, Peravallur, Madras.
4. Tamil Nadu Dairy Development Corporation, Korattur.

5. Tamil Nadu Chromates and Chemicals Limited, Ranipet.
6. M/s. B. & C. Mills Limited, Perambur (Di-chromate Plant)
7. M/s. Veeco Chems Corporation, Coimbatore.
8. M/s. Rajalakshmi Textile Processes, Suriyampalayam, Erode taluk.
9. M/s. Asher Textiles Limited, Tiruppur.
10. M/s. Ralsdan Chemicals Limited, SIPCOT Complex, Ranipet.
11. M/s. Arvind Distillery Limited, Kadampuliyur.
12. M/s. Arunodaya Chemicals Limited, Maduravayal.
13. M/s. B. & C Mills Limited (chrome sludge waste disposal site.).
14. M/s. Kamadhenu Drinks Limited, Erode.

The following are the list of industries for whom notice of clearance has been given :—

1. M/s. Vorion Industries & Chemicals Limited (Distillery).
Vedanarayanapuram, Chingleput District.
2. M/s. Aruna Sugars Limited, Pennadam.
3. M/s. Southern Boraax Limited, Peravallur.
4. The Tamil Nadu Dairy Development Corporation Limited, Ambattur.
5. The Tamil Nadu Chromates & Chemicals Limited, Ranipet.
6. M/s. Seshasayee Paper and Boards Limited, Pallipalayam, Salem district.
7. M/s. National Company, Mamandur, Chingleput district.
8. M/s. Sun Paper Mills Limited, Tirunelveli.
9. M/s. Nagpal Ambadi Petro-chemical Industries, Manali.
10. M/s. Ralsdan Chemicals Limited, Ranipet.
11. M/s. Arunodaya Chemicals Limited, Maduravayal.
12. M/s. Arvind Distillery Limited, Kaddupuliyur.
13. M/s. Rajalakshmi Textiles Process Limited, Suriyampalayam.
14. M/s. Kamadhenu Drinks Limited, Erode.
15. M/s. Asher Textiles Limited, Tiruppur.
16. M/s. Veeco Chems Corporation, Coimbatore.

1. Messrs. Aruna Sugars Limited, Pennadam.—

Messrs. Aruna Sugars Limited, Pennadam have requested clearance for their effluent disposal arrangements for increasing the sugar cane crushing capacity from 2500 to 4000 tonnes/day.

In this factory the cane juice is extracted by crushing and milling of sugar cane and it is then clarified, concentrated and centrifuged to recover sugar. Bleaching is effected in two stages by sulphitation.

The total quantity of effluent discharge from this factory will be about 4 lakh gallons/day finally. At present the discharge is about 3 lakh gallons and the effluent is diluted and used for cultivation in about 50 acres of adjoining lands. The dilution of the wastes is done with fresh water from three bore wells in the area and the entire quantity of waste is utilised for land irrigation. The effluent was found to conform to the I.S. limits for effluent for land disposal. The committee after inspection and discussions gave necessary clearance for the disposal of factory effluent by land disposal subject to certain conditions stipulated by the committee.

2. Messrs. Sun Paper Mills Limited, Ariyanakipuram, Tirunelveli district.—The committee considered the note furnished by the Secretary on the treatment and disposal of effluent and the air pollution survey carried out in the area. The committee stressed that it is imperative on the part of the industry to satisfy the conditions imposed relating to the control of atmospheric pollution :—

1. The industry should give an undertaking to carry out any measures called for to control atmospheric pollution if any.

2. If the mill resorts to sulphite process at a later date then it would be necessary to install a wet scrubber.

3. When sulphate pulping is adopted, it would be necessary to install a caustic soda recovery plant and a deodorising plant.

With regard to liquid effluent discharge from this industry, the composite effluent is let out into the kutchra drain for irrigation either on the southern side of the industry where coconut trees are grown or on the northern side of the industry for the cultivation of paddy depending upon the requirements. The industry has 152 acres of land and is proposing to purchase another 60 acres. The committee stipulated the following conditions :

1. The treated effluent before land disposal should satisfy the I.S.I. specifications for land disposal.

2. At no time the effluent should be allowed to drain into the Pambaparani river either directly or by seepage or percolation.

3. The company must install a chemical recovery plant for the black liquor or the cooking liquor wastes.

4. Under no circumstances should any part of the effluent directly flow into or effect by seepage the neighbouring water sources or wells.

5. Messrs. Southern Boraax Limited, Peravallur village, Ponneri taluk, Chingleput district.

This industry is setting up a plant in the joint sector for the manufacture of Borax on a 26 acre site at Peravallur and Thachur villages on the G.N.T. Road near Madras. The quantity of 25 MT (50 MT finally) of Borax will be manufactured/day using 'Rasorite-46' as raw material.

The total quantity of waste is expected to be about 60,000 gallons/day. The effluent is proposed to be collected in a tank, skimmed of oil, neutralised and further diluted so as to conform to I.S.I. specifications for discharge into inland surface waters and finally discharged through the diffuser into a nullah about 200 metres away on the southern side of the factory, which finally would join the Pulicat lake. It is stated that there would be no flow into Nullah except during rains or floods.

The quantity of solid wastes will be about 2 to 2.5 kg./tonne of Borax produced and will be cleared periodically by agents for utilisation in some other industry. As only flue gases will be discharged from the chimney of the oil field packaged boiler there may not be much of an pollution problems. The committee inspected and discussed the problem and granted clearance subject to certain conditions.

4. The Tamil Nadu Dairy Development Corporation Limited, Korattur.—The Corporation has proposed to set up a dairy plant on a site of 47.25 acres near Ambattur Industrial Estate. In this, dairy milk will be received in bulk tankers, pasturised and stored in insulated tanks for despatch for the distribution to the Madras city through tankers. No bye-products like butter, and ghee are manufactured. The dairy will be processing about 2 lakh litres of milk per day. The total quantity of effluent will be 56,000 gallons and will be double ultimately. It is understood that the effluent will be treated by the activated sludge process incorporating Dorr-Oliver INKA Aeration

system. The treated effluent will be let to clarifier, settled and discharged into the Korattur lake through covered masonry drain. The Korattur lake is about 330 metres on the northern side across the railway track. The sludge will be separated, dried and carted away to be used as manure. The sewage from the toilets will also be mixed with the dairy waste for treatment. The Korattur lake is mainly used for irrigation and for cattle washing.

The committee after inspection of the site and discussion, granted necessary clearance subject to some stipulated conditions.

5. *Messrs. Seshasayee Paper and Boards Limited, Pallipalayam.*—Messrs. Seshasayee Paper and Boards Limited, Pallipalayam sought for a clearance certificate for the diversion of effluent through the odai which runs by the side of Cauvery river. This odai carries drainage and seepage surplus water from the Mettur Canal System during floods and the company have represented that there have been persistent demands by the villagers of the two panchayats for the diversion of the effluent through the Odai for their irrigational requirements. The industry proposes to settle the excess effluent after meeting the irrigation needs and then discharge into the Cauvery river.

It was ascertained from the Executive Engineer, P.W.D., Mettur Division that the odai lies in the revenue poramboke and has been classified as odai, pallam, vari. He has stated that whenever there is flow in the odai, the adjacent land owners used it for irrigation and water cess at normal rates is being collected. The committee considered these in detail and with a view to utilise the huge quantity of waste water that is being discharged, it was resolved that the industry may be permitted to dispose of the effluent in one of the manner suggested :

1. The untreated effluent (excluding black liquor, alkali waste, etc.) should be taken through closed pipes to the factory owned lands situated about 4.5 km. away and treated in lagoons and finally discharged into the river after satisfying the I.S. limits for discharge into inland surface waters.

2. The industry alternately may acquire lands near the factory to treat the effluent satisfactorily by aerobic biological methods the pre-conditioning and then discharge the treated effluent through the odai for irrigational requirements of the ryots. The treated effluent should also satisfy the requirements for land disposal.

The industry should also effectively adopt measures for control of atmospheric pollution.

6. *The National Company, Mamandur.*—The company has put forward a revised proposal for treatment and disposal of effluent for the brewery. It has proposed to treat the effluent by sedimentation, lagooning followed by broad irrigation. The effluent will be subjected to aeration in an oxidation ditch by rotating brushers by making two parallel channels in the lagooning area and used after treatment for irrigating the lands leased by the industry. The committee considered the revised proposal in detail and granted necessary clearance subject to some stipulated conditions.

7. *Messrs. B & C Mills, Perambur (Di-chromate Plant).*—The committee visited the B & C Mills and also the Di-chromate plant. It was observed that the chrome sludge from this unit was dumped at the company's own plot situated at 8th milestone of G.N.T. Road, S. No. 454 of Pozal village. Following this, the committee inspected the disposal site. The survey indicated ground water pollution of wells in the vicinity.

The committee is of the opinion that the industry should stop forthwith the disposal of the solid waste in the area and to choose another site where it is not likely to cause water pollution or any other health hazard. It was also pointed out to the industry that the industry should also extract the soluble chromium from the sludge before disposal at a suitable site other than the present one.

8. *Messrs. Nagpak Ambadi Petro-chemical Refining Limited, Manali.*—The industry has sought permission of the committee to divert their entire effluent discharge from the present disposal site to the Buckingham canal near Tiruvottiyur R.S. through a main pipe to be laid over ground for a distance of about 2 km. along the railway siding of their industry and the Madras Refineries Limited. The committee considered the proposal and resolved to recommend that this may be permitted subject to the conditions that the treated waste should satisfy the I.S.I. requirements for discharge into the inland surface waters and that the oil content should conform to the limits.

9. *Messrs. Kalan Chemicals Manufacturing Company, Ranipet.*—This is one of the factories coming in the SIPCOT Complex, Ranipet. The industry proposes to manufacture Phthalocyanine dyes which are used as paint chemicals and pigments. The production will be about 45 tonnes/annum. The waste discharge will be about 14,000 gallons/day. The industry proposes to collect the waste, treat with lime and then discharge into the SIPCOT main drainage. The committee inspected the factory and after discussion granted clearance stipulating certain conditions in this regard.

10. *Messrs. Arundodaya Chemicals (Private) Limited, Maduravoyal.*—This industry is situated near Maduravoyal. This industry will manufacture diethyl ether and ethyl acetate at 1 tonne/day utilising ethyl alcohol, acetic acid and sulphuric acid as raw materials. The total quantity of waste will be 1000 gallons/day. The industry proposes to collect all the effluent, neutralise and discharge into the soak pits. There will not be any gaseous waste discharge as the products of manufacture are highly volatile and inflammable. The committee inspected the site and after full consideration granted clearance subject to certain conditions.

11. *Messrs. Arvind Distillery (Tannery Division), Ranipet.*—At this industry, finished leathers from semi-finished hides and skins are to be made. The semi-finished hides will be washed, semi-chromed, neutralised, dyed and finished by polishing. About 1500 Kg. of leather will be processed daily. The effluent is proposed to be treated for chromium and removal of hides, coagulated, settled, filtered and disposed of in adjoining waste lands. The industry is purchasing 25 acres of waste lands in this regard. The committee after inspection and discussion have granted clearance stipulating some conditions.

The waste treatment should be treated free of chromium and dyes and at no time the waste discharge should gain access into the Lalapet lake located on the other side of the road.

12. *Messrs. Rajalakshmi Textile Processors (Private) Limited, Suriyampalayam.*—They are establishing a textile processing mill at Suriyampalayam village near Erode. In this mill, cloth bleaching, dyeing and finishing will be carried out. The waste discharge will be coloured, turbid and alkaline. The total quantity of waste will be 1 lakh gallons/day. The committee inspected the site and after considering the proposals of the company, granted clearance subject to some specified conditions stressing that there should not be any direct drainage of dye or alkaline effluent into the Nullah nearby and should not affect the irrigation of the nearby lands and also the Cauvery river.

13. *Messrs. Kamadhenu Drinks Limited, Sinnapuliyur.*—Messrs. Kamadhenu Drinks are establishing a distillery for the manufacture of industrial alcohol from sugar cane near Sinnapuliyur village. About 7 million litres of alcohol is proposed to be manufactured at this distillery. The process will be by conventional method of fermentation by yeast and recovery of alcohol by distillation. Readymade yeast is to be used. The total quantity of effluent will be 1.3 lakh gallons/day. The effluent is proposed to be stored for 8 days and after cooling will be diluted 10 times and utilised for irrigating the company owned lands. The industry has 160 acres of land and has set apart 140 acres of land for this purpose. Water from Bhayani river is proposed to be drawn for dilution purposes. The committee inspected the site and after discussion, granted clearance subject to some important conditions.

14. *Messrs. Asher Textiles Limited, Tirupur.*—The residents of the locality surrounding this textile mill at Tirupur, complained that the wells in the locality have been polluted due to discharge of the textile wastes from this factory. Field investigations were carried out and the committee also inspected and surveyed it. In this industry, only yarn mercerising is carried out. The total quantity of waste is about 8,000 gallons from this industry. It was noticed during the inspection that the old disposal site was abandoned owing to the chocking of the pipe line carrying the effluent and that the industry had diverted the effluent into another pit situated nearer to the road site. The survey of the wells in the locality showed in some cases increase in mineral and chloride content. The committee suggested certain measures to be carried out by the industry in this regard to abate this pollution.

15. *Veeco Chems Corporation, Coimbatore.*—This industry is setting up a plant for the manufacture of sodium di-chromate at Kavandampalayam village near Coimbatore. About 1.5 tonnes of sodium dichromate will be manufactured daily. The waste will also be about 1.5 tonnes from this industry. The industry has proposed to treat the chrome waste with hot alkali by repeated extraction and then render it free from chromium. The chrome free mud will be further utilised for brick manufacture and for furnaces. Chromium leached from the mud will be recycled for recovery of sodium dichromate. The committee after inspection and discussion granted clearance specifying certain important conditions in this regard.

16. *Messrs. Vemco Distillery and Chemicals Limited, Vedanarayanapuram, Chingleput district.*—The distillery was granted clearance during February 1974 under some stipulated conditions. Important among these are that:

1. The waste discharge should be transported to Attur site and utilised for irrigation in their own lands.

2. There should at no time be any discharge of the effluent into Ozhalur or Manapakkam channel thereby affecting the ground water in the area as well as the Chingleput Water Supply.

The committee visited the site and field investigations were also carried out. From the survey and investigations, it was found that the recommendations made were not implemented. The Management has been informed to implement the recommendations made already in this regard so as to avoid pollution in the area.

17. *Messrs. Trichy Distilleries and Chemicals Limited, Tiruchirappalli.*—The volume of effluent from the distillery that has to be treated is about 1.8 lakhs gallons per day. The treatment adopted is by anaerobic digestion in two stages providing a detention of 70 and 40 days in the primary and secondary lagoons respectively. This will be followed by aerated lagooning. Of the 1.8 lakh gallons of wastes 26,000 gallons are to be treated in Unit I, 70,000 gallons in Unit II and the rest in Unit III.

The primary lagoon and secondary lagoon of Unit I are in commission. The primary lagoon of Unit II was seeded on 13th June 1974. The primary lagoon of Unit II has been filled to the required level of 8 feet and it is now being fed with 70,000 gallons of spent wash. The effluent from the primary lagoon Unit II is flowing into the secondary lagoon of Unit II.

Aerated lagoon for Unit I will start functioning as soon as the aerator equipment (already ordered for by the company) is installed by the company.

The Collector of Tiruchirappalli put forth an alternate scheme for the utilisation of effluent from this distillery for irrigating waste lands. The objective of this scheme, according to the Collector's proposal, is to evolve a permanent solution to the problem

of odour nuisance at Tiruchirappalli, by taking the effluent to a far off place outside the inhabited area and utilising it after dilution for irrigation purposes. It was envisaged in this scheme, to bring under cultivation considerable extent of waste lands. At the meeting held in this connection at Tiruchirappalli on 15th April 1975, under the Chairmanship of the Chief Secretary to Government it was decided that the present scheme of lagoon treatment by the distillery should be continued as the Collector's scheme involved huge expenditure and also required enormous quantity of diluent water for utilising the effluent for irrigation. It was also proposed that the lagoon treated effluent may be temporarily let into the Uyyakondan channel and later into the city sewer when sewer system is laid.

A programme of action to be taken by the distillery for the next one year was drawn up and the company was informed to follow it up.

The Secretary to Government, Health and Family Planning Department visited the distillery on 6th July 1974 with a view to acquaint himself of the treatment and disposal of the distillery wastes. A meeting was held on that day at the distillery under the Chairmanship of the Secretary to Government to consider the problems faced by the distillery.

It was agreed that efforts should be made by the factory to revive the deteriorated primary lagoon and also to take all measures for continuing the treatment and proper maintenance of the lagoons.

The Secretary directed that the analyst intended for the Trichy Distilleries may be stationed at the distillery for a period of 2 months. The distillery management has offered to provide necessary facilities for analysis of samples.

In pursuance of the suggestions made by the Secretary to Government, Health and Family Planning Department at the meeting held on 6th July 1974 at Tiruchirappalli to review the progress of work carried out towards the implementation of the suggestion made by the committee, a Junior Water Analyst has been posted at Tiruchirappalli to assist the distilleries for the revival of the lagoons of Unit I which have shown some deterioration.

The distilleries have so far implemented the following suggestions by the committee.

1. The primary lagoon of Unit I which deteriorated has since been emptied and restarted with effluent from the outflow of primary lagoon Unit 2 and seeded with cow dung—The secondary lagoon Unit I has also been emptied and restarted with effluent from primary lagoon unit I and seeded with cow dung.

The primary lagoon of Unit I has a BOD ranging between 2500 to 3000 mg./l. It has a pH of 7.4 and volatile acid concentration ranging between 2228 and 2585 mg./l. The secondary lagoon Unit I has BOD of 2300 to 2500 mg./l. It has pH ranging between 7.6 and 8.0. These two lagoons of Unit I are satisfactorily functioning.

2. Aerated lagoon No. 1 has not yet been installed. Only excavation of the lagoons and civil work for installation have been completed.

3. The seeding and starting of primary and secondary lagoons of Unit II have been completed with effluent flowing out from the secondary lagoon 2. The primary lagoon Unit II has a B.O.D. of 2800 to 2900 mg./l and a pH 7.4.

4. Only evacuation work for the formation of aerated lagoon No. 3 has been completed.

5. Sludge drying beds for year tank washings have not yet been formed.

TABLE I

		Nature of sources.										Filtration.						Chlorination.			
		Total number of		Infl. gallery and infl. well.								Mechanical.				Bleaching powder.					
		Places.	Sources.	Imp. reservoirs.	River or stream.	Tank.	Well.	Bed.	Bank.	Slow sand filters.	Pressure.	Gravity.	Inf. gallery or inf. well.	Not filtered.	Automatic liquid chlorine	Mechanical.	Hand-controlled.	No. chlorination.			
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)			
1	Municipalities	..	57	112	15	14	3	33	34	13	6	2	10	47	47	60	3	49	..	..	..
2	Public Health Boards and Townships.	..	25	35	4	14	4	5	3	5	4	..	3	8	20	10	2	22	..	..	..
3	Jails and Approved school.	..	14	15	2	1	..	4	8	..	1	..	2	8	2	10	..	5	..	..	..
4	Railway station	..	25	27	1	3	1	17	3	2	..	1	4	5	17	13	4	10	..	..	..
5	Hospital	..	56	68	17	10	2	15	21	3	9	1	18	24	16	36	1	31	..	..	..
6	Other institutions	..	25	57	10	7	1	39	..	2	4	2	7	2	42	7	1	8	..	..	..
7	Swimming pools	..	2	2	..	..	..	2	..	..	..	2	..	..	..	2	..	..	..	..	..

