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ocal & Munl. (1896) Department.

PRINTED.

G.O., No. 1173 & 1174

DATED 26th June 1896

[Despatch Abstract.]

Reports.

Reviewingthe — of the SanitaryCommissioner and the Sanitary Engineer for 1895.

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

FURTHER PAPERS.

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

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

Proceedings of the Sanitary Board (General Sanitation Branch), No. 220-S.B., dated 18th May 1896.

PRESENT.

Surgeon-Lieut.-Colonel W. G. KING, M.B., C.M., D.P.H., Sanitary Commissioner for Madras.

J. A. JONES, Esq., M.I.C.E., F.R.S.E., Sanitary Engineer to Government.

Read—the following papers :—

G.O., No. 359 L., dated 21st February 1896.
" " 651 L., " 4th April 1896.

Resolution.—The Board resolves to submit to Government the Sanitary Report of the Sanitary Commissioner for Madras and the report of the Sanitary Engineer to Government for 1895 bound together in one volume, as directed in the Government orders read above.

2. The diagrams and map appearing in the Sanitary Report will be inserted in the bound copies when issued.

(Signed) W. G. KING, D.P.H., Surgn.-Lieut.-Colonel,
Secy., Genl. Sanitation Branch, Sany. Board.

To the Chief Secretary to Government, Local and Municipal Department.

ORDER—No. 1173 L., dated 25th June 1896.

With its proceedings read above, the Sanitary Board submits the reports of the Sanitary Commissioner and the Sanitary Engineer on the administration of their departments for the year 1895.

2. The Sanitary Board, as reconstituted on the 1st January 1895, consisted of the Chief Engineer, Public Works Department, Roads and Buildings Branch, and the Sanitary Commissioner and the Sanitary Engineer, the first-mentioned officer being the President and the last two the Secretaries to the Board in its branches of Sanitation and Engineering, respectively. The draft rules which the Board was required to submit on the lines laid down by Government were received in July 1895, but orders revising and sanctioning them were not passed until after the close of the year.

GENERAL SANITATION.

3. *Rainfall.*—The total rainfall of the Presidency was 49·40 inches, against 43·25 in the previous year, and 44·92 inches, the average for the ten years ending 1892. The mean quantity of rain registered was 28·61 inches during the South-west monsoon and 16·46 inches during the North-east monsoon, the average for the periods mentioned above being 24·22 and 16·38 inches, respectively. The South-west monsoon continued to be on the whole satisfactory, though in Madras, Chingleput and Kurnool there was a deficiency as compared with the previous year. There was also an improvement in the North-east monsoon in all districts, except in those of the East Coast—North, Nellore and Kurnool. In Ganjám, Vizagapatam and South Arcot the aggregate rainfall exceeded the average of the ten years ending 1892 by more than ten inches in each case.

4. *Prices of Food-grains.*—The following table shows the prices of the principal food-grains as compared with those of the preceding two years and the average for the ten years ending 1892:—

	Number of seers for the rupee.			Average for the ten years ending 1892.
	1895.	1894.	1893.	
Rice	12·8	12·5	11·2	13·9
Ragi	26·5	23·5	20·1	27·4
Cholam	23·5	21·3	18·1	25·2

In spite of the favourable rainfall above referred to, the prices of these grains were still above the average for the ten years ending 1892. Compared with 1894, however, there was a satisfactory decline in all districts except in Anantapur, Coimbatore, Madras, North Arcot and Salem as regards rice, in Madura and Tinnevelly as regards cholam and ragi, and in Trichinopoly as regards rice and cholam.

5. * *Vital Statistics.*—The population for which returns of births and deaths were received was 33,605,784 according to the census of 1891, or 127,337 less than the figure for the preceding two years. The decrease occurs in Vizagapatam, where, the population for which returns were received not being known, the total population of the district was adopted in those years. The system of registration which was in force in previous years underwent no change, but proposals to improve it are still under consideration in the Revenue Department, and since the close of the year a uniform system of registration has been prescribed for all municipalities. The Government is, however, glad to learn that increased attention was bestowed on the subject by the Revenue authorities and that the Sanitary Commissioner and his Deputy undertook to verify registration during their inspections. The report promised in paragraph 9 regarding the suggestion made by the Collector of Coimbatore to utilize the services of Deputy Inspectors of Vaccination in this direction has just been received and will be disposed of separately.

