

Public Works (1899) Department.

G.O., No.

2076 W

DATED

8 August 1899.

[Despatch Abstract.]

Sanitation. Pros. Loc. & Mun. Dept.
reviewing the report on — for 1898
communicated to the Supdt. Engrs
for information —

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

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LOCAL AND MUNICIPAL.

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NO. 2219W of 31-8-98
2736W of 2-10-97
2490W of 27-8-96
2271W of 7-8-96
2198W of 29-7-96

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G.O., &c., Nos. 1409, 1410 L., 15th July 1899.

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Sanitation.

Reviewing the reports on — for 1898.

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GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

Proceedings of the Sanitary Board, No. 299-S., dated 10th June 1899.

Read—the following papers :—

Report of the Sanitary Engineer to the Government of Madras for the year 1898.

" " Commissioner for Madras for the year 1898.

" " Board for the year 1898.

From the Sanitary Commissioner, No. 1505-S., dated 19th May 1899.

Resolution—No. 299-S., dated 10th June 1899.

Submitted to Government with reference to rule 20 of the "Rules for conducting the business of the Sanitary Board."

2. With reference to paragraph 1 of G.O., No. 1475 L., dated 13th August 1898, it is explained that the delay in the submission of these reports is due to the late receipt of the report of the Sanitary Commissioner, which reached the Sanitary Board only on the 5th June 1899.

ORDER—No. 1409 L., dated 15th July 1899.

With the proceedings read above, the Sanitary Board submits the reports of the Sanitary Commissioner and the Sanitary Engineer on the administration of their departments in 1898, and a separate report regarding the work done by the Board itself during the year. These reports were due in the Government office on the 15th May 1899 and the delay of one month in their submission was due to the late receipt in the Board's office, of the report of the Sanitary Commissioner. The circumstances under which the report last named was not submitted in proper time, notwithstanding the resolution of the Government of India communicated with G.O., No. 599 L., dated 28th March 1898, should have been explained.

GENERAL SANITATION.

2. *Rainfall.*—The average quantity of rain registered during the south-west monsoon fell from 34.35 to 25.70 inches, while that during the north-east monsoon rose from 8.19 to 21.07 inches, the total average rainfall for the whole year being 51.32 inches or 3.18 inches more than in the previous year. The rainfall of the south-west monsoon was, however, very nearly up to the average for the ten years ending 1895, although there were considerable variations in South Canara (+ 9.54 inches), Vizagapatam (— 6.43), Cuddapah (— 4.40) and Anantapur (— 4.38). On the other hand, the rainfall during the north-east monsoon was in excess of the average by 6.13 inches, the excess being considerable in Chingleput (23.52), South Arcot (22.83), Madras (19.24), Tanjore (15.39) and Trichinopoly (10.53). In Ganjam, Vizagapatam, Kistna, Kurnool, Bellary and Anantapur the rainfall was below the average.

3. *Prices of Food Grains*—The prices of the principal food grains are compared below with those of the preceding two years and with the average for the ten years ending with 1895 :—

	Number of seers for the rupee.			Average for the ten years ending with 1895.
	1898.	1897.	1896.	
Rice	10.1	9.9	12.7	13.0
Ragi	17.2	17.2	25.8	25.3
Cholam	16.1	14.5	22.6	23.4

As a result of the favourable rainfall, there was a slight decrease in the price of rice and a more appreciable reduction in that of cholam, although the prices were still much below the average for the ten years ending with 1895. The average price of ragi, however, continued unaltered owing apparently to stocks not having been fully replenished after the unusual depletion which must have occurred in consequence of the abnormal demand for it during the famine of 1897 in the districts in which the staple grain, namely cholam, had failed. The Sanitary Commissioner considers that the appearance of plague and the belief of the native population that the year 1899-1900 would be a disastrous one have made the ryots unwilling to part with their grain and have thus prevented an appreciable fall in the prices of food-grains.

4. *Vital Statistics* *.—There was no change in the system of registration. Returns of births and deaths were received in respect of a population of 33,28,122 according to the census of 1891. The increase of 649,879 persons brought under registration in 1898 in Madura, Ganjam and Vizagapatam has not been explained.