TABLE VI

DETAILS OF SAMPLES OF WATER TESTED FOR NON-DOMESTIC USES

Sl. No.	Particulars	Number of Samples
1.	Concrete and construction purposes	37
2.	Air Conditioning	13
3.	Agar manufacture	2
4.	Dialysis	2
5.	Agriculture and gardening	20
6.	Demineralising plant	23
7.	Textile industry	5
8.	Ice manufacture	5
9.	Straw board manufacture	1
10.	Cooling	11
11.	Manufacture of soft drinks	1
12.	Pharmaceutical purpose	4
13.	Tanning purpose	3
14.	Chemical industry	3
15.	Food processing and fruit processing	3
16.	Boiler feed	13
17.	Sago industry	18
18.	Humidification	2
19.	Photographic industry	4
20.	Laundry purpose	5
21.	Electroplating	3
22.	Brewery and distillery	2
23.	Ceramic industry	4
24.	Manufacture of common salt	1
25.	Distilled water for use in storage batteries	2
26.	General washing	7
27.	General industrial Purpose	170
Total		364

TABLE VII

TABLE SHOWING THE TOTAL NUMBER OF SOURCES TESTED DURING THE YEAR 1974: TOTAL NUMBER OF SAMPLES FROM SOURCES DECLARED UNFIT AND THE CAUSES FOR THE REJECTION

Sl. No.	Name of District,	No. of sources tested.	No. of Sources declared unfit.	Cause for rejection		
				High solids.	High iron	High fluoride
1.	North Arcot	62	2	2	..	..
2.	South Arcot	125	9	3	6	..
3.	Chingleput	28	..	..	..	..
4.	Coimbatore	88	12	5	5	7
5.	Dharmapuri	60	13	..	..	13
6.	Kanyakumari	1	..	..	..	..
7.	Madurai	80	14	14	..	..
8.	Nilgiris	..	..	..	..	..
9.	Ramanathapuram	53	4	3	..	1
10.	Salem	139	34	7	..	..
11.	Thanjavur	39	1	..	1	..
12.	Tiruchirapally	39	..	..	..	..
13.	Tirunelveli	45	1	..	1	..
14.	Puducottai	5	..	..	..	..
		764	96	34	8	48

TABLE VII
TABLE SHOWING THE TOTAL NUMBER OF IDENTICAL SAMPLES
RECIEVED FROM VARIOUS DISTRICTS.

Sl.No.	Nome of District.	No. of samples found identical
1.	North Arcot	..
2.	South Arcot	..
3.	Chingleput	..
4.	Coimbatore	..
5.	Dharmapuri	..
6.	Kanniyakumari	..
7.	Madurai	..
8.	Ramanathapuram	..
9.	Nilgiris	..
10.	Salem	..
11.	Thanjavur	..
12.	Tiruchirappalli	..
13.	Tirunelveli	..
14.	Pudukottai	..

TABLE IX
DETAILS OF SAMPLES EXAMINED MICROSCOPICALLY
DURING 1974.

Sl.No.	Particulars.	Total Number.
1.	Protected water supply scheme	994
2.	Miscellaneous sources	636
3.	Non-domestic purposes	242
4.	Rural Water supply schemes	653
5.	Sewage and industrial waste samples	27
Total		2552

TABLE X
PARTICULARS REGARDING THE NUMBER OF INVESTIGATIONS CARRIED OUT AND
EFFLUENT SAMPLES EXAMINED DURING THE YEAR 1974.

Number of sewage samples		22
Number of industrial waste samples		488
Number of field investigations carried out		14
Type of industries.	Number.	No. of Samples.
1. Connected with Industrial waste :		
1. Electroplating Industry	3	36
2. Textile industry	5	126
3. Distillery	2	226
4. Paper industry	1	16
5. Chemical industry	1	24
6. Gelatin	1	16
7. Solid waste disposal	1	24

STATEMENT I
AREA AND POPULATION 1974.

Districts.	Area. (2)	Population 1971.			MID- Year Estimated Population 1974.		
		Males. (3)	Females. (4)	Total. (5)	Males. (6)	Females. (7)	Total. (8)
Madras ..	128.0	1,297,000	1,172,000	2,469,000	1,425,000	1,289,000	2,714,000
Chingleput ..	7,920.0	1,493,000	1,414,000	2,907,000	1,616,000	1,527,000	3,143,000
North Arcot ..	12,265.00	1,905,000	1,850,000	3,755,000	2,012,000	1,945,000	3,957,000
South Arcot ..	10,898.0	1,837,000	1,780,000	3,617,000	1,937,000	1,862,000	3,809,000
Thanjavur ..	9,735.0	1,779,000	1,767,000	3,546,000	1,873,000	1,850,000	3,723,000
Tiruchirappalli ..	14,291.0	1,607,000	1,585,000	3,192,000	1,698,000	1,668,000	3,366,000
Pudukottai ..		473,000	477,000	950,000	507,000	509,000	1,016,000
Madurai ..	12,629.0	1,983,000	1,955,000	3,938,000	2,107,000	2,071,000	4,178,000
Ramanathapuram ..	12,578.0	4,401,000	1,459,000	2,860,000	1,475,000	1,530,000	3,005,000
Tirunelveli ..	11,433.0	1,568,000	1,632,000	3,200,000	1,646,000	1,710,000	3,356,000
Salem ..	8,643.0	1,524,000	1,468,000	2,992,000	1,616,000	1,549,000	3,165,000
Dharmapuri ..	9,643.0	852,000	825,000	1,677,000	910,000	882,000	1,792,000
Coimbatore ..	15,673.0	2,235,000	2,138,000	4,373,000	2,376,000	2,267,000	4,643,000
The Nilgiris ..	2,549.0	254,000	240,000	494,000	267,000	255,000	522,000
Kanniyakumari ..	1,684.0	620,000	602,000	1,222,000	658,000	639,000	1,297,000
Total ..	1,30,069.0	20,828,000	20,371,000	41,199,000	22,123,000	21,560,000	43,683,000

STATEMENT II.

RECORDED VITAL RATES IN THE STATE OF TAMIL NADU FOR THE YEAR 1973 AND 1974

Districts.	Births.				Deaths.				Still Birth.	
	1973.		1974.		1973.		1974.		1973.	
	Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Madras	96,113	36.39	93,387	34.41	32,737	12.40	32,977	11.48	1,941	19.80
Chingleput	63,659	20.72	59,819	19.03	22,288	7.26	22,147	6.58	959	14.84
North Arcot	95,916	24.16	104,707	26.73	35,565	9.13	35,034	8.51	1,642	16.83
South Arcot	70,247	18.73	65,850	17.48	27,455	7.32	23,403	6.05	886	12.46
Thanjavur	87,268	21.94	75,390	20.26	32,883	8.27	3,889	3.17	2,177	24.34
Tiruchirappalli	87,887	21.97	69,995	20.79	36,647	9.16	30,001	8.70	1,639	18.31
Pudukottai	..	..	16,356	16.01	..	..	5,279	4.87	..	..
Madurai	1,01,024	24.60	1,02,161	24.74	31,321	7.63	33,566	7.99	2,414	22.89
Ramanathapuram	65,448	22.10	61,694	20.53	20,406	6.89	18,712	5.85	1,086	16.32
Tirunelveli	84,728	25.61	81,931	24.41	28,154	8.51	26,459	7.24	1,423	16.52
Salem	70,311	22.59	64,329	20.33	23,827	7.66	22,372	6.94	1,432	19.96
Dharmapuri	37,294	21.21	36,404	20.31	11,534	6.56	11,796	6.80	283	7.57
Coimbatore	96,434	21.14	86,759	18.59	31,901	6.99	32,731	6.79	2,616	26.41
The Nilgiris	12,781	24.87	11,492	22.02	3,066	5.99	3,159	5.11	294	22.49
Kanyakumari	36,506	28.63	37,271	28.74	13,052	10.24	13,718	10.36	609	16.41
Total	10,05,616	23.42	9,67,545	22.15	3,50,846	8.17	3,42,343	7.51	19,401	18.93

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STATEMENT II.

RECORDED VITAL RATES IN THE STATE OF TAMIL NADU FOR 1973 AND 1974.

Districts.	Still birth.			Infant deaths.			Maternal Deaths.										
	1974.		(3)	1973.		(5)	1973.		1974.								
	Number.	Rate.		Number.	Rate.		Number.	Rate.	Number.	Rate.							
(1)	(2)			(4)			(6)		(7)		(8)		(9)		(10)		(11)
Madras	1,758	18.48		6,961	72.43		6,833	73.76			79	0.81	71	0.75			
Chingleput	839	13.83		3,085	48.46		2,778	46.14			85	1.32	102	1.68			
North Arcot	1,698	15.96		5,182	54.03		5,173	49.10			291	2.98	308	2.89			
South Arcot	881	13.20		2,944	41.91		2,320	35.23			210	2.95	126	1.89			
Thanjavur	2,008	25.94		4,015	46.01		2,861	37.95			283	3.16	235	3.04			
Tiruchirappalli	1,270	17.82		4,007	45.59		3,338	47.69			264	2.95	191	2.68			
Pudukottai	332	19.89		..	..		343	20.97			..	..	40	2.40			
Madurai	2,470	23.61		5,136	50.84		4,932	48.78			130	1.22	140	1.34			
Ramanathapuram	1,002	15.98		2,768	42.29		2,084	33.78			137	2.06	117	1.87			
Tirunelveli	1,238	14.89		4,313	50.90		3,740	45.65			227	2.59	198	2.39			
Salem	1,342	20.44		2,996	42.61		2,719	42.27			89	1.24	96	1.46			
Dharmapuri	279	7.61		1,258	33.73		1,170	32.14			70	1.86	78	0.57			
Coimbatore	2,283	75.64		4,103	42.55		3,810	43.91			253	2.55	211	2.41			
The Nilgiris	260	22.12		691	54.06		577	50.21			18	1.38	21	1.79			
Kanyakumari.. .. .	590	15.58		2,271	62.71		2,392	64.18			78	2.10	48	1.27			
Total ..	18,250	18.51		49,730	49.45		45,070	46.58			2,210	2.16	1,982	2.01			

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STATEMENT IV.
MUNICIPALITIES 1974.

Municipalities.	Births.		Deaths.		Still births.		Cholera.		Smallpox.		Malaria.		Measles.		Revers.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Madras	47,109	46,278	93,387	18,173	14,804	32,977	926	832	1,758	95	1	..	32	1,407	..	..
Chingleput	8,458	7,718	16,176	1,914	1,385	3,299	366	298	664	..	..	..	..	349	..	..
North Arcot	13,845	12,806	26,651	4,084	3,209	7,293	755	670	1,425	2	..	..	..	811	..	..
South Arcot	8,040	7,691	15,731	1,345	992	2,337	272	238	510	1	..	..	..	178	..	..
Thajavur	15,074	14,429	29,503	3,077	2,566	5,643	837	695	1,532	8	..	..	..	235	..	..
Trichirappalli	10,112	9,525	19,637	3,011	2,371	5,382	538	430	968	1	..	..	..	216	..	..
Madurai	22,173	20,820	42,993	5,308	4,387	9,695	1,050	855	1,905	6	..	..	..	1,328	..	..
Ramanathapuram	10,863	9,933	20,796	2,227	1,948	4,175	418	363	781	1	..	..	..	426	..	..
Tirunelveli	12,589	11,907	24,496	2,804	2,277	5,081	487	402	889	..	..	..	..	633	..	..
Salem	11,891	10,870	22,761	2,446	2,054	4,500	587	490	1,077	2	..	..	..	160	..	..
Dharamapuri	2,081	2,016	4,097	326	254	580	100	101	201	..	..	..	..	16	..	..
Coimbatore,	23,341	22,113	45,454	5,451	4,384	9,835	1,067	859	1,926	..	..	..	..	256	..	..
The Nilgiris	2,251	2,136	4,387	674	508	1,182	58	52	110	..	..	..	..	13	..	..
Kanyakumari	4,818	4,538	9,356	1,123	781	1,904	175	117	292	..	..	..	3	58	..	..
Pudukkottai	1,845	1,717	3,562	354	260	614	151	103	254	..	..	..	..	32	..	..
Total	1,94,490	1,84,497	3,78,987	52,317	42,180	94,497	7,787	6,505	14,292	116	1	..	35	6,115	..	..

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STATEMENT V.
MUNICIPALITIES 1974.

Municipalities.	Dysentery.		Diarrhoea.		Respiratory diseases.		Suicides.		Wounds and Accidents.		Snake Bites.		Rabies.		Death from child birth.		All other causes.		Infant Deaths.		Diphtheria.		Killed by wild beasts.	
	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
Madras	1,066	1,598	6,150	157	924	..	84	71	21,371	3,602	3,231	6,833	20	1	..	..	..	..	..	..	..	..	..	..
Chingleput	67	120	261	15	119	4	3	24	2,336	266	220	486	1	..	..	..	..	..	..	..	..	..	..	..
North Arcot	154	340	1,247	12	196	4	1	141	4,380	715	627	1,342	4	1	..	..	..	..	..	..	..	..	..	..
South Arcot	59	63	172	19	110	9	1	34	1,690	147	142	289	1	..	..	..	..	..	..	..	..	..	..	..
Thanjavur	111	192	320	100	159	13	3	65	4,427	389	380	769	10	..	..	..	..	..	..	..	..	..	..	..
Tiruchirappalli	112	208	400	12	197	8	13	59	4,145	471	410	881	11	..	..	..	..	..	..	..	..	..	..	..
Madurai	188	135	893	38	191	4	13	63	6,835	1,012	801	1,813	1	..	..	..	..	..	..	..	..	..	..	..
Ramand	110	112	363	16	89	7	3	57	2,985	400	310	710	6	..	..	..	..	..	..	..	..	..	..	..
Tirunelveli	206	175	551	61	113	12	4	79	3,243	483	388	871	4	..	..	..	..	..	..	..	..	..	..	..
Salerc	43	33	924	17	100	4	1	29	3,186	408	370	778	1	..	..	..	..	..	..	..	..	..	..	..
Dharmapuri	43	19	70	1	23	2	1	26	377	52	64	116	2	..	..	..	..	..	..	..	..	..	..	..
Coimbatore	251	158	1,115	39	373	27	24	126	7,444	896	750	1,646	22	..	..	..	..	..	..	..	..	..	..	..
The Nilgiris	11	11	426	6	37	..	..	20	654	133	117	250	4	..	..	..	..	..	..	..	..	..	..	..
Kanyakumari	118	10	191	58	64	1	2	22	1,374	178	127	305	3	..	..	..	..	..	..	..	..	..	..	..
Pudukkottai	3	38	110	2	17	1	1	24	383	70	40	110	3	..	..	..	..	..	..	..	..	..	..	..
Total	2,542	3,212	13,193	553	2,712	96	154	840	64,830	9,222	7,977	17,199	93	2	..	..	..	..	..	..	..	..	..	..

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MUNICIPALITIES--1974.

STATEMENT II (a).

Name of districts.	Births.		Deaths.		Still Births.		Total.	Cholera.	Small-Pox.	Measles.	Plague.	Fever.
	Males.	Females.	Males.	Females.	Males.	Females.						
MADRAS DISTRICT—												
Madras	47,109	46,278	93,387	18,173	14,804	32,977	926	332	1,758	98	1	1,407
Chengalput District—												
Kancheepuram	2,945	2,621	5,566	641	549	1,190	189	149	338	..	..	135
Tiruvallur	597	535	1,132	116	77	193	12	18	30	..	..	..
Tiruvottiyur	349	267	616	235	163	398	2	3	5	..	..	94
Chengalput	1,601	1,520	3,121	437	267	704	106	68	174	..	..	12
Alandur	528	492	1,020	141	76	217	2	..	2	..	..	14
Tambaram	607	620	1,227	104	96	200	8	7	15	..	..	23
Pallavaram	1,217	1,136	2,353	184	114	298	28	35	63	..	..	39
Maduranthagam	614	527	1,141	56	43	99	19	18	37	..	..	27
Total	8,458	7,718	16,176	1,914	1,385	3,299	366	298	664	..	..	349

North Arcot district—

[illegible]

MUNICIPALITIES 1974—cont.

STATEMENT II (a) — cont.

Name of districts.	Dysentery, Diarrhoea, Respiratory disease.					Suicide bites, Rabies.		Deaths from child birth.	All other causes.		Infant deaths.		Diphtheria.	Killed by wild beast.
	(1)	(2)	(3)	(4)	(5)	Wounds and Accidents.	(7)		(8)	(10)	Males.	Females.			Total.	(14)	(15)
Madras	..	1,066	1,598	6,150	1,157	924	..	84	21,371	3,602	3,231	6,833	20	1
Chengalpet District—														
Kancheepuram ..	..	9	68	124	2	40	1	..	785	90	71	161	1	..
Tiruvallur ..	..	15	4	11	9	11	..	..	143	11	8	19	..	..
Tiruvottiyur ..	..	18	18	32	1	3	..	..	230	22	30	52	..	..
Chengalput ..	..	..	9	50	..	56	2	3	572	90	63	153	..	..
Alandur ..	..	10	6	8	1	4	..	..	174	10	4	14	..	..
Tambaram ..	..	6	13	15	1	1	..	..	139	15	17	32	..	..
Pallavaram ..	..	2	2	13	1	4	..	..	237	24	20	44	..	..
Madurantakam ..	..	7	..	8	..	..	1	..	56	4	7	11	..	..
Total	..	67	120	261	15	119	4	3	2,336	266	220	486	1	..

North Arcot district—

	Total	..	154	340	1,247	12	196	4	1	141	4,380	715	627	1,342	4	1
Vellore	42	161	713	5	126	1	1	85	1,952	320	255	575	2	..		
Tiruvananthai	21	47	29	1	36	2	..	18	296	48	49	97	1	..		
Vaniyambadi	19	20	59	..	10	..	..	7	228	65	54	119	..	..		
Gudiyattam	6	10	22	..	2	..	..	..	549	72	60	132	..	..		
Tirupathur	2	19	14	1	1	1	..	16	273	34	41	75	1	..		
Walajpet	3	8	2	3	..	..	..	1	137	12	7	19	..	..		
Arni	2	17	90	..	3	..	..	2	207	35	34	69	..	..		
Arkona	38	1	29	1	7	..	..	..	166	25	36	61	..	..		
Ambur	16	26	98	..	9	..	..	6	352	67	56	123	1	..		
Arcot	..	7	7	..	2	..	..	1	89	12	8	20	..	..		
Rasipur	5	24	184	1	..	..	..	5	131	25	27	52	..	..		

MUNICIPALITIES, 1974—cont.

Name of the districts.	Births.			Deaths.			Still birth.			Cholera.			Measles.			Plague.			Fever.
	Males.		Females.	Males.		Females.	Males.		Females.	Males.		Females.	Males.		Females.	Males.		Females.	
	(1)	(2)		(3)	(4)		(5)	(6)		(7)	(8)		(9)	(10)		(11)	(12)			(13)	(14)	(15)
Madurai district—																			
Madurai	..	14,032	13,118	27,150	3,286	2,609	5,895	605	496	1,101	2	..	..	..	..	..	..	788	
Dindigul	..	3,583	3,427	7,010	954	816	1,770	217	184	401	..	..	..	..	..	..	..	291	
Bodinayakanur	..	677	701	1,378	204	159	363	22	21	43	..	..	..	..	..	..	..	54	
Periyakulam	..	878	840	1,718	328	329	657	55	47	102	..	..	..	..	..	..	..	51	
Palani	..	1,181	1,124	2,305	261	205	466	24	17	41	3	..	..	..	..	..	..	29	
Cumbum	..	592	530	1,122	87	91	178	50	34	84	..	..	..	..	..	..	..	28	
Allinagaram	..	1,230	1,080	2,310	188	178	366	77	56	133	..	..	..	..	..	..	..	77	
Total	..	22,173	20,820	42,993	5,308	4,387	9,695	1,050	855	1,905	6	..	..	..	..	..	..	1,328	
Pudukkottai district—																			
Pudukkottai	..	1,845	1,717	3,562	354	260	614	151	103	254	..	..	..	..	..	..	..	1,332	
Ramanathapuram district—																			
Rajapalayam	..	1,247	1,131	2,378	338	304	642	61	57	118	..	..	..	..	..	..	..	68	
Srivilliputhur	..	903	854	1,757	218	226	444	20	31	51	..	..	..	..	..	..	..	54	
Virudhunagar	..	1,399	1,300	2,699	229	154	383	55	40	95	1	..	..	..	..	..	..	23	
Karaikudi	..	1,017	967	1,984	220	190	410	15	15	30	..	..	..	..	..	..	..	42	
Sivakasi	..	1,007	911	1,918	137	102	239	26	25	51	..	..	..	..	..	..	..	16	
Aruppukottai	..	903	804	1,707	261	253	514	15	10	25	..	..	..	..	..	..	..	63	
Ramanathapuram	..	1,631	1,498	3,129	298	225	523	93	88	181	..	..	..	..	..	..	..	34	
Paramakudi	..	1,046	950	1,996	147	157	304	80	50	130	..	..	..	..	..	..	..	37	
Sivaganga	..	663	616	1,279	164	127	291	30	23	53	..	..	..	..	..	..	..	47	
Sattur	..	342	295	637	63	54	117	5	1	6	..	..	..	..	..	..	..	16	
Devakottai	..	705	607	1,312	152	156	308	18	23	41	..	..	..	..	..	..	..	18	
Total	..	10,863	9,933	20,796	2,227	1,948	4,175	418	363	781	1	..	..	..	..	..	..	426	

MUNICIPALITIES, 1974—cont.