6. *Births.*—The number of births registered during the year was 976,572, or 27·0 per mille of the estimated population against 26·4 in the previous year, and was the highest yet recorded except in the year 1891. Taking the census population, the Presidency rate was 29·1 per mille against 27·7 in 1894, the rates for municipalities, rural towns and rural villages being 35·3, 25·2 and 28·7 per mille, respectively, against 33·2, 25·2 and 27·4 in that year. Municipal towns and rural villages showed some advance, while rural towns remained stationary. In municipalities considerable improvement is stated to have been indirectly effected by the working of the system laid down in G.O., No. 1502 M., dated 19th October 1894,

* 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 XII.

for the better checking of the results of compulsory vaccination. The advance noticeable in rural villages may in a measure be ascribed to the increased attention said to have been bestowed on the subject by Revenue officers. The indifferent results in rural towns, containing over 10,000 inhabitants, is, no doubt, due to the want of a separate staff to attend to the work of registration, and this state of affairs will probably continue until the Local Boards Act V of 1884 is amended—*vide* paragraph 5 of G.O., No. 1210 L., dated 2nd July 1894. Taking the districts individually, there was an advance in all except Anantapur, North Arcot, South Canara, Ganjám, Nilgiris and Salem. Excluding Madras, the highest birth-rate was recorded in Chingleput (38·4 per mille), as in the preceding two years, and in South Arcot, Bellary, South Canara, Kistna, Kurnool, Madura, Salem and Tinnevelly the rate was above 30 per mille, while in Gódávari, Malabar and Ganjám it ranged from only 24·3 to 17·3, but in the first two districts there was some improvement as compared with the previous year. Among municipalities, Vániyambádi returned the highest birth-rate (53·0), as in the previous year. The rate was more than 40 per mille in Anantapur, Adóni, Coimbatore, Palghat, Gudiyáttam, Dindigul, Periyakulam, Cannanore and Tiruppattúr, in the last four of which similar results were achieved in 1894 also. In thirty-three towns it was between 30 and 40, while in thirteen others it ranged from 30 to 20, the worst results being reported from Cocanada (20·2), Chicacole (21·6), Cuddapah (22·7), Trichinopoly (23·2), Chidambaram (24·0), and Berhampur (24·2). The remarks of the Sanitary Commissioner in this connection in paragraphs 19 to 22 of his report will be communicated to the municipal councils concerned for very careful attention. The Government trusts that greater energy will be displayed by them in future in prosecuting people for failure to register births—a matter which has been the subject of very frequent remark in the reviews of Municipal Administration reports— and in seeing that the provisions of the Act in this respect are duly observed.

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

	* 1890.	† 1891.	† 1892.	† 1893.	† 1894.	† 1895.
Cholera	1·2	2·9	2·3	1·0	1·3	0·6
Small-pox	1·0	1·2	1·3	0·8	0·3	0·1
Fevers	9·2	7·3	8·3	7·7	8·0	8·3
Dysentery and diarrhœa	‡ 0·9	1·0	1·0	0·7	0·7	0·7
Injuries	0·4	0·4	0·3	0·3	0·4	0·3
Other causes	10·1	9·4	9·1	8·8	9·3	9·6
Total ..	22·8	22·2	22·3	19·3	20·0	19·6

* Calculated on the census population of 1881. † Calculated on the census population of 1891.
‡ Includes other bowel-complaints also.

8. The mortality in 1895 (658,719) was less than that recorded in any of the preceding four years, except 1893; but if the rates calculated on the estimated population and shown in the table appended to paragraph 26 of the Sanitary Commissioner's report are taken into account, it may be concluded, as stated by that officer, that although there was no decided improvement in the general health of the population, the year was, on the whole, a healthy one and compared favourably with the average of the preceding five years. The mortality among infants under one year of age was 162·3 per mille of the births registered during the year against 160·6 in 1894, but the rate for municipalities rose from 216 to 223. Infantile mortality was very high in the city of Madras (278·9), and the districts of Nilgiris (220·9) and Tanjore (206·1), while in twenty-nine municipal towns against twenty-four in 1894, the rate was more than 200 per mille, Negapatam, as in that year, heading the list with 293·7 per mille. As Dr. King remarks, the higher rate in municipalities may be due to the deaths of infants in rural areas escaping the observation of the subordinates responsible for their registration and to the sanitary condition of the municipal towns being far from satisfactory.