5. *Births.*—The number of births registered during the year was 911,742 or 27.4 per mille of the census population against 935,845 or 28.7 per mille in the previous year, the rates for the urban and rural areas being 33.0 and 26.9 against 32.7 and 28.4, respectively, in that year. The decrease in the total number of births is ascribed partly to marriages having been as far as possible deferred during the past three years in consequence of the expectation of "evil times" by the native population, and partly to the prevalence of famine in Bellary, Kurnool, Cuddapah, Ganjam and Vizagapatam and to defective registration chiefly in Madura. Excluding Madras, the highest birth-rate was recorded in the Chingleput district (35.7 per mille) and the results were also fair in Kistna, Salem, Tanjore, Tinnevely and Trichinopoly, the rate being more than 30 per mille. The lowest rates were recorded in Malabar (18.6), Madura (22.7) and Ganjam (22.9); in Malabar there has been a retrogression for three years in succession and in Ganjam for two years, notwithstanding the fact that the attention of the Collectors concerned was specially drawn to this matter in the review of the report for the previous year. These officers are now requested to report the steps which they propose to take, to effect an improvement in this direction. Amongst Municipalities, Vaniyambadi headed the list with a rate of 54.5 and the rate exceeded 40 per mille in Guntur, Cuddalore, Tiruvannamalai, Periyakulam, Adoni, Gudiyattam, Tiruppattur, Coimbatore, Erode, Karur and Palghat. In 31 towns it ranged between 40 and 30 and in fourteen others between 30 and 20, while in Cuddapah, it was only 17.6 per mille against 27.1 in the previous year, thus indicating neglect on the part of the municipal executive. It is a matter for regret that notwithstanding the remark in paragraph 5 of G.O., No. 1475 L., dated 13th August 1898, the compulsory provisions of the Act in regard to the registration of births and deaths were resorted to in only 38 out of the 58 Municipalities in the Presidency. The Government must therefore again impress upon the Municipal Councils concerned the necessity for greater energy in enforcing obedience to the provisions of the law in this respect.

* The figures given in this paragraph include Europeans and Eurasians numbering some 40,000; the succeeding paragraphs give statistics relating to natives only. Full particulars regarding Europeans and Eurasians will be found in appendix XIII.

6. *Deaths*.—The annexed statement exhibits the number of deaths per mille of the population during the year under review as compared with the figures of the preceding five years:—

	1893.	1894.	1895.	1896.	1897.	1898.
Cholera	1.0	1.3	0.6	1.6	4.4	2.0
Small-pox	0.8	0.3	0.1	0.3	0.7	0.6
Fever	7.7	8.0	8.3	8.0	9.0	7.5
Dysentery	0.7	0.7	0.7	0.7	1.2	0.9
Dysentery and diarrhoea	0.3	0.4	0.3	0.3	0.3	0.3
Injuries	8.8	9.3	9.6	9.8	9.8	9.7
Other causes						
Total	19.3	20.0	19.6	20.6	26.4	21.0

7. The total number of deaths registered in 1898 was 699,108 or 128,417 less than in the previous year, the decrease occurring chiefly in Ganjām and Malabar, where the deaths registered were only 22.7 and 17.5 per mille of the population against 50.1 and 30.2, respectively, in 1897. The causes which led to these results should have been explained by the Sanitary Commissioner. The mortality among infants under one year of age in the rural tracts was 163.3 per mille of the registered births of the year or 1.2 per mille less than in the previous year, but the rate for Municipalities rose from 223.1 to 229.5. Infantile mortality was very high in the City of Madras 297.7 and in the Nilgiris (257.3), while in 27 municipal towns it was more than 200 per mille, Bellary heading the list with a rate of 324.9 per mille followed by Ootacamund (304.5). The average rate of infantile mortality for 33 "great towns" in England being only 167 per mille against 229.5 for the Municipalities in the Madras Presidency, the Sanitary Commissioner considers that this heavy mortality is to be ascribed in part at least to the ignorance of the poorer classes of natives of the most simple ideas of sanitation in connection with child life, while the higher rate in Municipalities as compared with the rate in rural tracts, he considers, is the result of more accurate registration and of the more insanitary conditions prevailing in municipal towns, inefficiently protected as they are in the matter of water-supply and rubbish and night-soil removal, and unprovided with sewage systems.