Name of the districts.	Dysentery.			Diarrhoea.			Respiratory diseases.			Suicides.			Wounds and accidents.			Snake bites.			Rabies.			Deaths from child birth.			All other cases.			Infant deaths.			Dephtheria.			Killed by wild bees.																
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	Males.		Females.		Total.	(12)	(13)	(14)	(15)																															
											(11)	(12)																																						
Madurai district—																																																		
Madurai ..	..	..	52	54	626	16	96	..	10	42	4,209	641	468	1,109	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Dindigul ..	..	..	57	23	93	2	53	..	..	1	1,250	174	129	303	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Bodinayakanur ..	..	..	13	..	19	..	3	1	..	2	271	42	31	73	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Periyakulam ..	..	..	35	14	74	4	13	1	2	9	442	55	61	116	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Palani ..	..	..	1	25	54	16	18	1	1	2	316	19	29	48	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Cumbum ..	..	..	..	6	7	..	3	1	..	2	131	21	23	44	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Allinagaram ..	..	..	30	13	20	..	5	..	..	5	216	60	60	120	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																			
Total																				188	135	893	38	191	4	13	63	6,835	1,012	801	1,213	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Pudukkottai district—																																																		
Pudukkottai ..	..	..	3	38	110	2	17	1	1	24	383	70	110	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Ramanathapuram district—																																																		
Rajapalayam ..	..	..	35	38	34	..	8	..	..	2	459	54	44	98	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Srivilliputhur ..	..	..	17	6	43	4	7	1	1	4	297	27	27	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Virudhunagar ..	..	..	5	8	44	..	7	2	..	5	286	35	26	61	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Karaikudi ..	..	..	8	..	34	..	1	..	..	1	324	45	26	71	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Sivakasi ..	..	..	4	1	11	..	7	2	1	3	194	35	31	66	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Aruppukottai ..	..	..	20	15	48	3	8	1	..	4	350	44	41	85	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Ramanathapuram ..	..	..	4	5	55	..	36	..	..	26	362	65	39	104	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Paramakudi ..	..	..	2	25	34	1	8	..	1	5	190	28	22	50	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Sivaganga ..	..	..	1	2	23	5	..	1	..	7	205	23	22	45	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Sattur ..	..	..	9	3	18	3	1	..	..	..	67	6	9	15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Devakottai ..	..	..	5	9	19	..	6	..	..	..	251	38	23	61	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																	
Total ..																				110	112	363	16	89	7	3	57	2,985	400	310	710	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

STATEMENT II (a)—cont.

MUNICIPALITIES, 1974—cont.

Name of districts.	BIRTHS.		Total. (4)	DEATHS.		Total. (7)	Still birth.		Total. (10)	Cholera. (11)	Small- pox. (12)	Males. (13)	Plague. (14)	Fever. (15)
	Males. (2)	Females. (3)		Males. (5)	Females. (6)		Males. (8)	Females. (9)						
Tirunelveli District—														
Tuticorin	3,544	3,507	7,051	798	725	1523	67	63	130	..	..	..	..	216
Tirunelveli	1,882	1,716	3,598	402	339	741	21	15	36	..	..	..	..	80
Palayamkottai	2,037	1,844	3,881	480	290	770	184	159	343	..	..	..	..	9
Malapalayam	704	637	1,341	188	139	327	14	14	28	..	..	..	..	54
Shencottah	439	429	868	119	103	222	20	13	33	..	..	..	..	15
Tenkasi	1,001	874	1,875	209	180	389	67	47	114	..	..	..	..	84
Kovilpatti	1,149	1,068	2,217	190	142	332	29	41	70	..	..	..	..	47
Sankarankoil	488	442	930	147	141	288	35	19	54	..	..	..	..	47
Puliangudi	417	433	850	90	95	185	2	2	6	..	..	..	..	32
Kadayanallur	928	957	1,885	181	123	304	46	29	75	..	..	..	..	49
Total	12,589	11,907	24,496	2,804	2,277	5,081	487	402	889	..	..	..	..	633
Salem district—														
Salem	7,412	6,799	14,211	1,809	1,546	3,355	341	273	614	..	..	..	..	52
Rasipuram	944	855	*1,799	146	153	299	43	28	71	..	..	..	..	9
Athur	1,153	1,141	2,294	147	112	259	110	94	204	2	..	..	..	16
Edapadi	493	404	897	79	64	143	9	13	22	..	..	..	..	12
Tiruchengode	824	761	1,585	116	97	213	47	43	90	..	..	..	..	40
Namakkal	886	749	1,635	110	67	177	35	38	73	..	..	..	..	10
Suramangalam	179	161	340	39	15	54	2	1	3	..	..	..	..	21
Total	11,891	10,870	22,761	2,446	2,054	4,500	587	490	1,077	2	..	..	..	160
Dharmapuri district—														
Dharmapuri	1,036	975	2,011	154	103	257	72	69	141	..	..	..	..	7
Krishnagiri	1,045	1,041	2,086	172	151	323	28	32	60	..	..	..	..	9
Total	2,081	2,016	4,097	326	254	580	100	101	201	..	..	..	..	16

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STATEMENT II (a)—cont.

MUNICIPALITIES—1974—cont.

Name of district.	MUNICIPALITIES—1974—cont.										Infant deaths.					Diphtheria. Killed by wild Beast.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	All other causes.	Total.					
											Males.	Females.	Total.			
Tirunelveli district—																
Tuticorin	160	33	182	..	..	3	..	..	22	847	175	139	314	..	(15)	
Tirunelveli	..	7	66	..	..	1	..	..	..	587	70	46	116	..	..	
Palayamkottai	2	4	61	37	..	88	4	3	23	538	26	26	52	1	..	
Malapalayam	..	58	51	..	..	1	1	..	1	159	38	31	69	2	..	
Shencottah	3	3	51	6	..	1	..	..	..	143	16	20	36	..	..	
Tenkasi	3	1	14	..	..	..	..	..	4	283	29	32	61	..	..	
Kovilpatti	17	..	33	11	..	13	4	..	11	195	43	26	69	1	..	
Sankarankoil	5	..	26	4	..	..	..	..	13	193	30	28	58	..	..	
Puliangudi	9	7	17	..	..	2	1	..	4	113	17	12	29	..	..	
Kadayanallur	7	2	50	3	..	4	2	1	1	185	39	*28	67	..	..	
Total	206	175	551	61	113	12	4	4	79	3,243	483	388	871	4	..	
Salem district.																
Salem	31	23	821	1	80	1	..	..	13	2,332	301	295	596	1	..	
Rasipuram	1	1	34	4	3	..	..	..	4	243	30	32	62	..	..	
Athur	8	6	13	7	11	1	..	..	8	187	33	17	50	..	..	
Edapadi	..	..	8	..	2	1	..	..	1	119	5	1	6	..	..	
Tiruchengode	..	..	15	..	..	1	1	..	3	152	18	9	27	..	..	
Namakkal	3	2	14	5	2	..	..	..	..	141	18	14	*32	..	..	
Suramangalam	..	..	19	..	2	..	..	..	..	12	3	2	5	..	..	
Total	43	33	924	17	100	4	1	1	29	3,186	408	370	778	1	..	
Dharmapuri district—																
Dharmapuri	4	8	8	1	23	..	..	..	20	186	15	28	43	..	..	
Krishnagiri	39	11	62	..	..	2	1	..	6	191	37	36	73	..	..	
Total	43	19	70	1	23	2	1	1	26	377	52	64	116	2	..	

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STATEMENT I(a)—cont.
MUNICIPALITIES 1974—cont.

Name of districts. (1)	Births.			Deaths.			Still births.			Cholera. (11)	Small pox. (12)	Males. (13)	Plague. (14)	Fever. (15)
	Males. (2)	Females. (3)	Total. (4)	Males. (5)	Females. (6)	Total. (7)	Males. (8)	Females. (9)	Total. (10)					
Coimbatore District—														
Coimbatore	..	9,367	9,044	18,411	2,453	1,904	4,357	397	316	713	..	..	..	80
Erode	..	4,176	3,773	7,949	714	554	1,268	210	151	361	..	..	..	18
Tiruppur	..	2,126	2,064	4,190	548	427	975	96	68	164	..	..	..	65
Pollachi	..	2,098	1,897	3,995	421	401	822	108	110	218	..	..	..	14
Dharapuram	..	1,123	1,080	2,203	174	150	324	40	43	83	..	..	..	7
Gobichettipalyam	..	980	895	1,875	215	181	396	65	57	122	..	..	..	18
Udumalpet	..	1,008	979	1,987	187	181	368	67	37	104	..	..	..	6
Mettupalayam	..	987	955	1,942	211	169	380	45	48	93	..	..	..	5
Singanallur	..	1,169	1,147	2,316	458	363	821	30	24	54	..	..	..	24
Sathyamangalam	..	307	279	586	70	54	124	9	5	14	..	..	..	19
Total ..	23,341	22,113	45,454	5,451	4,384	9,835	1,067	859	1,926	..	..	..	..	256
Nilgiris District—														
Ootacamund	..	1,371	1,304	2,675	441	348	789	34	22	56	..	..	..	5
The Nilgiris	..	880	832	1,712	233	160	393	24	30	54	..	..	..	8
Total ..	2,251	2,136	4,387	674	508	1,182	58	52	110	..	..	..	..	13
Kanyakumari District—														
Nagercoil	..	3,572	3,396	6,968	892	590	1,482	133	95	228	..	..	..	14
Colachel	..	257	265	522	74	59	133	4	2	6	..	3	..	22
Kuzhithurai	..	527	501	1,028	98	69	167	23	13	36	..	..	..	2
Padmanabhapuram	..	462	376	838	59	63	122	15	7	22	..	..	..	20
Total ..	4,818	4,570	9,388	1,123	721	1,904	175	117	292	..	..	3	..	58

STATEMENT II(a)—cont.
MUNICIPALITIES 1974—cont.

Name of districts. (1)	Dysentery.	Diarrhoea.	Respiratory diseases.		Suicides.	Wounds and accident.	Snake bites.	Rabies.	Deaths from child birth.	All other causes.	Infant Deaths.		Total.	Diphtheria.	Killed by wild beast.	
			(2)	(3)							(4)	(5)				(6)	(7)	(8)	(9)	(10)	Males.	Females.	(11)	(12)	(13)	(14)	(15)
Coimbatore District—																
Coimbatore	164	94	541	4	222	11	22	44	3,164	397	338	935	11	..	..	
Erode	6	4	76	3	86	7	..	47	1,019	130	110	240	2	..	..	
Tiruppur	24	20	118	13	16	2	..	4	709	86	64	150	4	..	..	
Pollachi	43	3	73	..	..	..	..	7	681	70	70	140	1	..	..	
Dharapuram	..	1	42	4	3	2	..	5	259	40	28	68	1	..	..	
Gobichettipalayam	1	6	44	9	14	..	2	9	293	43	30	73	..	..	..	
Udumalpet	..	3	20	3	11	3	..	4	316	41	31	72	2	..	..	
Mettupalayam	..	23	30	..	3	1	..	6	311	26	25	51	1	..	..	
Singanallur	10	3	158	1	15	1	..	..	609	58	50	108	..	..	..	
Sathyamangalam	3	1	13	2	3	..	..	..	83	5	4	9	..	..	..	
Total	251	158	1,115	39	373	27	24	126	7,444	896	750	1646	22	..	..	
Nilgiris District—																
Ootacamund	10	11	318	6	29	..	..	14	393	91	89	180	3	..	..	
The Nilgiris	1	..	108	..	8	..	..	6	261	42	28	70	1	..	..	
Total ..	11	11	426	6	37	..	..	20	654	133	117	250	4	..	..	
Kanyakumari District—																
Nagercoil	98	6	168	53	62	..	2	21	1,055	155	108	263	3	..	..	
Colachel	10	1	..	2	..	..	..	..	95	..	14	24	..	..	..	
Kudathurai	5	..	23	2	1	..	..	1	133	9	1	10	..	..	..	
Padmanabhapuram	5	3	..	1	1	1	..	..	91	4	4	8	..	..	..	
Total ..	118	10	191	58	64	1	2	22	1,374	178	127	305	3	..	..	

STATEMENT III.

ATTACHMENT SHOWING POSITION OF ARRIAR RETURN.

STATEMENT SHOWING FORM OF RETURNS.									
Serial number and name of the districts.	Number of returns due.		Number of returns not received.		Number of returns due from Tahsildars.	Number of births and deaths returns received from Tahsildars.	Balance.	Percentage of returns not received.	
	Rural.	Urban.	Rural.	Urban.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1 Madras ..	..	1	..	..	..	13,880	1,564	10.12	
2 Chingleput ..	14,388	393	1,564	54	15,444	18,281	619	3.27	
3 North Arcot ..	18,900	191	619	9	18,900	18,039	2,097	10.41	
4 South Arcot ..	20,136	79	1,600	..	20,136	15,858	1,854	10.47	
5 Thanjavur ..	17,712	260	4,834	..	17,712	9,936	840	7.79	
6 Tiruchirappalli ..	10,776	270	840	61	10,776	4,898	674	12.09	
7 Pondichottai ..	5,572	49	188	..	5,572	9,519	765	7.44	
8 Madurai ..	10,292	983	765	50	10,284	13,510	2,006	10.29	
9 Ramanathapuram ..	16,297	217	2,006	11	15,516	9,787	221	2.21	
10 Tirunelveli ..	10,008	346	221	2	10,008	9,074	221	2.38	
11 Salem ..	9,300	307	221	2	9,300	7,036	188	2.60	
12 Dharmapuri ..	7,214	62	188	..	7,224	8,829	1,059	10.71	
13 Coimbatore ..	9,888	418	1,059	83	9,888	889	155	14.85	
14 The Nilgiris ..	1,440	110	155	7	1,044	3,446	10	0.28	
15 Kanyakumari ..	3,456	4	78	..	3,456	1,42,987	12,275	7.9	
Total	1,55,379	3,090	11,338	279	1,55,260				

PERINATAL AND MATERNAL DEATHS (RURAL) 1974.

MONTH OF OCCURRENCE STATEMENT FOR BIRTHS, DEATHS, INFANT DEATHS AND MATERNAL DEATHS (CONTINUED)															
		Over 12 months.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1)															
Births	..	11,180	37,482	32,167	39,506	40,183	*42,964	47,072	48,882	48,491	44,908	40,653	39,499	31,961	5,04,948
Deaths	..	2,857	23,711	19,587	19,630	17,632	17,238	17,743	18,986	18,672	17,345	18,155	19,181	19,492	2,30,227
Infant Deaths	..	607	2,597	2,050	1,980	1,855	1,906	2,111	2,277	2,191	2,029	2,160	1,956	1,957	25,656
Maternal Deaths	..	\$	83	67	88	*95	99	108	105	95	97	75	71	90	*1,072

STATEMENT V (a)
STATEMENT SHOWING BIRTHS BY MONTHWISE FOR THE YEAR-1974 (RURAL)

Districts.	January.			February.			March.			April.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Chingleput ..	1,293	1,315	2,608	1,231	1,137	2,368	1,387	1,221	2,608	1,239	1,123	2,362
North Arcot ..	2,449	2,360	4,809	2,513	2,279	4,792	2,796	2,472	5,268	2,792	2,508	5,300
South Arcot ..	1,363	1,265	2,628	1,368	1,235	2,603	1,656	1,452	3,108	1,441	1,310	2,751
Thanjavur ..	1,590	1,419	3,009	1,421	1,336	2,757	1,740	1,659	3,399	1,804	1,596	3,400
Tiruchirappalli ..	1,377	1,207	2,584	1,179	1,018	2,197	1,305	1,272	2,577	1,640	1,514	3,154
Pudukkottai ..	428	404	832	392	340	732	411	346	757	363	302	665
Madurai ..	1,836	1,697	3,533	1,452	1,225	2,677	1,316	1,653	3,469	2,052	1,807	3,859
Ramanathapuram ..	1,001	984	1,985	990	942	1,932	1,230	1,125	2,355	1,324	1,217	2,541
Tirunelveli ..	1,715	1,473	3,188	1,779	1,567	3,346	1,769	1,704	3,473	1,855	1,759	3,614
Salem ..	1,139	1,026	2,165	667	654	1,321	1,354	1,217	2,571	1,569	1,460	3,029
Dharmapuri ..	1,145	1,019	2,164	1,086	1,022	2,108	1,214	1,131	2,345	1,292	1,202	2,494
Coimbatore ..	1,260	1,214	2,474	1,400	1,197	2,597	1,334	1,396	3,030	1,446	1,407	2,853
The Nilgiris ..	142	116	258	192	192	384	160	163	323	210	210	420
Kanyakumari ..	1,088	1,009	2,097	969	944	1,913	1,145	1,062	2,207	1,207	1,245	2,452
Total ..	17,826	16,508	34,334	16,639	15,088	31,727	19,617	17,813	37,490	20,234	18,660	38,894

Districts.	May.			June.			July.			August.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Chingleput ..	1,387	1,278	2,665	1,652	1,471	3,123	1,773	1,577	3,350	1,874	1,765	3,639
North Arcot ..	3,177	2,893	6,070	3,385	3,223	6,608	4,072	3,753	7,825	3,923	3,679	7,602
South Arcot ..	1,667	1,456	3,123	1,890	1,674	3,564	2,288	2,105	4,393	2,622	2,430	5,052
Thanjavur ..	1,574	1,515	3,089	1,623	1,485	3,108	1,537	1,492	3,029	1,662	1,523	3,185
Tiruchirappalli ..	1,579	1,491	3,070	2,179	1,983	4,162	2,461	2,309	4,770	2,670	2,343	5,013

Districts.	September.			October.			November.			December.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
Pudukkottai ..	370	323	693	440	393	833	579	534	1,113	587	529	1,116
Madurai ..	2,415	2,242	4,657	2,380	2,165	4,545	2,826	2,594	5,420	2,508	2,268	4,776
Ramanathapuram ..	1,202	1,183	2,385	1,751	1,602	3,353	1,896	1,855	3,751	2,132	1,880	4,012
Tirunelveli ..	1,983	1,841	3,824	2,144	2,028	4,172	2,139	1,898	4,037	2,037	1,959	3,996
Salem ..	1,538	1,417	2,955	1,686	1,484	3,170	1,821	1,702	3,523	1,685	1,477	3,162
Dharmapuri ..	1,338	1,124	2,462	1,497	1,275	2,772	1,592	1,415	3,007	1,616	1,484	3,100
Coimbatore ..	1,566	1,433	2,999	1,711	1,610	3,321	1,851	1,692	3,543	1,515	1,343	2,858
The Nilgiris ..	159	160	329	212	185	397	237	237	474	166	170	336
Kanyakumari ..	1,234	1,230	2,524	1,260	1,274	2,534	1,418	1,365	2,783	1,087	1,071	2,158
Total ..	21,259	19,586	40,845	23,810	21,852	45,662	26,490	24,528	51,018	26,084	23,861	49,945

District.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.			
	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Chingleput ..	1,752	1,618	3,370	1,407	1,239	2,646	1,425	1,244	2,669	1,484	1,418	2,902	17,904	16,346	34,250
North Arcot ..	3,649	3,514	7,163	3,128	2,839	5,967	2,962	2,871	5,833	2,773	2,639	5,412	37,619	35,030	72,649
South Arcot ..	2,687	2,548	5,235	2,352	2,135	4,487	2,061	1,802	3,863	1,920	1,729	3,649	23,315	21,141	44,456
Thanjavur ..	1,672	1,601	3,273	1,659	1,451	3,110	1,522	1,338	2,860	1,714	1,593	3,307	19,518	18,008	37,526
Tiruchirappalli ..	2,261	2,194	4,455	2,211	2,116	4,327	2,284	1,946	4,230	1,863	1,800	3,663	23,009	21,193	44,202
Pudukkottai ..	536	511	1,047	442	428	870	442	410	852	440	422	862	5,430	4,942	10,372
Madurai ..	2,095	1,926	4,021	2,177	2,077	4,254	2,078	1,978	4,056	2,121	1,947	4,068	25,756	23,570	49,326
Ramanathapuram ..	1,687	1,582	3,269	1,466	1,324	2,790	1,514	1,500	3,014	1,433	1,277	2,710	17,626	16,471	34,097
Tirunelveli ..	2,211	2,121	4,332	2,028	1,936	3,964	2,123	1,908	4,031	2,066	1,822	3,888	23,849	22,016	45,865
Salem ..	1,533	1,495	3,028	1,575	1,409	2,984	1,909	1,453	3,362	1,448	1,377	2,825	17,924	16,171	34,095
Dharmapuri ..	1,561	1,342	2,903	1,282	1,284	2,566	1,425	1,258	2,683	1,157	1,088	2,245	16,205	14,644	30,849
Coimbatore ..	1,477	1,287	2,764	1,354	1,161	2,515	1,581	1,400	2,981	1,625	1,384	3,009	18,420	16,524	34,944
The Nilgiris ..	191	182	373	226	195	421	186	148	334	165	179	344	2,256	2,137	4,393
Kanyakumari ..	1,061	1,103	2,164	934	871	1,805	1,436	1,386	2,822	1,204	1,252	2,456	14,103	13,812	27,915
Total ..	24,373	23,024	47,397	22,241	20,465	42,706	22,948	20,642	43,590	21,413	19,927	41,340	2,62,934	2,42,014	5,04,948

STATEMENT V (b).
STATEMENT SHOWING BIRTHS BY MONTHWISE FOR THE YEAR 1974 (URBAN).