9. Taking the figures individually, the highest death-rate (38·0) was, as usual, recorded in Madras — a result which may be partly ascribed to the greater accuracy of the returns and partly to the insanitary condition of that city. The town was inspected by the Sanitary Commissioner in 1894, and, from the notes then recorded by him, it appears that no substantial improvement has been effected in its sanitary condition. The Commissioners, however, have deferred carrying out the recommendations contained in those notes until the requirements of the water-supply and drainage schemes have been first considered. A sum of four lakhs was borrowed by them for expenditure upon the extension and improvement of the water-supply; a scheme for the purification of the Cooum, and the drainage and water-supply schemes drawn up by Mr. Ellis, forming in reality parts of the schemes proposed by Mr. Cousins in 1893, were approved by Government. Proposals for the more satisfactory disposal of the rubbish of the city by the construction of incinerators were also sanctioned by Government, and a grant of Rs. 3,50,000 was made for this purpose for the purchase of the necessary conservancy plant, and for such other permanent sanitary improvements as may be decided on; preliminary steps were taken with a view to closing burial-grounds within municipal limits; and surveys were made preparatory to opening out streets in some of the most overcrowded parts of the town. It is hoped that the execution of these works will cause a real advance in the sanitary condition of the city. The death-rates were also high in Tinnevelly (25·0) and Nilgiris (24·9), while the very low rate reported from Ganjám (13·6) points to inaccurate registration.

10. The average death-rate in rural villages was 19·0 per mille against 19·2 in 1894, the mortality being highest in Nilgiris and Tinnevelly (24·8 each), while in eight others—South Arcot, Bellary, Chingleput, Cuddapah, Kurnool, Tanjore, Trichinopoly and Vizagapatam—the rate varied from 20·4 to 22·5. In the remaining districts it was below 20, being lowest in Ganjám (13·2). In rural towns also the rates were generally low, the average being 18·9,—Kayalpatnam, however, returning a rate of 42·9. As already observed in the case of births, this may be due to defective registration, as is evidenced by the rates in the towns marginally noted. The Collectors concerned are requested to report what measures they propose to adopt to improve registration.

Pithápuram	7·7
Samalkot	5·7
Ambur	6·1
Shendamangalam	9·1
Tiruvannámalai..	8·4

11. Turning to municipalities, where more trustworthy statistics are available, the average rate was 28·9 per mille against 30·0 in the previous year, while the individual rate varied from 37·1 in Periyakulam to 16·5 in Anantapur. It was high in Periyakulam (37·1) and Chidambaram (35·2), in nine towns it was above 30, and in forty-two it ranged from 30 to 20, while in the remaining three—Anantapur, Cocanada and Srívilliputtúr—it was below 20. It is evident that, notwithstanding the frequent remarks of Government on the subject, sufficient care is not always bestowed on this branch of Municipal administration.

12. *Principal Diseases—Cholera.*—The mortality under this head was smaller than that recorded in any year since 1887. The disease was most virulent in January, but in the last three months of the year very few deaths were recorded. All the districts except Gódávari, Kistna and Nílgiris were subject to this scourge, and Tinnevelly and South Arcot were the most affected, the number of deaths being 4,649 and 4,307, respectively. Dr. King attributes this in a great measure to contamination of the water-supply in these two districts. The same argument might however be applied to other districts. The average death-rate in municipal and other towns was only 0·8 per mille against 2·1 in 1894, and that in rural tracts 0·6 against 1·2. Among municipalities, Chidambaram headed the list with a rate of 11·6 per mille, and Periyakulam followed with a rate of 7 per mille. The mortality from this cause in twenty-six other towns was below 3·3 per mille, while the remaining municipalities enjoyed perfect immunity. Among rural towns, Ramnad in Madura, Tenkási, Kalladakurchi and Kulasekarapatnam in Tinnevelly, and the Chidambaram rural circle fared worst, the rates being 12·1, 9·4, 6·8, 6·8 and 8·7 per mille, respectively.

13. *Small-pox.*—The number of deaths from small-pox was only 5,111, or 0·1 per mille of the population, against 11,207 in the previous year, 27,289 in 1893 and 43,757 in 1892. This continued fall is very satisfactory. The rate of mortality in districts was 0·2 and in municipalities 0·1, against 0·3 and 0·2, respectively, in 1894. The disease was severe in the districts of Anantapur, Bellary and Kurnool, carrying off 0·5, 0·6 and 0·6, respectively, per mille of the population, while in Malabar, where it was very destructive in previous years, the mortality was only 0·03 per mille. The lowest death-rate (0·006) was recorded as usual in Madras, where vaccination is carried on in an efficient and systematic manner. Among district municipalities, Vellore heads the list with a rate of 1·2 and this is followed by Rajahmundry with a rate of 0·9, while twenty-two towns, against fifteen in the previous year, enjoyed perfect immunity from this cause. This subject will be more fully noticed when the vaccination report for 1895–96 is reviewed by Government.