8. The highest death-rate (45.2) was, as usual, recorded in the City of Madras, a result which may be attributed partly to the insanitary condition of the city and partly to greater accuracy in registration. Although no material improvement was made during the year in the sanitary condition of the city, yet several measures of reform were being carried out. The scheme for the drainage of Mylapore was completed. An incinerator for the destruction of rubbish and a new general market were in course of construction. Some objectionable burning and burial grounds, situated in the midst of inhabited areas, were closed and others opened in their stead and a *paracherry* was improved by the opening of a street. But until adequate provision is made for the effective drainage of the whole city, for the supply of more wholesome water and for other sanitary improvements of prime importance, the health of the city cannot be expected to make an advance on the unsatisfactory state in which it is at present.

9. The death-rate registered in rural villages was 20.3 per mille against 24.8 in the previous year and evidences defective registration. It was highest in the Nilgiris (29.2) and was above 20 per mille in eleven other districts, while in the remaining ones it was below 20, being lowest in Madura (14.8). The rates for rural towns with a population of over 10,000 inhabitants ranged between 33.7 in Tiruvālūr and 8.1 in Samalkot and thus clearly show the untrustworthy character of the returns. The

Paramagudi	9.2	rates were also very low in the rural
Séendamangalam	9.8	towns named in the margin. The Col-
Virodipatti	11.9	lectors concerned, except that of Salem,
Ambur	12.3	who has already reported on the subject,
Saluru	12.5	are requested to state what steps they
Porto Novo	12.7	propose to take towards the improvement
Tadpatri	12.9	of registration.

10. The average rate for Municipalities, where, as a rule, more trustworthy statistics are obtained, was 31.9 per mille or 1.4 less than in the previous year, while the individual rate varied from 39.3 per mille in Ootacamund and Guntūr to 18.9 in Dindigul. In 16 other towns rates above 30 and in 37 others, rates above 20 were recorded, while in Srivilliputtūr and Bimlipatam the mortality was 19.6 and 19 per mille, respectively. Compared with the previous year, there was a large decline in Cannanore (33.6), Kurnool (28.6) and Parlákimedi (20.0), which is evidently the result of inattention on the part of the Municipal Councils concerned to this branch of their administration.

11. *Principal Diseases—Cholera*.—The mortality under this head fell from 4.4 to 2 per mille of the population. The disease prevailed throughout the year, being very virulent in January and least so in October. No district was free from this epidemic; but in the Nilgiris, Anantapur and Ganjām there were no more than 1, 9 and 46 deaths respectively. It was felt most severely in Tanjore, Trichinopoly and South Arcot, which lost 6.7, 5.5 and 5.2 per mille, respectively, of the population, a result which is ascribed to the facilities for the transmission of the cholera microbe from village to village by means of lengthy irrigation channels which are liable to contamination on account of the insanitary habits of the people. The average death-rate in municipal and other towns was 2.1 per mille against 5.0 in 1897 and in rural tracts 2.0 against 4.3. Sixteen of the Municipalities enjoyed perfect immunity from this disease. Of those which suffered, Palni headed the list with a death-rate of 14.4 per mille, followed by Nellore (10.2), Chidambaram (7.7), Trichinopoly (7.3), Mannár-gudi (6.5), Negapatam (5.7) and Tuticorin (5.1). The mortality in rural towns was high in Ramnad (24.5), Tiruvalur (11.3) and Arcot (8.1). The attention of all Collectors is drawn to the remarks of the Sanitary Commissioner in paragraph 30 of his report, regarding the working of the rules for combating cholera in Municipalities sanctioned in G.O., No. 1536 M., dated 9th September 1896.

12. *Small-Pox*.—The number of deaths under this head was 20,490 or 0.6 per mille of the population against 21,678 in the previous year and 9,410 in 1896. The rate of mortality in rural areas was 0.6 per mille and in Municipalities 0.3 against 0.7 and 0.2, respectively, in 1897. Ganjām again suffered very severely from this disease, although the number of deaths fell from 14,515 or 12.2 per mille to 10,838 or 8.5 per mille. This is ascribed by the Sanitary Commissioner to the existence of extensive hill tracts inhabited by a class of people much averse to vaccination and to the impossibility of dealing satisfactorily with any sanitary subject in the zamindari tracts, of which this district is principally made up. It must be remembered, however, that statistics of deaths from small-pox are not received from the hill tracts except in respect of about 6 per cent. of the population. The death-rate was also high in Vizagapatam (0.8), Cuddapah (0.7), the Nilgiris (0.6), Kurnool (0.6), Anantapur (0.6) and North Arcot (0.6), while in Malabar, the lowest rate was recorded, namely, 0.04. Among District Municipalities, the mortality from this cause was heaviest in Berham-pur (6.1), Parlákimedi (5.0), Chicacole (2.9), Anantapur (2.0) and Tiruvannámalai (1.6)—a fact which indicates that the compulsory provisions of the law as regards vaccination are not strictly enforced in these towns. There were 19 towns against 25 in the previous year, which enjoyed perfect immunity from this disease.