District	January			February			March			April		
	Male.		Total.	Male.		Total.	Male.		Total.	Male.		Total.
	(2)	(3)		(5)	(6)		(8)	(9)		(11)	(12)	
(1)			(4)			(7)			(10)			(13)
Madras ..	5,065	5,417	10,482	2,609	2,778	5,387	3,022	2,983	6,005	3,018	2,977	5,995
Chingleput ..	900	768	1,668	731	737	1,468	854	839	1,693	965	924	1,889
North Arcot ..	1,172	1,097	2,269	1,030	989	2,019	1,206	1,118	2,324	1,273	1,210	2,483
South Arcot ..	631	558	1,189	631	585	1,216	768	684	1,452	801	724	1,525
Thanjavur ..	1,426	1,390	2,816	1,250	1,233	2,483	1,490	1,449	2,939	1,692	1,550	3,242
Tiruchirappalli ..	994	975	1,969	908	852	1,760	1,114	1,063	2,177	1,180	1,157	2,337
Pudukkottai ..	218	184	402	183	182	365	240	205	445	222	237	459
Madurai ..	2,073	1,986	4,059	1,740	1,615	3,355	2,086	2,000	4,086	2,458	2,221	4,679
Ramanathapuram ..	1,161	1,030	2,191	899	793	1,692	1,157	981	2,138	1,053	1,028	2,081
Tirunelveli ..	1,252	1,068	2,320	1,321	1,177	2,498	1,352	1,267	2,619	1,705	1,604	3,309
Salem ..	1,144	1,084	2,228	1,004	908	1,912	1,076	1,012	2,088	1,169	1,145	2,314
Dharmapuri ..	218	197	415	222	200	422	192	229	421	235	199	434
Coimbatore ..	2,025	1,894	3,919	1,836	1,636	3,472	1,963	1,891	3,854	2,158	2,061	4,219
The Nilgiris ..	265	242	507	263	217	480	287	270	557	293	270	563
Kanyakumari ..	307	286	593	347	329	676	321	288	609	472	417	889
Total ..	18,851	18,176	37,027	14,974	14,231	29,205	17,138	16,279	33,417	18,694	17,724	36,418

District	May			June			July			August		
	Male.		Total.	Male.		Total.	Male.		Total.	Male.		Total.
	(14)	(15)		(17)	(18)		(20)	(21)		(23)	(24)	
Madras ..	3,569	3,519	7,088	3,332	3,024	6,356	4,096	3,643	7,739	4,458	4,363	8,822
Chingleput ..	1,139	1,033	2,172	1,135	995	2,130	1,274	1,178	2,452	1,296	1,201	2,497
North Arcot ..	1,373	1,267	2,640	1,357	1,300	2,657	1,555	1,380	2,935	1,570	1,454	2,994
South Arcot ..	824	775	1,599	864	822	1,686	1,032	938	1,970	859	907	1,766
Thanjavur ..	1,689	1,556	3,245	1,343	1,275	2,618	1,747	1,648	3,395	1,507	1,416	2,923
Tiruchirappalli ..	1,126	1,052	2,178	1,125	1,043	2,168	1,195	1,027	2,222	1,130	1,024	2,154
Pudukkottai ..	254	208	462	299	293	592	292	249	541	267	235	502
Total ..	19,638	18,370	38,008	18,502	17,329	35,831	21,201	19,592	40,793	21,414	20,139	41,553

District	September			October			November			December			Total		
	Male.		Total.	Male.		Total.	Male.		Total.	Male.		Total.	Male.		Total.
	(26)	(27)		(29)	(30)		(32)	(33)		(35)	(36)		(38)	(39)	
Madras ..	43,17	4,204	8,521	4,479	4,216	8,695	4,583	4,568	9,151	4,561	4,585	9,146	47,109	46,278	93,387
Chingleput ..	1,275	1,186	2,461	1,236	1,090	2,326	1,321	1,284	2,605	1,136	1,072	2,208	13,262	12,307	25,569
North Arcot ..	1,390	1,339	2,729	2,729	1,524	2,978	1,593	1,382	2,975	1,640	1,415	3,055	16,683	15,375	32,058
South Arcot ..	1,044	922	1,966	1,262	1,164	2,426	904	867	1,771	1,459	1,369	2,828	11,079	10,315	21,394
Thanjavur ..	1,793	1,678	3,471	1,588	1,519	3,107	1,876	1,687	3,563	2,140	1,922	4,062	19,541	18,323	37,864
Tiruchirappalli ..	1,072	1,056	2,128	1,160	1,089	2,249	1,090	1,020	2,110	1,174	1,167	2,341	13,268	12,525	25,793
Pudukkottai ..	331	296	627	328	298	626	225	236	461	250	252	502	3,109	2,875	5,984
Madurai ..	2,147	2,075	4,222	2,410	2,254	4,664	2,458	2,306	4,764	2,539	2,411	4,958	27,218	25,608	52,826
Ramanathapuram ..	1,247	1,087	2,334	1,208	1,114	2,322	1,244	1,149	2,393	1,405	1,341	2,746	14,489	13,108	27,597
Tirunelveli ..	1,673	1,616	3,289	1,784	1,630	3,414	1,594	1,526	3,120	1,607	1,582	3,189	18,648	17,418	36,066
Salem ..	1,343	1,160	2,503	1,471	1,374	2,845	1,570	1,395	2,965	1,498	1,298	2,796	15,792	14,442	30,234
Dharmapuri ..	220	170	390	258	244	502	243	231	474	241	257	498	2,871	2,684	5,555
Coimbatore ..	2,203	2,054	4,257	2,281	2,098	4,379	2,621	2,522	5,143	2,702	2,511	5,213	26,618	25,197	51,815
The Nilgiris ..	299	280	579	384	302	686	299	299	598	324	312	636	3,686	3,413	7,099
Kanyakumari ..	350	329	679	430	418	848	398	365	763	577	519	1,096	4,818	4,538	9,356
Total ..	20,704	19,452	40,156	21,803	20,264	42,067	22,019	20,837	42,856	23,253	22,013	45,266	2,38,191	2,24,406	4,62,597

STATE BIRTHS-1974 STATEMENT V (C)

District.	January			February			March			April		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras ..	5,065	5,417	10,482	2,609	2,778	5,387	3,022	2,983	6,005	3,018	2,977	5,995
Chingleput ..	2,195	2,083	4,276	1,952	1,874	3,836	2,241	2,060	4,301	2,214	2,047	4,251
North Arcot ..	3,621	3,457	7,078	3,543	3,268	6,811	4,002	3,590	7,592	4,065	3,718	7,783
South Arcot ..	1,904	1,823	3,817	1,999	1,820	3,819	2,424	2,136	4,560	2,242	2,034	4,276
Thanjavur ..	3,016	2,809	5,825	2,671	2,569	5,240	3,230	3,108	6,338	3,496	3,146	6,642
Tiruchirappalli ..	2,371	2,182	4,553	2,087	1,870	3,957	2,419	2,335	4,754	2,820	2,671	5,491
Pudukottai ..	646	588	1,234	575	522	1,097	651	551	1,202	585	539	1,124
Madurai ..	3,909	3,683	7,592	3,192	2,840	6,032	3,902	3,653	7,555	4,510	4,028	8,538
Ramanathapuram ..	2,162	2,014	4,176	1,889	1,735	3,624	2,387	2,106	4,493	2,377	2,245	4,622
Tirunelveli ..	2,967	2,541	5,508	3,100	2,744	5,844	3,121	2,971	6,092	3,560	3,353	6,923
Salem ..	2,283	2,110	4,393	1,671	1,502	3,233	2,430	2,229	4,659	2,738	2,605	5,343
Dharmapuri ..	1,363	1,216	2,579	1,208	1,222	2,530	1,406	1,360	2,766	1,527	1,401	2,928
Coimbatore ..	3,285	3,108	6,393	3,236	2,833	6,069	3,597	3,287	6,884	3,604	3,468	7,072
The Nilgiris ..	407	358	765	455	409	864	457	433	890	503	480	983
Kanyakumari ..	1,395	1,295	2,690	1,316	1,273	2,589	1,466	1,350	2,816	1,679	1,602	3,281
TOTAL ..	36,677	34,684	71,361	31,613	29,319	60,932	36,755	34,152	70,907	38,928	36,384	75,312

STATE BIRTHS-1974 STATEMENT V (C)-cont.

District.	May			June			July			August		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Madras ..	3,569	3,519	7,088	3,332	3,024	6,356	4,096	3,643	7,739	4,458	4,304	8,762
Chingleput ..	2,526	2,311	4,837	2,787	2,466	5,253	3,047	2,755	5,802	3,170	2,906	6,076
North Arcot ..	4,550	4,160	8,710	4,742	4,523	9,265	5,627	5,133	10,760	5,453	5,103	10,556
South Arcot ..	2,491	2,231	4,722	2,754	2,496	5,250	3,310	3,043	6,353	3,481	3,337	6,818
Thanjavur ..	3,263	3,071	6,334	2,966	2,760	5,726	3,284	3,140	6,424	3,169	2,939	6,108
Tiruchirappalli ..	2,705	2,543	5,248	3,304	3,026	6,330	3,656	3,336	6,992	3,800	3,367	7,167

District.	September.			October.			November.			December.			TOTAL.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Madras ..	4,317	4,204	8,521	4,479	4,216	8,695	4,583	4,568	9,151	4,561	4,585	9,146	4,710	4,627	9,337
Chingleput ..	3,027	2,804	5,831	2,643	2,329	4,972	2,746	2,528	5,274	2,620	2,490	5,110	3,116	2,865	5,981
North Arcot ..	5,039	4,853	9,892	4,652	4,253	8,905	4,555	4,553	9,108	4,413	4,054	8,467	5,430	5,045	10,475
South Arcot ..	3,731	3,470	7,201	3,614	3,299	6,913	2,965	2,669	5,634	3,379	3,058	6,437	3,434	3,146	6,580
Thanjavur ..	3,465	3,279	6,744	3,247	2,970	6,217	3,398	3,025	6,423	3,854	3,515	7,369	3,909	3,633	7,542
Tiruchirappalli ..	3,533	3,250	6,783	3,371	3,205	6,576	3,374	2,966	6,340	3,637	2,967	6,604	3,677	3,378	7,055
Madurai ..	807	807	1,614	770	726	1,496	667	646	1,313	610	674	1,284	853	781	1,634
North Arcot ..	4,242	4,001	8,243	4,587	4,331	8,918	4,536	4,284	8,820	4,660	4,353	9,013	5,274	4,918	10,192
Ramanathapuram ..	2,334	2,069	4,403	2,674	2,438	5,112	2,758	2,649	5,407	2,838	2,618	5,456	3,215	2,979	6,194
Tirunelveli ..	3,884	3,737	7,621	3,812	3,506	7,318	3,717	3,434	7,151	3,673	3,404	7,077	4,297	3,934	8,231
Salem ..	2,571	2,655	5,226	3,046	2,783	5,829	3,479	2,858	6,337	2,446	2,075	4,521	4,038	3,650	7,688
Dharmapuri ..	1,781	1,512	3,293	1,540	1,528	3,068	1,668	1,389	3,057	1,318	1,345	2,663	1,906	1,732	3,638
Coimbatore ..	3,680	3,341	7,021	3,635	3,259	6,894	4,202	3,922	8,124	4,317	3,895	8,212	4,708	4,172	8,880
The Nilgiris ..	491	400	891	610	497	1,107	485	447	932	489	491	980	592	550	1,142
Kanyakumari ..	1,211	1,100	2,311	1,289	1,289	2,578	1,834	1,751	3,585	1,781	1,771	3,552	1,821	1,830	3,651
TOTAL ..	49,977	47,476	97,453	47,929	44,773	92,702	44,967	41,479	86,446	44,666	41,940	86,606	50,125	46,640	96,765

Name of District.	Institution.									
	Hindus.		Muslims.		Christians.		Others.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Chingleput	1,964	1,670	41	48	31	30	..	..	2,036	1,954
North Arcot	2,678	2,383	78	92	27	28	..	..	2,783	2,503
South Arcot	779	700	33	21	11	19	..	..	823	740
Thanjavur	4,040	3,694	254	210	117	119	..	..	4,411	4,053
Tiruchirappalli	2,079	1,918	115	87	240	230	..	..	2,434	2,265
Madurai	2,200	1,937	42	40	23	22	..	..	2,274	1,999
Ramanathapuram	1,019	870	55	71	72	64	..	..	1,146	1,005
Tirunelveli	2,008	1,675	108	106	205	204	..	..	2,321	1,985
Salem	2,063	1,940	37	38	29	22	..	..	2,129	2,000
Dharmapuri	381	319	22	17	15	5	..	..	418	341
Coimbatore	2,516	2,148	41	34	29	18	..	..	2,586	2,200
The Nilgiris	774	347	42	26	47	51	..	..	863	424
Kanyakumari	611	570	39	48	537	528	..	..	1,187	1,146
Pudukottai	484	453	18	26	21	14	..	..	523	503
Total	23,605	20,664	925	891	1,404	1,363	..	..	25,934	22,918

Name of district.	Domicillary.									
	Hindus.		Muslims.		Christians.		Others.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Chingleput	15,450	14,162	206	204	212	226	..	..	15,868	14,592
North Arcot	33,894	31,644	604	563	338	320	..	..	34,836	32,527
South Arcot	21,764	19,725	348	317	379	359	1	..	22,492	20,401
Thanjavur	13,556	12,608	1,127	902	424	445	..	..	15,107	13,955
Tiruchirappalli	19,328	17,837	503	449	744	622	..	..	20,575	18,928
Madurai	22,346	20,577	548	458	588	545	..	..	23,482	21,580
Ramanathapuram	14,940	13,877	942	980	598	609	..	..	16,480	15,466
Tirunelveli	18,154	16,838	857	818	2,517	2,375	..	..	21,528	20,031
Salem	15,629	14,039	89	66	77	66	..	..	15,795	14,171
Dharmapuri	15,183	13,845	467	362	137	96	..	..	15,787	14,303
Coimbatore	15,541	14,106	166	113	127	105	..	..	15,834	14,324
The Nilgiris	1,137	1,463	112	124	144	126	..	..	1,393	1,713
Kanyakumari	7,107	6,924	383	415	5,426	5,327	..	..	12,916	12,666
Pudukottai	4,485	4,104	249	194	173	141	..	..	4,907	4,439
Total	2,18,514	2,01,749	6,601	5,965	11,884	11,382	1	..	2,37,000	2,19,096

Name of district.	Total.										
	Hindus.		Muslims.		Christians.		Others.		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	T.
(1)	(2)	(3)	(4)	(5)	(6).	(7)	(8)	(9)	(10)	(11)	(12)
Chingleput	17,414	15,832	247	249	243	265	..	..	17,904	160,346	34,250
North Arcot	36,572	34,027	682	655	365	348	..	..	37,619	35,030	72,649
South Arcot	22,543	20,425	381	338	390	378	1	..	23,315	21,141	44,456
Thanjavur	17,596	16,302	1,381	1,142	541	564	..	..	19,518	18,008	37,526
Tiruchirappalli	21,407	19,785	618	536	984	872	..	..	23,009	21,193	44,202
Madurai	24,555	22,514	590	498	611	567	..	..	25,756	23,579	49,335
Ramanathapuram	15,959	14,747	997	1,051	670	673	..	..	17,626	16,471	34,097
Tirunelveli	20,162	18,513	965	924	2,722	2,579	..	..	23,849	22,016	45,865
Salem	17,692	15,979	126	104	106	88	..	..	17,924	16,171	34,095
Dharmapuri	15,564	14,164	489	379	152	101	..	..	16,205	14,644	30,849
Coimbatore	18,057	16,254	207	147	156	123	..	..	18,420	16,524	34,944
The Nilgiris	1,911	1,810	154	150	191	177	..	..	2,256	2,137	4,593
Kanyakumari	7,718	7,494	422	463	5,963	5,855	..	..	14,103	13,812	27,915
Pudukottai	4,969	4,567	267	220	194	155	..	..	5,430	4,942	10,372
Total	242,119	2,22,413	7,526	6,856	13,288	12,745	1	..	262,934	242,014	504,948

RURAL

STATEMENT SHOWING THE BIRTHS BY RELIGION, SEX AND TYPE OF ATTENDANCE AT CONFINEMENT, 1974.

Religion.	Institution.		Domicillary.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hindus ..	23,605	20,664	218,514	201,749	242,119	222,413
Muslims ..	925	891	6,601	5,965	7,526	6,856
Christians ..	1,404	1,363	11,884	11,382	13,288	12,745
Others ..	..	..	1	..	1	..
Total ..	25,934	22,918	237,000	219,096	262,934	242,014
					504,948	

STATEMENT SHOWING BIRTHS BY RELIGION, SEX AND TYPE OF ATTENDANCE AT CONFINEMENT

MUNICIPALITY ONLY 1974.

Classes.	Institution.		Domicillary.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hindus ..	140,678	132,824	24,167	23,666	164,845	156,490
Muslims ..	12,356	11,694	6,016	5,770	18,372	17,464
Christians ..	8,789	8,180	2,453	2,340	11,242	10,520
Others ..	29	23	2	..	31	23
Total ..	161,852	152,721	32,638	31,776	194,490	184,497
					378,987	

STATEMENT SHOWING ORDER OF LIVE BIRTHS BY AGE OF THE MOTHER AT CONFINEMENT.

1974.