14. *Fevers.*—The mortality under this head again rose from 270,456 to 277,337. The highest death-rates were recorded in the Nilgiris (19·2), Vizagapatam (18·2), Cuddapah (16·0) and Kurnool (15·1), and the lowest in Tanjore (2·3) and Anantapur (2·8). The death-rate in municipalities was, as usual, higher than in rural tracts, a rate of 10 per mille being exceeded in eleven towns. Cuddapah again exhibits the highest rate (18·3) and is followed by Madras with a rate of 14·2. On the other hand, Cocanada (2·6), Ellore (3·9) and Cochin (4·0) were the least affected towns.

15. *Dysentery and Diarrhœa.*—The deaths recorded under these heads numbered 23,937 against 24,801 in the previous year, the rate being 0·7 per mille in districts and 3·4 in municipalities against 0·7 and 3·5, respectively, in that year; the high rate in the latter case is probably due to the causes already mentioned in paragraph 8 above regarding infant mortality. The highest rates were in Chingleput (1·9), Malabar (1·6), South Canara (1·3) and Nilgiris (1·2), and the lowest in Kurnool (0·2). The mortality in municipalities was highest in Vizagapatam (10·4), Karúr (7·6), and Tuticorin (6·2), and least in Anantapur and Adoni (0·1 each). In Madras, the rate fell from 5·3 to 4·9.

16. *Injuries, &c.*—The number of deaths from injuries and suicides fell from 11,332 to 10,357, while those from unspecified causes rose again from 312,583 to 320,805. It is remarkable how constant the death-rate under this head has remained for a series of years.

17. *Sanitary Works—Civil.*—The subjects reported upon by the Sanitary Commissioner under this head will be fully discussed in the reviews of the administration reports of the local bodies concerned and in the General Municipal and Local Fund reviews. In the meantime Dr. King's remarks in paragraphs 49 to 54 regarding sewage-farming will be commended to municipal councils for attention.

18. Dr. King's observations in paragraph 80 regarding the necessity for insisting upon the vaccination or re-vaccination of pilgrims proceeding to Mecca will be communicated to the Public Department in continuation of paragraph 19 of G.O., No. 1177 L., dated 8th July 1895.

19. *General Remarks.*—The Sanitary Commissioner and his Deputy visited twenty-eight municipalities and eighty-seven unions and other villages, against fifty-two and forty-five, respectively, in the previous year, the decrease in the former case being due to the inspection of municipalities being now, as a general rule, conducted only every second year, as it was found that the benefits of an annual inspection were not sufficient to justify the expenditure of time required. The District Medical and Sanitary Officers inspected on an average only twenty-four places against forty-seven in the previous year, the decrease being due to their visits being restricted to municipal towns and unions and the villages where the larger fairs and festivals are held. The Government is glad to observe that since June 1895 the Sanitary Commissioner has written notes on 117 sanitary works. The testimony borne by Dr. King to the good work done by Surgeon-Major Mallins is noted with satisfaction.

20. The report, though dated 7th May, was not received in the Government office until the 19th idem. Paragraphs 50 and 69 (I) relating to the Madras town, and paragraphs 70 and 73 to 78 relating to district boards, might have been condensed, as also the information given in paragraphs 99 to 107 regarding cholera and small-pox.

Sanitary Engineering.

21. During the year under review, which is the sixth since the organization of this department, the Sanitary Engineer visited fourteen towns and the Assistant Sanitary Engineer nine, against eleven and sixteen, respectively, in the previous year.

22. Six water-supply works, estimated to cost Rs. 16,87,850 in the aggregate, were under execution, and of these, the Adóni and Tanjore works were completed, while very little remained to be done at Trichinopoly. Fair progress was also made in carrying out the scheme for the water-supply of Dindigul. In Kurnool, however, fresh estimates for the water-works had to be prepared and sanctioned during the year in consequence of a change in the site, and work was not begun until near the end of the year. In the case of Conjeeveram, as no trained Supervisor was available until November 1895, and as by that time the North-east monsoon had begun, nothing beyond the construction of the drivers' quarters was taken in hand.

23. The schemes submitted to Government by the Sanitary Board for the water-supply of Cuddalore and Tirupati were referred to the municipal councils concerned for report as to how they proposed to finance them. Two other schemes for water-supply and two for drainage were submitted by the Sanitary Engineer to the Sanitary Board in the course of the year, all of which are stated to be still under consideration.