13. *Fevers*.—The mortality under this head fell from 292,292 or 9.0 per mille of the population to 248,638 or 7.5 per mille, the decrease which occurred chiefly in the districts which were affected by famine in the previous year being due apparently to better nutrition and better resistance to malaria on the part of the people. On the other hand, the death-rate in the Nilgiris rose from 17 to 22.1 per mille and it was accompanied by a fall in the birth-rate,—conditions which are ascribed to the scanty rainfall of the year. The mortality was also high in Vizagapatam (15.1), Kurnool (14.8), Cuddapah (13.6), Madras (12.4), South Canara (12.1) and Ganjam (11.1). On the other hand, it was very low in Tanjore (1.5), Tinnevely (2.6), Trichinopoly (3.6) and Chingleput (3.9). Among Municipalities, eight towns recorded a death-rate of more than 10 per mille. It was high in Cuddapah (14.8) and Kurnool (12.5), and this is attributed to fluctuations of the sub-soil water, the period of greatest mortality being that which immediately follows the greatest fall of the sub-soil water level.

14. *Dysentery and Diarrhoea*.—The number of deaths from these diseases fell from 38,716 or 1.2 per mille of the population to 29,654 or 0.9 per mille, the decrease

which occurred in all the districts except Chingleput, Nellore, Salem and South Arcot being apparently due to improved dietary of the people following the reduction in the prices of grains. As usual, the mortality in rural areas was less than that recorded in municipal and other towns, being 0.7 per mille of the population against 3.5, the large difference being due to the existence of insanitary conditions in urban areas. The highest death-rate was recorded in Madras, where it was 7.5 per mille against 4.5 in the previous year. The rate was also high in Chingleput (2.6) and South Canara (2.0), while in Gódvári (0.3), Kistna (0.3) and Madura (0.4), it was very low. Among District Municipalities, the mortality was high in Tuticorin (9.3), Cochin (7.5), Chingleput (6.8), Coonoor (6.3), Tellicherry (5.4) and Mávavaram (5.3) where the water-supply is more or less contaminated, and low in Palni (0.05), Masulipatam (0.6), Cuddapah (0.7) and Tiruppattúr (0.7).

15. *Injuries, &c.*—The deaths attributed to injuries, suicides, &c., numbered 11,047 against 11,513 in 1897, while those from unspecified causes rose from 322,137 to 323,335.

16. *Sanitary Works—Civil.*—The subjects dealt with by the Sanitary Commissioner under this head will be noticed at length in the reviews of the administration reports of the local bodies concerned and in the general Local Fund and Municipal reviews.

The observation of railway passengers arriving from plague-infected tracts which commenced in 1897 was continued during the year under review, and additional inspection stations were established at Tungabhadra and Jalarpur on the Madras Railway, Pákalá on the South Indian Railway and Hindúpur on the Southern Mahratta Railway. Besides this, a system of inspection of passengers arriving by road was also maintained on the frontiers of the districts of Anantapur, Bellary, Coimbatore, Cuddapah, Kurnool, North Arcot and Salem and of the Wynad taluk of the Malabar district. Plague was imported into the districts of this Presidency towards the close of the year, and, on the whole, 96 separate localities in a total of eleven districts, including Madras, were more or less affected, although in only 20 localities of five districts was it reported as indigenous. Major Bannerman, I.M.S., the Deputy Sanitary Commissioner, who had been deputed by Government to Bombay for the purpose of studying under Mons. Haffkine the methods of inoculation and other bacteriological matters connected with plague, returned in April 1898, and after a temporary stay in Madras was placed at the disposal of the Government of India for duty in Calcutta, where an outbreak of plague had occurred. He came back to Madras in the following August and was immediately placed on special duty in the town of Madras for the introduction of plague inoculation. Altogether 5,685 persons were inoculated in the City by the close of the year and 10,532 in the Presidency generally. In connection with the scheme for maintaining a system of observation in districts imminently threatened with plague, it was found that the number of certificated sanitary inspectors available for employment was insufficient and the Sanitary Commissioner accordingly trained and sent out 59 men as temporary sanitary inspectors.