Age Group of Mother.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	Total
Below 15 years	..	87	19	..	..	..	..	..	..	..	..	..	..	..	..	..	106
15 to 19 years	..	42,900	5,885	..	9	..	..	..	..	..	..	..	..	..	..	..	49,460
20 to 24 years	..	56,506	58,547	..	1,628	417	98	10	1	..	..	..	..	..	..	..	151,587
25 to 29 years	..	12,322	30,961	..	18,002	7,214	2,664	776	288	70	6	1	1	..	..	..	154,464
30 to 34 years	..	2,114	5,886	..	22,460	15,756	8,538	3,260	1,525	553	156	51	8	3	..	..	93,516
35 to 39 years	..	495	1,208	..	7,847	9,061	8,313	4,730	3,050	1,438	486	191	49	7	..	..	44,661
40 to 44 years	..	92	246	..	1,314	1,120	1,770	1,556	1,244	775	335	163	45	13	2	..	9,919
45 to Above	..	25	29	..	130	143	178	189	177	120	63	23	11	5	2	..	1,235
Total ..	..	114,541	102,781	..	51,390	33,711	21,561	10,521	6,285	2,956	1,046	429	114	28	4	..	504,948

STATEMENT SHOWING THE TOTAL NUMBER OF STILL BIRTHS IN TAMIL NADU STATE FOR THE YEAR 1974.
(RURAL).

Districts.	January.			February.			March.			April.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Chingleput ..	2	2	4	2	2	4	6	2	8	3	2	5
North Arcot ..	3	1	4	3	2	5	2	5	7	6	3	9
South Arcot ..	1	1	2	1	2	3	3	2	5	3	3	6
Thanjavur ..	19	14	33	8	3	11	16	10	26	5	10	15
Tiruchirappalli ..	3	6	9	7	3	10	11	7	18	5	10	15
Pudukkottai ..	..	1	1	..	..	..	1	..	1	..	..	..
Madurai ..	7	6	13	8	2	10	9	7	16	11	11	22
Ramanathapuram ..	1	..	1	6	1	7	7	10	17	12	7	19
Tirunelveli ..	6	10	16	6	4	10	10	6	16	6	7	13
Salem ..	5	8	13	3	2	5	9	5	14	4	4	8
Dharmapuri ..	2	2	4	1	..	1	3	2	5	1	2	3
Coimbatore ..	5	8	13	6	10	16	10	9	19	8	10	18
The Nilgiris ..	3	2	5	2	2	4	2	2	4	2	4	6
Kanniyakumari ..	..	11	18	10	6	16	13	20	33	18	15	33
Total ..	64	72	136	63	39	102	102	87	189	84	88	172

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Districts.	May.			June.			July.			August.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Chingleput ..	2	..	2	7	6	13	2	4	6	2	6	8
North Arcot ..	6	7	13	5	8	13	9	11	20	15	9	24
South Arcot ..	4	2	6	10	12	22	3	4	7	3	5	8
Thanjavur ..	8	3	11	14	15	29	13	3	16	17	10	27
Tiruchirappalli ..	7	6	13	8	3	11	10	6	16	8	17	25
Pudukkottai ..	..	1	1	..	..	..	1	..	1	2	..	2
Madurai ..	22	7	29	6	13	19	11	12	23	5	5	10
Ramanathapuram ..	9	4	13	3	2	5	12	6	18	8	4	12
Tirunelveli ..	9	4	13	10	6	16	7	8	15	7	1	8
Salem ..	4	9	13	9	2	11	7	9	16	7	6	13
Dharmapuri ..	1	3	4	1	2	3	3	2	5	1	..	1
Coimbatore ..	9	13	22	7	7	14	8	6	14	6	6	12
The Nilgiris ..	..	1	1	2	5	7	1	1	2	5	4	9
Kanniyakumari ..	18	16	34	16	10	26	15	12	27	20	15	35
Total ..	99	76	175	98	91	189	102	84	186	106	88	194

STATEMENT SHOWING THE TOTAL NUMBER OF STILL BIRTHS IN TAMIL NADU STATE FOR THE YEAR 1974.
(RURAL).

Districts.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
Chingleput ..	3	5	8	1	1	2	4	2	6	2	4	36	34	70	71
North Arcot ..	7	5	12	10	14	24	9	16	25	6	8	77	78	155	156
South Arcot ..	5	3	8	2	4	6	2	8	10	2	2	37	44	81	82
Thanjavur ..	6	5	11	11	9	20	7	12	19	9	16	131	96	227	228
Tiruchirappalli ..	12	6	18	3	5	8	5	10	15	13	32	98	87	185	186
Pudukkottai ..	2	..	2	1	2	3	1	2	3	..	1	9	5	14	15
Madurai ..	8	4	12	7	9	16	3	11	14	5	19	111	89	200	201
Ramanathapuram ..	6	5	11	5	3	8	6	11	17	7	14	82	54	136	137
Tirunelveli ..	10	7	17	7	5	12	11	16	27	4	9	93	68	161	162
Salem ..	6	5	11	3	5	8	7	11	18	3	10	67	66	133	134
Dharmapuri ..	2	2	4	2	..	2	..	3	3	1	4	21	18	39	40
Coimbatore ..	8	7	15	8	4	12	11	19	28	3	12	95	91	186	187
The Nilgiris ..	2	3	5	..	..	..	..	3	3	2	4	24	26	50	51
Kanniyakumari ..	8	9	17	6	6	12	12	22	34	10	25	156	142	298	300
Total ..	85	66	151	66	65	131	68	150	218	74	160	1,037	898	1,935	1,936

STATEMENT SHOWING STILL BIRTHS BY MONTHWISE FOR THE YEAR 1974
(URBAN).

Districts.	January.			February.			March.			April.		
	Male. (2)	Female. (3)	Total. (4)	Male. (5)	Female. (6)	Total. (7)	Male. (8)	Female. (9)	Total. (10)	Male. (11)	Female. (12)	Total. (13)
Madras	66	48	114	58	51	109	86	98	184	88	67	155
Chingleput	30	21	51	20	19	39	19	11	30	24	27	51
North Arcot	48	51	99	69	61	130	59	61	120	54	49	103
South Arcot	40	26	66	27	27	54	37	23	60	30	31	61
Thanjavur	58	42	100	78	77	155	101	70	171	88	73	161
Tiruchirappalli	51	49	100	35	37	72	62	50	112	62	46	108
Pudukkottai	11	13	24	7	8	15	22	10	32	23	10	33
Madurai	83	60	143	104	68	172	91	95	186	130	115	245
Ramanathapuram	30	22	52	35	30	65	41	44	85	36	22	58
Tirunelveli	42	34	76	40	28	68	41	42	83	38	28	66
Salem	28	31	59	58	53	111	33	40	73	53	47	100
Dharmapuri	11	12	23	14	10	24	7	15	22	9	10	19
Coimbatore	88	78	166	86	65	151	68	65	133	106	88	194
The Nilgirs	10	7	17	14	12	26	6	7	13	10	3	13
Kanniyakumari	11	6	17	12	9	21	11	7	18	14	10	24
TOTAL	607	500	1,107	657	555	1,212	684	638	1,322	765	626	1,391

STATEMENT SHOWING THE STILL BIRTHS BY MONTHWISE FOR THE YEAR 1974.

Districts.	May.		June.			July.			August.			
	Male. (14)	Female. (15)	Total. (16)	Male. (17)	Female. (18)	Total. (19)	Male. (20)	Female. (21)	Total. (22)	Male. (23)	Female. (24)	Total. (25)
Madras ..	..	81	153	47	55	102	50	55	105	88	92	180
Chingleput ..	..	16	44	42	30	72	51	42	93	50	57	107
North Arcot ..	..	57	122	73	74	147	67	63	130	91	86	177
South Arcot ..	..	24	51	39	29	68	51	38	89	39	30	69
Thanjavur ..	..	70	134	53	54	107	72	48	120	90	50	140
Trichirappalli ..	..	41	93	47	37	84	50	40	90	70	50	120

STATEMENT SHOWING STILL BIRTHS BY MONTHWISE FOR THE YEAR 1974.
(URBAN)

Districts.	September.			October.			November.			December.			Total.		
	Male. (26)	Female. (27)	Total. (28)	Male. (29)	Female. (30)	Total. (31)	Male. (32)	Female. (33)	Total. (34)	Male. (35)	Female. (36)	Total. (37)	Male. (38)	Female. (39)	Total. (40)
Madras ..	111	72	183	82	94	176	66	53	119	112	68	180	926	832	1,758
Chingleput ..	56	41	97	36	23	59	38	31	69	32	25	57	426	343	769
North Arcot ..	72	38	110	75	48	133	69	69	138	77	57	134	819	724	1,543
South Arcot ..	36	18	54	30	33	63	36	27	63	58	44	102	450	350	800
Thanjavur ..	86	66	152	58	62	120	106	105	211	114	96	210	268	813	1,781
Trichirappalli ..	44	41	85	48	40	88	55	33	88	46	37	83	596	490	1,086
Pudukkottai ..	15	14	29	15	15	30	15	2	17	15	13	28	184	134	318
Madurai ..	104	98	202	114	100	214	87	66	153	106	71	177	1,256	1,014	2,270
Ramanathapuram ..	47	34	81	37	41	78	38	37	75	56	44	100	472	394	866
Tirunelveli ..	38	34	72	57	42	99	52	37	89	87	78	165	695	482	1,077
Salem ..	58	34	92	50	43	93	60	59	119	60	48	108	651	558	1,209
Dharmapuri ..	10	12	22	7	12	19	8	8	16	12	10	22	116	124	240
Coimbatore ..	96	79	175	97	85	182	104	71	175	118	93	211	1,154	943	2,097
The Nilgiris ..	8	6	14	8	12	20	10	8	18	8	12	20	109	101	210
Kanniyakumari ..	13	10	23	18	13	31	7	4	11	23	16	39	175	117	292
TOTAL ..	794	597	1,391	732	673	1,405	751	610	1,361	924	712	1,636	8,897	7,419	16,316

1974 STATE TOTAL STILL BIRTHS.

District.	January.			February.			March.			April.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras	66	48	114	58	51	109	86	98	184	88	67	155
Chingleput	32	23	55	22	21	43	25	13	38	27	29	56
North Arcot	51	52	103	72	63	135	61	66	127	60	52	112
South Arcot	41	27	68	28	29	57	40	25	65	33	34	67
Thanjavur	77	56	133	86	80	166	117	80	197	93	83	176
Tiruchirappalli	54	55	109	42	40	82	73	57	130	67	56	123
Pudukkottai	11	14	25	7	8	15	23	10	33	23	10	33
Madurai	90	66	156	112	70	182	100	102	202	14	126	267
Ramanathapuram	31	22	53	41	31	72	48	54	102	48	29	77
Tirunelveli	48	44	92	46	32	78	51	48	99	44	35	79
Salem	33	39	72	61	55	116	42	45	87	57	51	108
Dharmapuri	13	14	27	15	10	25	10	17	27	10	12	22
Coimbatore	93	86	179	92	75	167	78	74	152	114	98	212
The Nilgiris	13	9	22	16	14	30	8	5	17	12	7	19
Kanyakumari	18	17	35	22	15	37	24	27	51	32	25	57
Total	671	572	1,243	720	594	1,314	786	725	1,511	849	714	1,563

1974 STATE TOTAL STILL BIRTHS—cont.

District.	May.			June.			July.			August.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Madras	72	81	153	47	55	102	50	53	103	88	92	180
Chingleput	30	16	46	49	36	85	55	46	99	52	63	115
North Arcot	71	64	135	78	82	160	76	74	150	106	95	201
South Arcot	31	26	57	49	41	90	54	42	96	42	35	77
Thanjavur	72	73	145	67	69	135	85	51	136	107	60	167
Tiruchirappalli	59	47	106	55	40	95	60	47	107	52	55	107
Pudukkottai	17	11	28	1	14	29	18	15	33	14	10	24
Total	329	283	612	329	283	612	329	283	612	329	283	612

1974 STATE TOTAL STILL BIRTHS—cont.

District.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Madras	111	72	183	82	94	176	66	53	119	112	68	180	926	832	1,758
Chingleput	59	46	105	37	24	61	42	33	75	34	27	61	462	377	839
North Arcot	79	43	122	85	72	157	78	76	154	79	63	142	896	802	1,698
South Arcot	41	21	62	32	35	67	38	33	71	58	46	104	487	394	881
Thanjavur	92	71	163	69	71	140	113	110	223	121	105	226	1,099	909	2,008
Tiruchirappalli	56	47	103	51	45	96	60	38	98	65	50	115	694	577	1,271
Pudukkottai	17	14	31	16	17	33	16	3	19	16	13	29	193	139	332
Madurai	112	102	214	121	109	230	90	74	164	120	76	196	1,367	1,103	2,470
Ramanathapuram	53	39	92	42	44	86	44	42	86	63	51	114	554	448	1,002
Tirunelveli	48	41	89	64	47	111	63	42	105	91	83	174	688	550	1,238
Salem	64	39	103	53	48	101	67	63	130	63	55	118	718	624	1,342
Dharmapuri	12	14	26	9	12	21	11	8	19	13	13	26	137	142	279
Coimbatore	104	86	190	105	89	194	115	79	194	127	96	223	1,249	1,034	2,283
The Nilgiris	10	9	19	8	12	20	13	8	21	10	14	24	133	127	260
Kanyakumari	21	19	40	24	19	43	17	16	33	38	26	64	331	259	590
Total	829	663	1,492	798	738	1,536	833	678	1,511	1,010	786	1,796	9,934	8,317	18,251

STATEMENT SHOWING ORDER OF STILL BIRTHS BY AGE OF THE MOTHER AT CONFINEMENT
(RURAL) 1974.

Serial number and age group of mothers.	Males	Females	Total.
(1)	(2)	(3)	(4)
1. Below 15 years	..	..	..
2. 16 to 19 years	114	97	211
3. 20 to 24 years	198	268	566
4. 25 to 29 years	298	161	559
5. 30 to 34 years	196	178	374
6. 35 to 39 years	102	68	170
7. 40 to 44 years	25	21	46
8. 45 and above	4	5	9
Total ..	1,037	898	1,935

STATEMENT SHOWING ORDER OF STILL BIRTHS BY AGE OF MOTHERS IN MUNICIPALITIES 1974.

Serial number and age of group mothers.	Males.	Females.	Total.
(1)	(2)	(3)	(4)
1. Below 10 Years	16	14	30
2. 15 to 19 years	1,015	817	1,832
3. 20 to 24 years	22,98	1,955	4,253
4. 25 to 29 years	22,32	1,838	4,070
5. 30 to 34 years	1,314	1,126	2,440
6. 35 to 39 years	736	586	1,322
7. 40 to 44 years	158	148	306
8. 45 and above	18	21	39
Total ..	7,787	6,505	14,292

STATEMENT SHOWING DEATHS BY MONTHWISE FOR THE YEAR 1974 (RURAL).

District.	January.			February.			March.			April.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Chingleput ..	882	772	1,654	817	688	1,505	824	660	1,484	684	522	1,206
North Arcot ..	1,305	1,160	2,465	1,292	1,204	2,496	1,140	1,093	2,233	1,089	899	1,988
South Arcot ..	1,009	892	1,901	906	851	1,757	964	941	1,905	853	815	1,668
Thanjavur ..	1,229	1,188	2,417	1,169	1,170	2,339	1,122	1,138	2,260	1,048	1,041	2,089
Tiruchirappalli ..	1,121	1,078	2,199	38	813	1,651	949	870	1,819	865	812	1,677
Pudukkottai ..	225	184	409	223	207	430	221	203	424	177	169	346
Madurai ..	1,069	1,135	2,204	1,092	1,044	2,136	815	880	1,695	764	764	1,528
Ramanathapuram ..	594	585	1,179	546	554	1,100	557	547	1,104	538	512	1,050
Tirunelveli ..	1,079	1,068	2,147	1,023	979	2,002	857	829	1,686	702	643	1,345
Salem ..	688	568	1,251	399	415	814	630	589	1,219	670	618	1,288
Dharmapuri ..	555	454	1,009	469	383	852	459	410	869	446	422	868
Coimbatore ..	1,059	1,059	2,118	855	832	1,687	867	771	1,638	778	695	1,473
The Nilgiris ..	39	28	67	83	61	144	65	39	104	63	46	109
Kanyakumari ..	670	627	1,297	596	571	1,167	447	481	928	435	401	836
Total ..	11,519	10,798	22,317	10,308	9,772	20,080	9,917	9,451	19,368	9,112	8,359	17,471

STATEMENT SHOWING DEATHS BY MONTHWISE FOR THE YEAR 1974 (RURAL)—cont.

District.	May.			June.			July.			August.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)—cont.	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Chingleput ..	617	542	1,159	750	612	1,362	758	626	1,384	722	651	1,373
North Arcot ..	1,038	939	1,977	1,141	1,070	2,211	1,194	1,151	2,345	1,168	1,045	2,213
South Arcot ..	765	728	1,493	694	596	1,290	863	820	1,683	817	830	1,647
Thanjavur ..	981	914	1,895	800	901	1,701	920	808	1,728	960	886	1,846
Tiruchirappalli ..	781	795	1,576	918	946	1,864	1,237	1,242	2,479	852	907	1,759
Pudukkottai ..	172	138	310	162	165	327	158	179	337	204	161	365
Madurai ..	815	869	1,684	794	849	1,643	893	952	1,845	917	842	1,759
Ramanathapuram ..	460	477	937	573	527	1,100	572	512	1,084	646	610	1,256
Tirunelveli ..	712	629	1,341	699	609	1,308	701	596	1,297	701	645	1,346
Salem ..	661	654	1,315	782	702	1,484	734	947	1,681	783	759	1,542
Dharmapuri ..	480	430	910	474	437	911	455	444	899	490	427	917
Coimbatore ..	828	713	1,541	813	752	1,565	851	768	1,619	879	852	1,731
The Nilgiris ..	41	35	76	60	37	97	78	58	136	46	26	72
Kanyakumari ..	476	424	900	498	447	945	569	556	1,125	478	506	984
Total ..	8,827	8,287	17,114	9,158	8,650	17,808	9,983	9,659	19,642	9,663	9,147	18,810

STATEMENT SHOWING DEATHS BY MONTHWISE FOR THE YEAR 1974 (RURAL)—cont.

District.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)—cont.	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Chingleput ..	608	495	1,103	729	545	1,274	774	709	1,483	906	778	1,684	9,071	7,600	16,671
North Arcot ..	958	897	1,855	971	935	1,906	1,217	1,030	2,247	1,400	1,227	2,627	13,913	12,650	26,563
South Arcot ..	851	858	1,709	853	830	1,683	875	793	1,668	931	866	1,797	10,381	9,820	20,201
Thanjavur ..	880	895	1,775	833	843	1,676	943	949	1,892	1,036	1,117	2,153	11,921	11,850	23,771
Tiruchirappalli ..	1,031	1,028	2,059	1,004	953	1,957	1,110	1,037	2,147	1,025	1,092	2,117	11,731	11,573	23,304
Pudukkottai ..	185	140	325	182	163	345	172	197	369	250	207	457	2,331	2,113	4,444
Madurai ..	831	874	1,705	906	808	1,714	810	888	1,698	1,064	1,051	2,115	10,770	10,956	21,726
Ramanathapuram ..	551	545	1,096	597	544	1,141	652	538	1,190	728	651	1,379	7,014	6,602	13,616
Tirunelveli ..	770	630	1,400	807	765	1,572	794	686	1,480	962	865	1,827	9,807	3,944	18,751
Salem ..	728	689	1,417	777	693	1,470	773	703	1,476	765	670	1,435	8,385	8,007	16,392
Dharmapuri ..	403	399	802	448	436	884	547	476	1,023	534	468	1,002	5,760	5,186	10,946
Coimbatore ..	843	807	1,650	878	875	1,753	1,016	991	2,007	1,113	956	2,069	10,780	10,071	20,851
The Nilgiris ..	52	35	87	55	39	94	56	47	103	60	28	88	698	479	1,177
Kanyakumari ..	499	484	983	362	407	769	510	490	1,000	436	444	880	5,976	5,838	11,814
Total ..	9,190	8,776	17,966	9,402	8,836	18,238	10,249	9,534	19,783	11,210	10,420	21,630	1,18,538	1,11,689	2,30,227

STATEMENT SHOWING DEATHS BY MONTHWISE FOR THE YEAR, 1974 (URBAN)

District.	January.			February.			March.			April.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras ..	2,001	1,543	3,544	1,567	1,158	2,725	1,418	1,096	2,514	1,258	1,068	2,326
Chingleput ..	269	196	465	262	207	469	229	176	405	301	250	551
North Arcot ..	432	346	778	378	308	686	381	303	684	406	274	680
South Arcot ..	180	126	306	153	117	270	147	133	280	154	109	263
Thanjavur ..	407	332	739	337	269	606	321	276	597	324	323	647
Tiruchirappalli ..	296	252	548	425	298	723	381	307	688	299	261	560
Pudukkottai ..	45	44	89	44	26	70	51	35	86	49	36	85
Madurai ..	622	550	1,172	530	492	1,022	594	469	1,063	477	404	881
Ramanathapuram ..	280	261	541	251	196	447	215	221	436	233	176	409
Tirunelveli ..	419	393	812	410	315	725	354	294	648	381	269	650
Sal-m ..	323	233	556	257	204	461	250	227	477	264	239	503
Dharmapuri ..	93	48	141	28	46	74	47	37	84	51	20	71
Coimbatore ..	585	459	1,044	548	428	976	509	454	963	520	417	937
The Nilgiris ..	117	82	199	98	68	166	91	69	160	91	75	166
Kanyakumari ..	90	73	163	112	56	168	67	60	127	95	72	167
TOTAL ..	6,159	4,938	11,097	5,400	4,188	9,588	5,055	4,157	9,212	4,903	3,993	8,896

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	May.			June.			July.			August.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Madras ..	1,433	1,126	2,559	1,104	932	2,036	1,266	1,043	2,309	1,457	1,219	2,676
Chingleput ..	236	203	439	219	176	395	306	190	496	259	206	465
North Arcot ..	386	285	671	392	273	665	423	347	770	369	342	711
South Arcot ..	153	109	262	132	106	238	156	128	284	133	98	231
Thanjavur ..	369	277	646	272	216	488	269	240	509	247	211	458

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District.	September.			October.			November.			December.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
Madras ..	1,329	1,208	2,537	1,763	1,543	3,306	1,962	1,565	3,527	1,615	1,303	2,918
Chingleput ..	221	170	391	241	205	446	318	236	554	269	231	500
North Arcot ..	346	288	634	354	287	641	395	314	709	472	370	842
South Arcot ..	118	106	224	162	108	270	137	105	242	191	141	332
Thanjavur ..	290	238	528	351	257	608	300	270	570	364	348	712
Tiruchirappalli ..	290	247	537	291	266	557	288	201	489	337	278	615
Pudukkottai ..	24	23	47	47	32	79	31	32	63	34	26	60
Madurai ..	440	404	844	444	418	862	470	363	833	768	571	1,339
Ramanathapuram ..	244	186	430	239	195	434	179	177	356	282	205	487
Tirunelveli ..	324	250	574	344	246	590	296	261	557	426	334	760
Salem ..	250	207	457	263	235	498	299	243	542	324	255	579
Dharmapuri ..	26	18	44	38	24	62	32	22	54	32	34	66
Coimbatore ..	546	417	963	488	454	942	576	488	1,064	618	532	1,150
The Nilgiris ..	73	61	134	111	64	175	90	62	152	94	70	164
Kanyakumari ..	89	62	151	103	65	168	101	82	183	121	87	208
TOTAL ..	4,610	3,883	8,493	5,239	4,399	9,638	5,474	4,421	9,895	5,947	4,783	10,732

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STATE TOTAL DEATHS 1974.

Districts.	January			February			March			April		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras ..	2,001	1,543	3,544	1,367	1,158	2,725	1,418	1,096	2,514	1,258	1,068	2,326
Chingleput ..	1,151	968	2,119	1,079	895	1,974	1,053	836	1,889	988	732	1,720
North Arcot ..	1,737	1,506	3,243	1,670	1,512	3,182	1,521	1,396	2,917	1,495	1,173	2,668
South Arcot ..	1,189	1,018	2,207	1,059	968	2,027	1,111	1,074	2,185	1,007	924	1,931
Thanjavur ..	1,636	1,520	3,156	1,506	1,439	2,945	1,443	1,414	2,857	1,372	1,364	2,736
Tiruchirappalli ..	1,417	1,330	2,747	1,263	1,111	2,374	1,330	1,177	2,507	1,104	1,073	2,177
Pudukottai ..	270	228	498	267	233	500	272	238	510	226	205	431
Madurai ..	1,691	1,685	3,376	1,622	1,536	3,158	1,409	1,349	2,758	1,241	1,168	2,409
Ramanathapuram ..	874	846	1,720	797	750	1,547	772	768	1,540	771	688	1,459
Tirunelveli ..	1,498	1,461	2,959	1,433	1,294	2,727	1,211	1,123	2,334	1,083	912	1,995
Salem ..	1,006	801	1,807	656	619	1,275	880	816	1,696	934	857	1,791
Dharmapuri ..	648	502	1,150	497	429	926	506	447	953	497	442	939
Coimbatore ..	1,644	1,518	3,162	1,403	1,260	2,663	1,376	1,225	2,601	1,298	1,112	2,410
The Nilgiris ..	156	110	266	181	129	310	156	108	264	154	121	275
Kanyakumari ..	760	700	1,460	708	627	1,335	514	541	1,055	530	473	1,003
TOTAL ..	17,678	15,736	33,414	15,708	13,960	29,668	14,972	13,608	28,580	14,015	12,352	26,367

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Districts.	May			June			July			August		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Madras ..	1,433	1,126	2,559	1,104	932	2,036	1,266	1,043	2,309	1,457	1,219	2,676
Chingleput ..	853	745	1,598	969	788	1,757	1,064	816	1,880	981	857	1,838
North Arcot ..	1,424	1,224	2,648	1,533	1,343	2,876	1,617	1,498	3,115	1,537	1,387	2,924
South Arcot ..	918	837	1,755	826	702	1,528	1,019	948	1,967	950	928	1,878
Thanjavur ..	1,350	1,191	2,541	1,072	1,117	2,189	1,189	1,048	2,237	1,207	1,107	2,314

Districts.	September			October			November			December			Total		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
Tiruchirappalli ..	1,094	1,002	2,096	1,180	1,133	2,313	1,519	1,456	2,975	1,142	1,132	2,274	1,132	1,132	2,274
Pudukkottai ..	206	167	373	203	192	395	195	208	403	235	189	424	235	189	424
Madurai ..	1,344	1,328	2,672	1,299	1,255	2,554	1,430	1,402	2,832	1,431	1,266	2,697	1,431	1,266	2,697
Ramanathapuram ..	675	666	1,341	788	690	1,478	782	703	1,485	836	793	1,629	836	793	1,629
Tirunelveli ..	1,068	921	1,989	1,044	895	1,939	1,034	891	1,925	986	845	1,831	986	845	1,831
Salem ..	945	859	1,804	1,006	915	1,921	968	1,191	2,159	1,049	996	2,045	1,049	996	2,045
Dharmapuri ..	524	458	982	509	467	976	486	473	959	520	454	974	520	454	974
Coimbatore ..	1,342	1,164	2,506	1,358	1,167	2,525	1,377	1,212	2,589	1,431	1,246	2,677	1,431	1,246	2,677
The Nilgiris ..	152	110	262	167	98	265	171	125	296	129	95	224	129	95	224
Kanyakumari ..	560	489	1,049	600	509	1,109	637	609	1,246	569	550	1,119	569	550	1,119
TOTAL ..	13,888	12,287	26,175	13,658	12,203	25,861	14,754	13,623	28,377	14,460	13,064	27,524	14,460	13,064	27,524

Districts.	September			October			November			December			Total		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)
Madras ..	1,329	1,208	2,537	1,763	1,543	3,306	1,565	3,527	1,615	1,303	2,918	18,173	14,804	32,977	32,977
Chingleput ..	829	665	1,494	970	750	1,720	945	2,037	1,175	1,009	2,184	12,201	10,046	22,247	22,247
North Arcot ..	1,304	1,185	2,489	1,325	1,222	2,547	1,344	2,956	1,872	1,597	3,469	18,647	16,387	35,034	35,034
South Arcot ..	969	964	1,933	1,015	938	1,953	898	1,910	1,122	1,007	2,129	12,197	11,206	23,403	23,403
Thanjavur ..	1,170	1,133	2,303	1,184	1,100	2,284	1,219	2,462	1,400	1,465	2,865	15,772	15,117	30,889	30,889
Tiruchirappalli ..	1,321	1,275	2,596	1,295	1,219	2,514	1,398	2,636	1,362	1,370	2,732	15,485	14,516	30,001	30,001
Pudukkottai ..	209	163	372	229	195	424	229	432	284	233	517	2,799	2,480	5,279	5,279
Madurai ..	1,271	1,278	2,549	1,350	1,226	2,576	1,251	2,531	1,832	1,622	3,454	17,200	16,366	33,566	33,566
Ramanathapuram ..	795	731	1,526	836	739	1,575	715	1,546	1,010	856	1,866	9,767	8,945	18,712	18,712
Tirunelveli ..	1,094	880	1,974	1,151	1,011	2,162	947	2,037	1,388	1,199	2,587	14,080	12,379	26,459	26,459
Salem ..	978	896	1,874	1,040	928	1,968	946	2,018	1,089	925	2,014	11,623	10,749	22,372	22,372
Dharmapuri ..	429	417	846	486	460	946	498	1,077	566	502	1,068	6,247	5,549	11,796	11,796
Coimbatore ..	1,389	1,224	2,613	1,366	1,329	2,695	1,479	3,071	1,731	1,488	3,219	17,307	15,424	32,731	32,731
The Nilgiris ..	125	96	221	166	103	269	109	255	154	98	252	1,857	1,302	3,159	3,159
Kanyakumari ..	588	546	1,134	465	472	937	572	1,183	557	531	1,088	7,099	6,619	13,718	13,718
TOTAL ..	13,800	12,661	26,461	14,641	13,235	27,876	15,723	29,678	17,157	15,205	32,362	1,80,454	1,61,889	3,42,343	3,42,343

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CHOLERA — 1974.

	January	February	March	April	May	June	July	August	September	October	November	December	Males	Females	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	7	3	14	13	13	5	1	13	7	4	4	11	56	39	95
Ceingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	1	3	..	..	..	1	2	5	3	3	2	4	10	14	24
South Arcot ..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1
Thanjavur ..	6	2	..	..	..	..	..	..	..	..	..	..	3	3	8
Tiruchirappalli ..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Pudukottai ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madurai ..	2	..	..	..	..	..	..	..	2	..	1	..	6	1	7
Ramanathapuram ..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1
Tirunelveli ..	..	5	..	..	..	..	..	..	..	..	..	..	4	1	5
Salem ..	..	..	..	..	..	..	..	5	..	..	..	..	1	4	5
Dharmapuri ..	..	..	1	3	6	..	..	..	..	..	..	..	4	6	10
Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
The Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kanyakumari ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	16	13	15	17	19	6	3	23	12	10	7	16	88	69	157

SMALL POX — 1974.

	January	February	March	April	May	June	July	August	September	October	November	December	Males	Females	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
Ceingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thanjavur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tiruchirappalli ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pudukottai ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madurai ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ramanathapuram ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tirunelveli ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharmapuri ..	..	..	..	13	..	..	..	..	..	..	..	..	1	2	3
Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
The Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kanyakumari ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	..	..	..	3	..	..	1	..	..	..	..	..	2	2	4

HYDROPHOBIA — 1974.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	13	3	..	4	12	2	18	11	5	5	1	10	63	21	84
Chingleput ..	..	..	1	1	..	..	1	1	1	3	..	3	9	2	11
North Arcot ..	4	1	2	2	4	1	3	2	3	3	3	3	21	10	31
South Arcot ..	..	2	1	1	3	..	..	..	2	1	..	..	6	4	10
Thanjavur ..	6	7	4	5	7	3	4	4	4	8	5	4	40	21	61
Tiruchirappalli ..	1	1	1	1	2	1	1	1	2	2	2	2	12	5	17
Pudukottai ..	..	..	6	..	..	..	1	..	1	..	..	..	3	5	8
Madurai ..	1	5	4	4	..	3	2	3	2	3	1	2	26	4	30
Ramanathapuram ..	2	1	..	2	2	..	..	..	1	1	..	4	9	4	13
Tirunelveli ..	1	1	1	2	1	3	2	1	..	1	1	2	13	3	16
Salem ..	..	2	3	2	4	..	1	1	2	1	1	2	13	6	19
Dharmapuri ..	..	1	1	1	2	2	1	4	4	..	..	..	11	5	16
Coimbatore ..	2	4	3	7	4	3	3	2	3	..	3	4	30	8	38
The Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kanyakumari ..	1	..	..	..	1	1	1	..	..	..	..	..	4	..	4
Total ..	31	28	27	32	42	19	38	30	30	28	17	36	260	98	358

CAUSES OF DEATHS—STATE TOTAL—1974.

Serial number.	Causes of Deaths.		Males.		Females.		Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Cholera	..	..	..	..	..	157
2	Small pox	..	..	..	2	..	4
3	Hydrophobia	..	..	..	98	..	358
4	Fever	..	..	..	33,273	..	66,247
5	Dysentery and Diarrhoea	..	..	..	10,834	..	21,819
6	Respiratory Diseases	..	..	..	12,362	..	29,867
7	Suicides	..	..	..	610	..	1,553
8	Wounds and Accidents	..	..	..	1,300	..	4,199
9	Snake Bites	..	..	..	463	..	1,248
10	Maternal Deaths	..	..	..	1,982	..	1,982
11	Killed by Wild Beasts	..	..	..	8	..	19
12	All other Causes	..	..	..	1,00,888	..	2,14,890
Total	..	..	..	..	1,61,889	..	3,42,343

FEVERS—1974.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	213	386	100	196	55	53	38	98	41	49	95	83	764	643	1,407
Chingleput ..	399	349	367	337	312	339	332	365	249	296	369	374	2,049	2,039	4,088
North Arcot ..	860	775	787	782	778	878	914	871	751	836	906	1,125	5,186	5,077	10,263
South Arcot ..	750	737	719	644	580	527	641	654	639	687	625	689	4,025	3,867	7,892
Thanjavur ..	424	321	323	293	300	250	232	242	245	198	212	282	1,576	1,746	3,322
Tiruchirapalli ..	510	392	414	383	464	491	570	391	442	514	516	407	2,670	2,824	5,494
Pudukottai ..	108	60	94	55	49	46	57	65	43	43	47	37	347	357	704
Madurai ..	646	541	520	525	568	556	659	571	602	617	596	750	3,403	3,748	7,151
Ramanathapuram ..	495	448	521	433	283	348	372	382	332	330	319	383	2,280	2,366	4,646
Tirunelveli ..	563	566	508	355	387	378	344	387	393	429	384	480	2,598	2,576	5,174
Salem ..	382	409	254	414	460	546	550	557	486	587	446	560	2,802	2,849	5,651
Dharmapuri ..	380	287	306	325	305	309	323	304	297	326	343	367	1,966	1,906	3,872
Coimbatore ..	511	423	443	390	393	389	379	414	399	412	464	492	2,555	2,584	5,139
The Nilgiris ..	40	45	35	47	37	40	45	45	36	46	37	39	297	195	492
Kanyakumari ..	83	97	50	74	88	95	109	73	80	47	102	54	456	496	952
Total ..	6,364	5,836	5,441	5,253	5,059	5,245	5,565	5,449	5,035	5,417	5,461	6,122	32,974	33,273	66,247

DYSENTRY AND DIARRHOEA—1974.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	456	246	123	223	233	150	177	214	279	174	213	176	1,408	1,256	2,664
Chingleput ..	113	99	118	121	117	155	152	140	100	104	115	132	753	713	1,466
North Arcot ..	243	285	256	188	199	277	278	301	190	170	210	249	1,400	1,446	2,846
South Arcot ..	282	229	234	170	186	151	194	166	150	129	159	142	1,084	1,108	2,192
Thanjavur ..	283	231	228	184	197	145	181	168	157	127	126	125	1,066	1,086	2,152
Tiruchirapalli ..	241	203	180	140	133	172	209	140	195	154	138	115	1,048	972	2,020
Pudukottai ..	15	8	24	14	18	16	19	19	13	13	10	20	100	89	189
Madurai ..	144	102	105	88	95	101	131	131	131	141	163	140	682	790	1,472
Ramanathapuram ..	92	76	49	49	58	62	58	96	72	76	75	91	441	413	854
Tirunelveli ..	210	164	116	122	132	129	129	94	130	109	98	140	811	762	1,573
Salem ..	72	49	28	67	70	96	94	76	66	80	50	46	389	405	794
Dharmapuri ..	50	33	49	52	87	56	50	63	53	45	56	48	337	305	642
Coimbatore ..	154	121	120	134	127	194	137	171	141	145	119	117	832	848	1,680
The Nilgiris ..	20	23	27	15	21	24	15	5	12	25	9	9	118	87	205
Kanyakumari ..	205	159	77	51	73	89	75	76	76	75	64	50	516	554	1,070
Total ..	2,580	2,028	1,734	1,618	1,746	1,817	1,899	1,860	1,765	1,567	1,605	1,600	10,985	10,834	21,819

RESPIRATORY DISEASES—1974.