17. *General Remarks.*—Dr. King was on privilege leave for a period of three months during the year, when his place was taken up by Major Thomson, I.M.S. Towards the end of June 1898, the presence of typhoid fever in Ootacamund having excited public attention, Major Thomson, I.M.S., was directed to make an investigation on the spot and the Municipal Council has promised to take the necessary steps to carry out the recommendations made by him for the improvement of the health of the station. The usual inspection of Municipalities was again postponed, as both the Sanitary Commissioner and his Deputy continued to be fully engaged in connection with plague. The District Medical and Sanitary Officers visited, on an average, only 19 places each against 27 in the previous year. The Surgeon-General is requested to explain this decrease and to impress on the medical officers concerned the importance of their touring in the districts as frequently as possible.

SANITARY ENGINEERING.

18. In the year under review, which was the ninth since the organisation of the department, the Sanitary Engineer visited fifteen towns and the Assistant Sanitary Engineer twelve against ten and eight, respectively, in 1897.

19. The extension of the water-works at Conjeeveram at an estimated outlay of Rs. 50,401 was undertaken during the year and more than 86 per cent. of the allotment was spent before its close.

20. Four surveys in connection with water-supply were completed during the year and one drainage and five water-supply schemes were prepared and submitted either to the Sanitary Board or to Government. The schemes for improving the water-supply of Ootacamund, for the extension of that of Tanjore and for the drainage of the Tanjore Fort were sanctioned by Government during the year, the first and the third for execution by the Public Works Department and the second by the Sanitary Engineer. The water-works in Trichinopoly were visited by the Sanitary Engineer and those in Madura, Dindigul and Tanjore by the Assistant Sanitary Engineer, while the pumping stations at Kurnool, Conjeeveram, Dindigul, Trichinopoly, Cuddapah, Tanjore and Madura were inspected and reported upon by the Inspector of Steam Boilers and Prime Movers. Thirteen type designs for sanitary works were prepared by the Sanitary Engineer and his advice was obtained by the Sanitary Board in 73 cases.

SANITARY BOARD.

21. The constitution of the Sanitary Board remained the same as in the previous year; but the rules for the conduct of its business were slightly modified by the addition of a rule making it incumbent on Collectors to consult the Sanitary Board whenever, in laying out house-sites near railway stations, there arise special difficulties not provided for in any general rules which the Board of Revenue may issue. The Board scrutinised plans and estimates for 36 Municipal and 78 Local Fund works, estimated to cost Rs. 4,89,525 in the aggregate. Schemes for the water-supply of Vizianagram, for the extension of the water-works at Kurnool and Tanjore and for the drainage of a portion of the Kumbakonam town were examined and laid before Government and proposals in connection with nineteen other schemes, for which however estimates had not been prepared, were considered by the Board. The Board also approved for issue thirteen type designs and sent a circular to all local bodies requiring that proposals for repairing and improving tanks hitherto used indiscriminately for bathing, washing and drinking should include separate provision for drinking purposes so as to secure to the populations concerned a supply of pure drinking-water.

(True Extract.)

for Ag. Secretary to Government.

To the Sanitary Board.
 „ the Sanitary Commissioner.
 „ the Sanitary Engineer.
 „ the Surgeon-General.
 „ the Public Works Department.
 „ the Public Department.
 „ the Revenue Department.
 „ the Deputy Adjutant-General, Madras Command.
 „ the Inspector General of Police.
 „ the Inspector-General of Prisons.
 „ the Accountant-General.
 „ the Director of Public Instruction.
 „ all Collectors.
 „ all Presidents of District Boards.
 „ all Chairmen of Municipal Councils.
 „ the President, Municipal Commission, Madras.

Editors' Table.

ENDORSEMENT—No. 1410 L., dated 15th July 1899.

Copy to the Government of India, Home Department.

C. J. WEIR,
 Ag. Secretary to Government.