	January.	February	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	714	274	530	390	452	362	482	572	629	571	644	530	3,415	2,735	61,50
Chingleput ..	166	162	166	151	150	183	148	155	126	172	147	148	1,176	698	1,874
North Arcot ..	288	263	223	260	214	228	243	234	199	199	282	296	1,805	1,124	2,929
South Arcot ..	106	124	118	97	104	111	111	90	79	123	113	103	783	496	1,279
Thanjavur ..	229	227	196	196	214	148	207	192	182	195	210	268	1,427	1,037	2,464
Tiruchirappalli ..	166	150	168	155	123	132	162	126	136	89	142	99	976	672	1,648
Pudukkottai ..	21	8	34	31	19	19	24	33	16	21	17	14	171	86	257
Madurai ..	145	155	129	170	175	204	189	203	183	183	185	264	1,310	875	2,185
Ramanathapuram ..	97	95	109	126	94	108	102	117	99	117	81	93	744	494	1,238
Tirunelveli ..	187	178	154	175	168	155	148	119	124	173	140	178	1,158	741	1,899
Salem ..	171	148	118	154	171	192	229	155	155	177	191	225	1,184	902	2,086
Dharmapuri ..	67	56	82	66	57	65	60	66	44	80	66	61	436	334	770
Coimbatore ..	270	248	257	244	248	228	192	213	227	234	277	281	1,738	1,181	2,919
The Nilgiris ..	61	40	63	44	64	64	47	41	52	59	52	54	371	270	641
Kanyakumari ..	138	117	95	103	114	95	157	138	149	147	129	146	811	717	1,528
Total ..	2,826	2,245	2,442	2,362	2,367	2,294	2,501	2,454	2,400	2,540	2,676	2,756	17,505	12,362	29,867

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	21	19	15	19	16	8	16	11	8	19	..	5	102	55	157
Chingleput ..	12	4	7	6	2	6	4	4	8	9	7	1	41	29	70
North Arcot ..	7	14	6	5	8	8	11	6	6	10	11	9	53	48	101
South Arcot ..	3	4	3	5	5	4	3	5	1	3	1	11	34	14	48
Thanjavur ..	22	14	24	23	14	15	14	18	16	23	21	17	117	106	223
Tiruchirappalli ..	8	10	14	4	7	5	8	8	6	6	13	9	63	35	98
Pudukkottai ..	3	..	2	3	2	1	2	2	2	2	..	4	17	6	23
Madurai ..	9	9	8	15	4	8	10	12	12	10	14	16	80	47	127
Ramanathapuram ..	3	3	2	9	7	6	7	6	6	4	10	4	42	25	67
Tirunelveli ..	8	6	12	20	13	15	14	8	10	11	13	14	91	53	144
Salem ..	6	7	5	6	14	6	11	7	7	11	16	15	60	51	111
Dharmapuri ..	6	3	8	7	9	9	12	10	5	4	4	17	48	46	94
Coimbatore ..	15	17	14	13	13	13	15	12	13	13	16	14	99	69	168
The Nilgiris ..	2	..	2	8	1	..	1	4	2	3	1	2	20	6	26
Kanyakumari ..	4	10	8	6	6	6	2	7	9	4	21	13	76	20	96
Total ..	129	120	130	149	121	110	130	120	111	132	150	151	943	610	1,553

WOUNDS AND ACCIDENTS—1974

	January	February	March	April	May	June	July	August	September	October	November	December	Males	Females	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	65	212	141	57	76	40	46	62	40	48	46	91	646	278	924
Chingleput ..	24	17	19	27	10	24	24	19	12	28	27	24	196	59	255
North Arcot ..	37	18	43	33	27	27	28	28	27	21	29	42	239	121	360
South Arcot ..	15	15	15	16	14	17	16	11	12	12	19	19	125	56	181
Thanjavur ..	22	21	15	20	30	30	19	25	21	16	27	26	185	87	272
Tiruchirappalli ..	18	24	39	16	27	28	34	22	27	22	30	33	221	99	320
Pudukkottai ..	..	1	2	4	1	3	3	8	..	2	5	6	24	11	35
Madurai ..	19	21	27	28	35	26	21	22	20	20	23	66	179	149	328
Ramanathapuram ..	7	9	17	11	18	8	17	20	17	10	9	14	113	44	157
Tirunelveli ..	13	17	19	18	18	27	17	17	22	22	23	21	176	58	234
Salem ..	19	27	23	24	32	29	27	21	10	9	17	18	183	73	256
Dharmapuri ..	8	5	5	10	2	11	8	18	5	10	4	7	68	23	93
Coimbatore ..	43	49	38	53	49	55	47	42	45	47	46	46	378	182	560
The Nilgiris ..	3	1	10	6	4	6	1	4	3	1	3	5	30	17	47
Kanyakumari ..	18	21	17	11	17	12	6	12	12	13	18	20	136	41	177
Total ..	311	458	430	334	360	343	314	331	273	281	326	436	2,899	1,300	4,199

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SNAKE BITES—1974

	January	February	March	April	May	June	July	August	September	October	November	December	Males	Females	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput ..	12	4	8	4	9	10	13	5	10	7	3	8	56	37	93
North Arcot ..	8	9	7	7	22	8	13	15	11	7	9	10	79	47	126
South Arcot ..	5	7	12	12	5	10	10	9	18	20	8	10	81	45	126
Thanjavur ..	5	2	5	11	10	13	9	18	14	13	11	12	78	45	123
Tiruchirappalli ..	4	1	8	10	2	8	3	8	7	10	9	5	45	30	75
Pudukkottai ..	2	..	..	..	1	5	..	1	3	2	..	2	8	8	16
Madurai ..	10	9	17	19	17	8	14	8	12	14	1	12	86	55	141
Ramanathapuram ..	4	2	1	15	10	2	3	5	7	3	7	2	46	15	61
Tirunelveli ..	6	4	4	18	12	14	10	4	6	4	7	11	63	34	100
Salem ..	9	5	3	8	11	5	14	4	8	13	8	4	59	33	92
Dharmapuri ..	7	4	..	7	5	3	8	17	7	9	7	4	50	28	78
Coimbatore ..	6	13	17	19	20	12	16	18	18	13	14	13	113	71	184
The Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kanyakumari ..	2	4	4	1	3	3	4	..	2	..	6	4	18	15	33
Total ..	80	64	86	131	127	101	117	112	123	115	90	102	785	463	1,248

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MATERNAL DEATHS—1974.

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	2	—	—	5	2	8	—	..	..	21	15	16	..	71	71
Chingleput ..	5	4	10	3	12	13	5	13	10	8	11	8	..	102	102
North Arcot ..	26	18	21	18	24	38	38	27	30	26	15	27	..	308	308
South Arcot ..	5	5	8	12	8	17	13	14	13	7	13	9	..	126	126
Thanjavur ..	22	19	17	22	28	12	13	26	20	18	17	21	..	235	235
Tiruchirappalli ..	17	7	10	23	14	26	19	14	21	12	11	17	..	191	191
Pudukkottai ..	1	2	4	5	9	2	3	5	4	1	2	2	..	40	40
Madurai ..	13	13	12	10	13	16	8	15	11	10	7	12	..	140	140
Ramanathapuram ..	14	5	17	3	11	10	10	13	12	8	6	8	..	117	117
Tirunelveli ..	15	13	9	13	18	16	25	16	12	15	26	20	..	198	198
Salem ..	5	10	11	5	8	7	18	6	7	5	4	10	..	96	96
Dharmapuri ..	4	6	10	7	8	7	4	3	3	14	7	5	..	78	78
Coimbatore..	18	19	18	15	29	20	16	17	15	9	11	24	..	211	211
The Nilgiris ..	..	2	1	3	2	1	2	1	4	2	1	2	..	21	21
Kanyakumari ..	4	3	2	3	6	2	2	3	5	3	8	7	..	48	48
Total ..	151	126	150	147	192	195	176	173	167	159	156	193	..	1,982	1,982

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DIPHTHERIA (MUNICIPALITIES ONLY)—1974.

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	1	..	..	..	3	..	3	..	2	..	..	11	12	8	20
Chingleput ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
North Arcot ..	..	..	..	..	2	1	..	..	..	1	..	..	3	1	4
South Arcot ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Thanjavur ..	1	..	..	2	2	1	..	3	1	..	..	..	4	6	10
Tiruchirappalli ..	2	1	..	1	1	..	1	1	1	1	1	1	8	3	11
Pudukkottai ..	..	..	1	..	..	1	1	..	..	..	..	..	3	..	3
Madurai ..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Ramanathapuram ..	1	..	..	..	1	..	1	1	1	1	..	..	2	4	6
Tirunelveli ..	..	..	..	1	..	1	..	..	..	1	..	..	1	3	4
Salem ..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1
Dharmapuri ..	..	..	..	1	1	..	..	..	..	..	..	..	1	1	2
Coimbatore ..	..	3	2	3	1	4	2	3	2	1	1	..	9	13	22
The Nilgiris ..	..	..	1	..	..	..	1	1	..	..	1	..	1	3	4
Kanyakumari ..	1	..	..	..	..	..	..	1	..	..	..	1	1	2	3
Total ..	6	4	5	8	11	8	9	12	8	5	3	14	46	47	93

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KILLED BY WILD BEASTS—1974.

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Madras ..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1
Chingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
South Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Thanjavur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tiruchirappalli ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pudukkottai ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madurai ..	..	..	..	1	..	2	..	..	..	..	..	..	1	2	3
Ramanathapuram ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tirunelveli ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dharmapuri ..	..	..	1	..	..	..	2	..	..	1	..	2	5	1	6
Coimbatore ..	1	1	..	1	..	2	..	..	..	..	..	1	3	3	6
The Nilgiris ..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Kanyakumari ..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
Total ..	5	2	1	2	1	5	2	..	..	1	..	4	11	8	19

ALL OTHER CAUSES—1974.
+ MEASLES + DPTHERIA

Name of District.	January.	February.	March.	April.	May.	June.	July.	August.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Madras ..	..	..	..	..	..	..	..	..
Chingleput ..	..	..	..	..	..	..	..	..
North Arcot ..	..	..	..	..	..	..	..	..
South Arcot ..	..	..	..	..	..	..	..	..
Thanjavur ..	..	..	..	..	..	..	..	..
Tiruchirappalli ..	..	..	..	..	..	..	..	..
Pudukkottai ..	..	..	..	..	..	..	..	..
Madurai ..	..	..	..	..	..	..	..	..
Ramanathapuram ..	..	..	..	..	..	..	..	..
Tirunelveli ..	..	..	..	..	..	..	..	..
Salem ..	..	..	..	..	..	..	..	..
Dharmapuri ..	..	..	..	..	..	..	..	..
Coimbatore ..	..	..	..	..	..	..	..	..
The Nilgiris ..	..	..	..	..	..	..	..	..
Kanyakumari ..	..	..	..	..	..	..	..	..
Total ..	21,269	19,168	17,728	16,306	16,329	15,962	17,365	17,022

Name of Districts.	September.	October.	November.	December.	Males.	Females.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Madras ..	1,528	2,415	2,509	1,993	11,717	9,706	21,423
Chingleput ..	921	1,093	1,346	1,494	7,921	6,367	14,288
North Arcot ..	1,265	1,298	1,528	1,689	9,857	8,188	18,045
South Arcot ..	942	972	953	1,155	6,057	5,491	11,548
Thanjavur ..	1,621	1,676	1,837	2,123	11,278	10,751	22,029
Trichy ..	1,675	1,597	1,660	1,890	10,458	9,679	20,137
Madurai ..	1,569	1,572	1,547	2,194	11,427	10,555	21,982
Ramanathapuram ..	975	1,017	1,018	1,255	6,087	5,471	11,558
Tirunelveli ..	1,766	1,390	1,350	1,736	9,163	7,953	17,116
Salem ..	1,141	1,129	1,287	1,134	6,931	6,351	13,282
Dharmapuri ..	426	457	593	559	3,317	2,817	6,134
Coimbatore ..	1,751	1,837	2,101	2,188	11,558	10,268	21,826
The Nilgiris ..	116	139	158	147	1,021	705	1,726
Kanyakumari ..	796	650	637	800	5,081	4,728	9,809
Pudukottai ..	288	346	360	432	2,129	1,876	4,007
Tota	16,280	17,588	19,084	20,789	114,002	100,888	214,890

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STATEMENT SHOWING MATERNAL DEATHS BY MONTHWISE FOR THE YEAR 1974.

(RURAL.)

Serial number and name of districts.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November	December.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1 Chingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..
2 North Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..
3 South Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..
4 Thanjavur ..	..	..	..	..	..	..	..	..	..	..	..	..	..
5 Tiruchirappalli ..	..	..	..	..	..	..	..	..	..	..	..	..	..
6 Pudukkottai ..	..	..	..	..	..	..	..	..	..	..	..	..	..
7 Madurai ..	..	..	..	..	..	..	..	..	..	..	..	..	..
8 Ramanathapuram ..	..	..	..	..	..	..	..	..	..	..	..	..	..
9 Tirunelveli ..	..	..	..	..	..	..	..	..	..	..	..	..	..
10 Salem ..	..	..	..	..	..	..	..	..	..	..	..	..	..
11 Dharmapuri ..	..	..	..	..	..	..	..	..	..	..	..	..	..
12 Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..
13 The Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..
14 Kanyakumari ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total..	..	..	..	..	..	..	..	..	..	..	..	..	..

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STATEMENT SHOWING METERNAL DEATHS BY MONTHWISE FOR THE YEAR 1974.

(URBAN.)

Serial number and name of districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1 Madras	2	..	..	5	2	8	..	..	..	21	15	18	71
2 Chingleput	1	..	4	..	5	3	2	5	3	1	3	3	30
3 North Arcot	13	9	12	10	12	22	16	12	16	9	5	12	145
4 South Arcot	2	1	3	2	3	1	5	4	3	1	6	5	36
5 Thanjavur	11	5	5	7	7	3	4	8	6	3	7	6	72
6 Tiruchirappalli	5	3	3	11	5	7	6	3	6	4	3	9	65
7 Pudukkottai	..	2	4	3	6	2	2	1	3	..	2	..	25
8 Madurai	4	8	6	7	5	11	1	9	4	9	2	..	73
9 Ramanathapuram	8	3	7	1	7	4	6	7	5	5	4	5	62
10 Tirunelveli	8	5	3	5	9	7	11	7	7	6	13	9	90
11 Salem	3	2	2	5	3	2	5	3	1	1	1	6	32
12 Dharmapuri	2	4	1	2	1	1	..	2	1	10	1	3	28
13 Coimbatore	6	13	10	9	20	13	10	11	5	5	10	15	130
14 The Nilgiris	..	2	1	2	2	1	2	1	4	2	1	2	20
15 Kanyakumari	2	1	2	1	2	1	..	2	3	1	3	4	22
Total	67	58	63	70	89	86	70	73	70	78	76	104	904

STATEMENT SHOWING MATERNAL DEATHS BY MONTHWISE FOR THE YEAR 1974.

(STATE).

Serial number and name of district.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1 Madras	2	..	..	5	2	8	..	..	..	21	15	18	71
2 Chingleput	5	4	10	3	11	14	5	13	10	8	10	9	102
3 North Arcot	25	20	22	18	24	37	38	27	29	26	15	27	308
4 South Arcot	5	5	8	12	8	15	13	16	13	7	15	9	126
5 Thanjavur	22	18	18	21	29	12	12	27	20	18	17	21	235
6 Tiruchirappalli	16	7	10	20	14	26	20	14	22	12	12	18	191
7 Pudukkottai	1	2	4	5	9	2	3	5	4	1	2	2	40
8 Madurai	11	15	11	10	14	16	8	14	12	10	7	12	140
9 Ramanathapuram	14	6	17	3	11	9	10	13	12	8	6	8	117
10 Tirunelveli	15	13	9	13	18	16	25	15	13	15	26	20	198
11 Salem	5	5	10	14	8	4	18	6	7	5	4	10	96
12 Dharmapuri	4	6	10	7	7	8	4	3	3	14	7	5	78
13 Coimbatore	18	19	18	15	29	20	16	17	15	9	12	23	211
14 The Nilgiris	..	2	1	3	2	1	2	1	4	2	1	2	21
15 Kanyakumari	4	3	2	3	6	2	2	3	5	3	8	7	48
Total	147	125	150	152	192	190	176	174	169	159	157	191	1,982

STATEMENT SHOWING THE TOTAL NUMBER OF INFANT DEATHS IN THE TAMIL NADU STATE FOR THE YEAR 1974.

(RURAL).

Districts.	January.		February.		March.		April.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Chingleput ..	122	104	89	74	99	60	66	65
North Arcot ..	143	135	171	163	133	126	153	136
South Arcot ..	87	57	66	76	81	58	74	68
Thanjavur ..	105	87	119	70	103	78	63	87
Tiruchirappalli ..	107	111	80	74	81	70	57	73
Pudukottai ..	6	10	4	8	5	8	3	11
Madurai ..	123	134	118	99	81	105	107	98
Ramanathapuram ..	65	50	47	38	52	35	60	45
Tirunelveli ..	157	129	145	122	118	111	91	94
Salem ..	72	58	40	47	43	68	63	65
Dharmapuri ..	63	43	57	35	24	36	45	35
Coimbatore ..	95	86	95	91	78	80	81	87
The Nilgiris ..	2	6	14	9	7	9	6	8
Kanyakumari ..	98	102	93	93	67	75	71	55
Total ..	1,245	1,112	1,138	989	972	923	885	907

Total .. 1,245 1,112 1,138 989 972 923 885 907 1,902

STATEMENT SHOWING THE TOTAL NUMBER OF INFANT DEATHS IN THE TAMIL NADU STATE FOR THE YEAR 1974—cont.

(RURAL).

District.	May.		June.		July.		August.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)—cont.	(14)	(15)	(16)	(18)	(20)	(21)	(23)	(24)
Chingleput ..	78	66	144	102	120	67	90	90
North Arcot ..	119	123	242	162	191	199	158	137
South Arcot ..	60	66	126	68	93	71	80	73
Thanjavur ..	79	73	152	87	92	63	100	71
Tiruchirappalli ..	95	69	164	99	126	126	101	107
Pudukottai ..	8	10	18	6	7	9	18	12
Madurai ..	109	103	212	98	127	109	146	117
Ramanathapuram ..	33	46	79	62	67	66	71	57
Tirunelveli ..	83	83	166	72	99	84	103	93
Salem ..	55	78	133	93	67	116	86	91
Dharmapuri ..	40	34	74	37	33	32	43	49
Coimbatore ..	53	63	146	83	80	79	66	71
The Nilgiris ..	8	7	15	4	11	10	8	8
Kanyakumari ..	92	70	162	86	131	110	88	110
Total ..	942	891	1,833	1,059	1,244	1,141	1,158	1,086

Total .. 942 891 1,833 1,059 1,244 1,141 1,158 1,086 2,244

District.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)—cont.	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Chingleput ..	59	56	115	90	76	166	100	61	161	108	86	194	1,114	913	2,027
North Arcot ..	143	118	261	134	136	270	159	155	314	177	173	350	1,854	1,763	3,617
South Arcot ..	92	90	182	122	100	222	92	76	168	105	101	206	1,010	914	1,914
Thanjavur ..	82	70	152	91	67	158	64	63	127	84	69	153	1,070	885	1,955
Tiruchirappalli ..	132	104	236	87	95	182	129	115	244	82	88	170	1,197	1,131	2,328
Pudukottai ..	8	9	17	8	13	21	11	10	21	5	2	7	94	108	202
Madurai ..	124	113	237	122	118	240	114	117	231	126	117	243	1,399	1,326	2,725
Ramanathapuram ..	81	59	140	62	53	115	49	40	89	48	35	83	697	587	1,284
Tirunelveli ..	113	110	223	134	128	262	101	78	179	125	99	221	1,351	1,240	2,591
Salem ..	70	74	144	61	74	135	97	99	196	73	95	168	814	958	1,772
Dharmapuri ..	34	33	67	45	56	101	62	55	117	53	45	98	540	488	1,028
Coimbatore ..	70	70	140	83	68	151	93	102	195	110	95	205	1,016	952	1,968
The Nilgiris ..	10	10	20	12	6	18	15	10	26	4	1	5	160	82	242
Kanyakumari ..	78	91	169	59	58	117	80	80	160	94	88	182	1,059	1,025	2,084
Total ..	1,096	1,007	2,103	1,110	1,048	2,158	1,167	1,061	2,228	1,194	1,091	2,285	13,331	12,325	25,656

STATEMENT SHOWING THE INFANT DEATHS BY MONTHWISE FOR THE YEAR 1974—(STATE)

(URBAN.)

Districts.	January.			February.			March.			April.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras ..	393	310	703	232	225	457	218	168	386	208	217	425
Chingleput ..	23	25	48	25	36	61	24	20	44	46	41	87
North Arcot ..	66	67	133	58	49	107	53	53	106	64	51	115
South Arcot ..	19	8	27	43	9	22	17	19	36	20	22	42
Thanjavur ..	37	30	67	33	33	66	53	40	93	25	42	67
Tiruchirappalli ..	42	54	96	73	49	122	58	61	119	45	48	93
Pudukottai ..	9	9	18	9	4	13	9	7	16	9	5	14
Madurai ..	126	89	215	106	87	193	100	89	189	69	66	135
Ramanathapuram ..	43	35	78	41	21	62	27	22	49	35	26	61
Tirunelveli ..	65	42	107	59	41	100	64	48	112	60	51	111
Salem ..	47	41	88	42	35	77	33	37	70	42	49	91
Dharmapuri ..	17	6	23	7	21	28	7	3	10	4	5	9
Coimbatore ..	103	75	178	83	74	157	57	73	130	68	63	131
The Nilgiris ..	25	17	42	19	15	34	18	10	28	15	20	35
Kanyakumari ..	7	5	12	17	11	28	12	6	18	15	12	27
Total ..	1,022	813	1,835	817	710	1,527	750	656	1,406	725	718	1,443

Districts.	May.			June.			July.			August.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)—cont.	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Madras	282	248	530	227	211	438	190	204	394	289	270	559
Chingleput	21	29	50	31	19	50	44	35	79	42	38	80
North Arcot	60	57	117	70	63	133	111	72	183	76	64	140
South Arcot	21	13	34	17	9	26	18	19	37	21	7	28
Thanjavur	47	40	87	29	25	54	45	33	78	41	36	77
Tiruchirappalli	39	36	75	40	27	67	38	29	67	43	31	74
Pudukottai	7	2	9	13	4	17	8	4	12	2	7	9
Madurai	101	76	177	94	66	160	108	98	206	108	84	192
Ramanathapuram	38	29	67	34	34	68	45	38	83	25	36	61
Tirunelveli	53	38	91	46	44	90	51	40	91	47	30	77
Salem	36	28	64	35	40	75	38	30	68	38	37	75
Dharmapuri	6	6	12	2	4	6	..	1	1	6	4	10
Coimbatore	94	79	173	78	70	148	66	70	136	92	59	151
The Nilgiris	17	12	29	15	13	28	17	10	27	13	22	35
Kanyakumari	17	8	25	17	18	35	11	10	21	12	11	23
Total ..	839	701	1,540	748	647	1,395	790	693	1,483	855	736	1,591

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Districts.	September.			October.			November.			December.			Total.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)—cont.	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Madras	321	281	602	497	419	916	399	353	752	346	325	671	3,602	3,231	6,833
Chingleput	26	21	47	26	40	66	38	25	63	40	36	76	386	365	751
North Arcot	58	58	116	60	65	125	76	57	133	78	70	148	830	726	1,556
South Arcot	10	14	24	18	21	39	27	17	44	19	28	47	220	186	406
Thanjavur	44	41	85	46	40	86	35	41	76	29	41	70	464	442	906
Tiruchirappalli	37	33	70	42	42	84	33	18	51	54	38	92	544	466	1,010
Pudukottai	6	..	6	9	4	13	4	4	8	4	2	6	89	52	141
Madurai	96	80	176	88	87	175	90	67	157	130	102	232	1,216	991	2,207
Ramanathapuram	43	36	79	35	26	61	31	23	54	50	27	77	447	353	800
Tirunelveli	46	39	85	60	51	111	45	49	94	65	45	110	661	518	1,179
Salem	42	29	71	46	45	91	50	41	91	40	46	86	489	458	947
Dharmapuri	3	3	6	5	9	14	3	5	8	4	11	15	64	78	142
Coimbatore	71	59	130	74	77	151	105	78	183	99	75	174	990	852	1,842
The Nilgiris	11	12	23	24	16	40	9	15	24	26	18	44	209	180	389
Kanyakumari	15	8	23	23	9	32	11	12	23	21	17	38	178	127	305
Total ..	829	714	1,543	1,053	951	2,004	956	805	1,761	1,605	881	1,886	10,389	9,025	19,414

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STATEMENT SHOWING THE INFANT DEATHS BY MONTHWAR FOR THE YEAR 1974—(STATE)

Districts.	January			February			March			April		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Madras	393	310	703	232	225	457	248	168	386	208	217	425
Chingleput	145	129	274	114	110	224	123	86	209	112	106	218
North Arcot	2099	202	411	229	212	441	186	179	365	217	187	404
South Arcot	106	65	171	79	35	164	98	77	175	94	90	184
Thanjavur	142	117	259	152	103	255	156	118	274	108	129	237
Tiruchirapalli	149	165	314	153	123	276	139	131	270	152	121	273
Pudukottai	15	19	34	13	12	25	14	15	29	17	16	33
Madurai	249	223	472	224	186	410	181	192	373	176	164	340
Ramanathapuram	108	85	193	88	59	147	79	57	136	95	72	167
Tirunelveli	222	171	393	204	163	367	182	159	341	151	145	296
Salem	119	99	218	82	82	164	76	105	181	105	114	219
Dharmapuri	80	49	129	64	56	120	31	39	70	48	38	86
Coimbatore	198	161	359	178	165	343	135	153	288	149	127	276
The Nilgiris	27	23	50	33	24	57	25	19	44	21	22	43
Kanyakumari	105	107	212	110	104	214	79	81	160	86	77	163
Total	2,267	1,925	4,192	1,955	1,709	3,664	1,722	1,579	3,301	1,720	1,625	3,345

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STATEMENT SHOWING THE INFANT DEATHS BY MONTHWAR FOR THE YEAR 1974 (STATE)—cont.

Districts.	May			June			July			August		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Madras	282	248	530	227	211	438	190	204	394	289	270	559
Chingleput	99	95	194	124	121	245	164	102	266	132	128	260
North Arcot	179	180	359	243	225	468	302	271	573	284	291	435
South Arcot	81	79	160	75	77	152	111	90	201	101	80	181
Thanjavur	126	113	239	97	112	209	137	96	233	141	107	248
Tiruchirapalli	134	105	239	130	126	256	164	155	319	144	138	282
Pudukottai	15	12	27	19	10	29	15	13	28	20	16	36
Total	1,781	1,592	3,373	1,818	1,706	3,524	2,034	1,834	3,868	2,013	1,822	3,835

Districts.	September			October			November			December		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
Madras	321	281	602	497	419	916	399	353	752	346	325	671
Chingleput	85	77	162	116	116	232	138	86	224	148	122	270
North Arcot	201	176	377	194	201	395	235	212	447	255	243	498
South Arcot	102	104	206	140	121	261	119	93	212	124	129	253
Thanjavur	126	111	237	137	107	244	99	104	203	113	110	223
Tiruchirapalli	169	137	306	129	137	266	162	133	295	136	126	262
Pudukottai	14	9	23	17	17	34	15	14	29	9	4	13
Madurai	220	193	413	210	205	415	204	184	388	256	219	475
Ramanathapuram	124	95	219	97	79	176	80	63	143	98	62	160
Tirunelveli	159	149	308	194	179	373	146	127	273	190	141	331
Salem	112	103	215	107	119	226	147	140	287	113	141	254
Dharmapuri	37	36	73	50	65	115	65	60	125	57	56	113
Coimbatore	141	129	270	157	145	302	198	180	378	209	170	379
The Nilgiris	21	22	43	36	22	58	25	25	50	30	19	49
Kanyakumari	93	99	192	82	67	149	91	92	183	115	105	220
Total	1,925	1,721	3,646	2,163	1,999	4,162	2,123	1,866	3,989	2,199	1,972	4,171
												23,720
												21,350
												450,70

STATEMENT SHOWING THE INFANT DEATHS BY MONTHWAR FOR THE YEAR 1974 (STATE)—cont.

Districts.	September			October			November			December		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
(1)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)
Madras	321	281	602	497	419	916	399	353	752	346	325	671
Chingleput	85	77	162	116	116	232	138	86	224	148	122	270
North Arcot	201	176	377	194	201	395	235	212	447	255	243	498
South Arcot	102	104	206	140	121	261	119	93	212	124	129	253
Thanjavur	126	111	237	137	107	244	99	104	203	113	110	223
Tiruchirapalli	169	137	306	129	137	266	162	133	295	136	126	262
Pudukottai	14	9	23	17	17	34	15	14	29	9	4	13
Madurai	220	193	413	210	205	415	204	184	388	256	219	475
Ramanathapuram	124	95	219	97	79	176	80	63	143	98	62	160
Tirunelveli	159	149	308	194	179	373	146	127	273	190	141	331
Salem	112	103	215	107	119	226	147	140	287	113	141	254
Dharmapuri	37	36	73	50	65	115	65	60	125	57	56	113
Coimbatore	141	129	270	157	145	302	198	180	378	209	170	379
The Nilgiris	21	22	43	36	22	58	25	25	50	30	19	49
Kanyakumari	93	99	192	82	67	149	91	92	183	115	105	220
Total	1,925	1,721	3,646	2,163	1,999	4,162	2,123	1,866	3,989	2,199	1,972	4,171
												23,720
												21,350
												450,70

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AGE-GROUP STATEMENT—1974 (RURAL)

Districts	Under week.		First week under 1 month.		1-6 months.		6-12 months.		under 1 year.		1-4 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)	(2)	(3)	(4)	(5)	(6)	(7)						
Chingleput	319	227	199	295	272	301	273	1,114	913	984	1,012	
North Arcot	494	435	323	592	586	445	450	1,854	1,763	1,960	2,193	
South Arcot	269	218	208	283	263	250	268	1,010	904	1,355	1,471	
Thanjavur	295	200	212	281	278	282	242	1,070	885	1,193	1,197	
Tiruchirappalli ..	260	218	273	310	315	354	355	1,197	1,131	1,688	1,819	
Pudukkottai	30	28	21	9	8	34	46	94	108	277	265	
Madurai	386	370	429	477	471	107	115	1,399	1,326	1,617	1,930	
Ramanathapuram ..	194	163	183	52	29	201	212	697	587	1,121	1,212	
Tirunelveli	400	325	267	348	326	293	282	1,361	1,200	1,265	1,425	
Salem	343	476	159	170	170	142	133	814	958	602	650	
Dharmapuri	146	128	124	146	129	124	99	540	488	682	683	
Coimbatore	332	332	204	281	262	199	180	1,016	952	739	808	
The Nilgiris	44	27	25	19	26	8	10	106	82	100	87	
Kanyakumari	298	253	274	320	328	167	211	1,059	1,028	796	1,116	
Total	3,810	3,400	3,021	3,593	3,463	2,907	2,876	13,331	12,325	14,379	15,808	

AGE-GROUP STATEMENT—1974 (RURAL)—cont.

	5-9 years.		10-14 years.		15-24 years.		25-34 years.		35-44 years.		45-54 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(8)	(9)	(10)	(11)	(12)	(13)							
Chingleput	336	316	316	378	333	369	338	638	454	913	588	
North Arcot	565	580	283	759	724	614	798	909	854	1,329	877	
South Arcot	385	367	187	505	531	494	670	774	775	1,118	911	
Thanjavur	366	420	222	534	584	541	733	825	880	1,276	1,099	
Tiruchirappalli ..	413	461	283	493	581	519	614	738	783	998	800	
Pudukkottai	10..	12	149	44	48	25	35	199	159	39	22	
Madurai	272	291	433	475	763	653	777	738	670	568		
Total	3,555	3,764	2,782	5,231	5,442	5,234	6,332	7,813	7,382	10,497	7,772	

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AGE-GROUP STATEMENT (RURAL)—cont.

Districts.	55-64 years.		65-74 years.		75 and above.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(14)	(15)	(16)	(17)					
Chingleput	1,113	840	1,371	1,102	1,539	1,419	9,071	7,600
North Arcot	1,672	1,198	1,832	1,474	2,136	1,828	13,913	12,650
South Arcot	1,603	1,462	1,688	1,434	1,262	1,073	10,381	9,820
Thanjavur	1,789	1,665	2,095	1,961	2,010	2,166	11,921	11,850
Tiruchirappalli ..	1,764	1,493	1,635	1,563	2,003	1,964	11,731	11,573
Pudukkottai	855	755	189	179	450	405	2,331	2,113
Madurai	1,510	1,291	1,418	1,449	1,842	1,945	10,770	10,956
Ramanathapuram ..	1,995	1,604	721	680	967	1,007	7,014	6,602
Tirunelveli	1,212	833	1,541	1,242	1,642	1,704	9,807	8,944
Salem	1,059	844	1,177	1,032	1,936	2,059	8,385	8,007
Dharmapuri	651	429	818	676	1,348	1,168	5,760	5,186
Coimbatore	1,339	973	1,534	1,175	3,000	3,159	10,780	10,071
The Nilgiris	105	49	79	57	100	64	698	479
Kanyakumari	721	525	1,000	946	895	934	5,976	5,838
Total	17,388	13,961	17,098	14,970	21,130	20,895	1,18,538	1,11,689
								2,30,227

AGE GROUP STATEMENT—1974—(URBAN)

Districts.	Under 1 week.		1 week and under 1 month		1-6 month.		6-12 month.		Under 1 year.		1-4 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)	(2)	(3)	(4)	(5)	(6)	(7)						
Madras	1,102	835	564	440	1,013	969	923	987	3,602	3,231	2,544	2,665
Chingleput	182	145	41	52	91	88	72	80	386	365	192	230
North Arcot	259	222	131	124	269	198	171	182	830	726	433	436
South Arcot	87	90	29	23	58	43	46	30	220	186	115	108
Tha javur	231	227	43	46	86	86	104	83	464	442	272	250
T ruchirappalli	271	260	84	83	89	59	100	64	544	466	324	324
Pudukottai	71	43	5	1	2	2	11	6	89	52	25	40
Madurai	592	446	203	144	241	233	180	168	1,216	991	642	711
Ramanathapuram	203	149	72	46	85	79	87	79	447	353	227	280
Tirunelveli	178	139	105	58	222	187	156	134	661	518	290	259
Salem	276	230	51	55	97	88	65	85	489	458	219	282
Dharmapuri	19	40	12	13	21	15	12	10	64	78	44	41
Coimbatore	530	441	118	122	190	159	152	130	990	852	450	495
The Nilgiris	90	78	19	26	50	43	50	33	209	180	122	101
Kanyakumari	76	50	35	23	22	22	45	32	178	127	98	84
Total	4,167	3,395	1,512	1,256	2,536	2,271	2,174	2,103	10,389	9,025	5,997	6,306

AGE GROUP STATEMENT—1974—(URBAN)

District.	5-9 years.		10-14 years.		15-24 years.		25-34 years.		35-44 years.		45-54 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)	(8)	(9)	(10)	(11)	(12)	(13)						
Madras	629	561	238	224	852	631	1,090	802	1,340	977	2,104	1,068
Chingleput	82	69	54	43	138	185	202	215	257	187	395	210
North Arcot	131	120	104	88	232	308	303	329	461	302	603	268
South Arcot	54	29	45	22	77	82	128	118	149	146	217	112
Thanjavur	84	82	76	61	177	157	230	270	327	268	449	285
Tiruchirappalli	102	91	56	59	235	208	272	233	310	212	443	237

AGE GROUP STATEMENT—1974—(URBAN)

Districts.	55-64 years.		65-74 years.		75 and above.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)	(13)	(14)	(15)	(16)				
Madras	2,171	1,402	1,821	1,512	1,782	1,731	18,173	14,804
Chingleput	431	269	523	306	470	367	3,130	2,446
North Arcot	648	343	565	307	424	510	4,734	3,737
South Arcot	270	152	259	197	282	234	1,816	1,386
Thanjavur	587	344	613	512	572	596	3,851	3,267
Tiruchirappalli	559	317	504	361	405	435	3,754	2,943
Pudukkottai.. ..	72	26	46	37	33	52	468	367
Madurai	864	531	755	597	659	746	6,430	5,410
Ramanathapuram	377	222	390	356	357	427	2,753	2,343
Tirunelveli	577	384	625	490	649	631	4,273	3,435
Salem	500	222	452	300	500	568	3,238	2,742
Dharmapuri	69	33	61	32	76	58	487	363
Coimbatore	899	478	859	649	909	994	6,527	5,353
The Nilgiris	136	67	150	118	151	104	1,159	823
Kanyakumari	130	53	134	105	154	125	1,123	781
Total	8,290	4,843	7,757	5,879	7,423	7,578	61,916	50,200
								1,12,116

AGE GROUP STATEMENT—1974—URBAN

Districts.	Under 1 week.		1 week and under 1 month		1-6 months.		6-12 months.		Under 1 year.		1-4 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
	(2)		(3)		(4)		(5)		(6)		(7)	
Madras	1,102	835	564	440	1,013	969	923	987	3,662	3,231	2,544	2,665
Chingleput	501	372	240	193	386	360	373	353	1,560	1,278	1,176	1,242
North Arcot	753	657	454	416	861	784	616	632	2,684	2,489	2,393	2,629
South Arcot	356	308	237	178	341	306	296	298	1,230	1,090	1,470	1,579
Thanjavur	526	427	255	211	367	364	396	325	1,534	1,327	1,465	1,447
Tiruchirappalli	531	478	357	326	399	374	454	419	1,741	1,597	2,012	2,143
Pudukkottai	101	71	26	27	11	10	45	52	183	160	302	305
Madurai	978	816	632	514	718	704	287	283	2,615	2,317	2,259	2,641
Ramanathapuram	397	312	229	229	137	108	288	291	1,144	940	1,348	1,492
Tirunelveli	578	464	425	325	570	513	449	416	2,022	1,718	1,555	1,684
Salem	619	706	210	234	267	258	207	218	1,303	1,116	821	932
Dharmapuri	165	168	136	145	167	144	136	109	604	566	726	724
Coimbatore	862	773	322	300	471	421	351	310	2,006	1,844	1,189	1,303
The Nilgiris	134	105	44	45	79	69	58	43	315	262	222	188
Kanyakumari	374	303	309	259	342	350	212	243	1,237	1,155	864	1,200
Total	7,937	6,795	4,533	3,842	6,129	5,734	5,681	4,979	23,720	21,350	20,376	22,174

AGE GROUP STATEMENT—STATE 1974.—cont.

Districts	5-9 years.		10-14 years.		15-24 years.		25-34 years.		35-44 years.		45-54 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
(1)	(8)		(9)		(10)		(11)		(12)		(13)	
Madras	629	561	238	224	852	631	1,090	802	1,340	977	2,104	1,068
Chingleput	418	385	370	328	516	518	571	553	895	641	1,308	798
North Arcot	696	700	387	449	991	1,032	917	1,127	1,370	1,156	1,932	1,145
South Arcot	439	396	232	244	582	613	622	788	923	921	1,335	1,023
Thanjavur	450	502	298	321	711	741	771	1,003	1,152	1,148	1,725	1,384
Tiruchirappalli	515	552	339	423	728	789	791	847	1,048	995	1,441	1,037
Pudukkottai	27	24	161	135	76	75	72	77	239	194	94	56

AGE GROUP STATEMENT—STATE—1974—cont.

Districts.	55-64 years.		65-74 years.		75 and above.		74 and above.		Total.	
	Males..	Female.	Males..	Female.	Males.	Female.	Males..	Female.	Total.	Total.
(1)	(14)		(15)		(16)		(17)			
Madras	2,171	1,402	1,821	1,512	1,782	1,731	18,173	14,804	32,977	
Chingleput	1,544	1,109	1,894	1,408	2,009	1,786	12,201	10,046	22,247	
North Arcot	2,320	1,541	2,397	1,781	2,560	2,338	18,647	16,387	35,034	
South Arcot	18	1,614	1,947	1,631	1,544	1,307	12,197	11,206	23,403	
Thanjavur		2,009	2,708	2,473	2,582	2,762	15,772	15,117	30,889	
Tiruchirappalli		1,810	2,139	1,924	2,408	2,399	15,485	14,516	30,001	
Pudukottai		781	235	216	483	457	2,799	2,480	5,279	
Madurai		1,822	2,173	2,046	2,501	2,691	17,200	16,366	33,566	
Ramanathapuram		1,826	1,111	1,036	1,324	1,434	9,767	8,945	18,712	
Tirunelveli		1,217	2,166	1,732	2,291	2,335	14,080	12,379	26,459	
Salem		1,066	1,629	1,332	2,436	2,627	11,623	10,749	22,372	
Dharmapuri		462	879	708	1,424	1,226	6,247	5,549	11,796	
Coimbatore	2,238	1,451	2,393	1,824	3,909	4,153	17,307	15,424	32,731	
The Nilgiris	241	116	229	175	251	168	1,857	1,302	3,159	
Kanyakumari	851	578	1,134	1,051	1,049	1,059	7,099	6,619	13,718	
Total	75,678	58,804	74,855	20,849	28,553	28,473	1,80,454	1,61,889	3,42,343	

STATEMENT SHOWING PRIMARY VACCINATION AND REVACCINATION FOR THE YEAR 1974.

District.	Primary vaccination.	Re-vacci- nation.	Total.
(1)	(2)	(3)	(4)
Madras	81,680	2,87,347	3,69,027
Chengalpatt	1,01,080	4,15,706	5,15,786
North Arcot	1,37,290	7,06,312	8,43,602
South Arcot	1,39,756	5,21,547	6,61,303
Tanjavur	1,24,121	4,46,861	5,70,982
Tiruchirappalli	1,25,510	4,61,729	5,87,239
Pudukottai	..	..	..
Madurai	1,42,467	6,42,561	7,85,028
Ramanathapuram	1,07,441	3,79,931	4,87,372
Tirunelveli	1,23,979	5,20,321	6,44,300
Salem	95,812	4,55,991	5,51,803
Dharmapuri	76,876	1,73,277	2,50,153
Coimbatore	11,24,048	6,28,562	7,52,610
The Nilgiris	17,857	60,217	78,074
Kanyakumari	40,794	2,25,666	2,66,460
TOTAL ..	14,38,711	59,25,028	73,63,739

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