24. The improvement of the drainage of Ootacamund received attention, and the Public Works Department has undertaken to carry out the works of filling in the upper lake and draining the portion filled in, and to give effect to the suggestions made by the Sanitary Board for remedying the defects in the intercepting sewer. The Sanitary Board also made certain recommendations for improving the water-supply of Ootacamund, and the services of Mr. Walch, late Chief Engineer for Irrigation, have since been secured for the preparation of the necessary plans and estimates.

25. The department scrutinized plans and estimates for 133 sanitary works—42 municipal and 91 local fund—estimated to cost Rs. 2,69,342 in the aggregate, and furnished new plans and designs wherever necessary. The action of the municipal councils and taluk boards, mentioned in paragraph 146 of the report, in executing works of a sanitary nature, exceeding Rs. 200 in cost, without reference to the Sanitary Engineer, as required in G.O., No. 79 L., dated 16th January 1891, is to be regretted, especially in view of the fact that the special attention of the local bodies was drawn to this matter in the reviews of the last two annual reports. The Government trusts that this irregularity will not be allowed to recur. The taluk boards of Bezwada, Guntúr, Masulipatam and Vinukonda will now be requested to state whether they have in all cases complied with the instructions issued in G.O., No. 79 L., dated 16th January 1891, and to explain why they did not reply to the Sanitary Board's Circular, No. 198, dated 22nd January 1896.

26. Type plans and estimates for hospital and dispensary buildings, for which rough sketches were furnished by the Sanitary Board in 1895, have not yet been prepared by the Consulting Architect to Government, but it is understood that the matter is engaging his attention, and it is hoped that the work will be completed without further delay. Type designs for nine sanitary works were issued by the Sanitary Board.

27. The report of the Sanitary Engineer could have been considerably reduced by the omission of many of the letters and proceedings which have been reproduced *in extenso*, although the majority of the former have already been before Government; a brief summary of them would have been quite sufficient. He should bear this in mind in future. The remarks of the Sanitary Engineer in paragraphs 162 to 166 are, in the opinion of Government, out of place in an administration report.

28. The Government notes with pleasure the testimony borne by the Sanitary Engineer to the services rendered by the several officers referred to in paragraph 168 of the report.

(True Extract.)

J. F. PRICE,
Chief Secretary.

To the Sanitary Commissioner.
„ the Sanitary Engineer.
„ the Sanitary Board.
„ the Surgeon-General.
„ the Public Works Department.
„ the Public Department.
„ the Revenue Department.
„ the Lieutenant-General Commanding the Forces, Madras.
„ 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. 1174 L., dated 25th June 1896.

Copy to the Government of India, Home Department.

J. F. PRICE,
Chief Secretary.

Exd. A. Raitt

Govt. of {1896} Madras.

LOCAL AND MUNICIPAL.

Issued

Recd. *Encl.*

G.O., &c., Nos. 1173, 1174 L.,
25th June 1896.

JUNE.

Reports.

Reviewing the — of the Sanitary Commissioner and the Sanitary Engineer for 1895.

Errata to Sanitary Report for 1895.

No.	Reference as to form and page, &c.	Substitute.			For.		
		Male.	Female.	Total.	Male.	Female.	Total.
1	Form No. II, page 151B., column 10: Mean ratio of deaths per 1,000 during previous five years last line.	34·28	32·42	33·38	34·23	32·38	33·34
2	Form No. VI, page 161B., column 12: Mean ratio of previous five years last line.		33·08			33·50	
3	Form No. VI, page 165B., column 12: Mean ratio of previous five years—last line.		33·38			33·34	

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25-6-96 [illegible]

THE

THIRTY-SECOND ANNUAL REPORT

OF THE

SANITARY COMMISSIONER,

AND THE

SIXTH REPORT

OF THE

SANITARY ENGINEER TO GOVERNMENT,

MADRAS,

1895.

WITH APPENDICES.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

1896.

PART I.

GENERAL SANITATION.

THIRTY-SECOND ANNUAL REPORT

OF THE

SANITARY COMMISSIONER FOR MADRAS,

1895.

SECTION I.

METEOROLOGY OF THE YEAR.

Information given under SECTION V, GENERAL POPULATION.

SECTION II.

(*a*) EUROPEAN ARMY.

SECTION III.

(*a*) NATIVE ARMY.

SECTION IV.

(*a*) JAILS.

SECTION VII.

(*b*) VACCINATION.

SECTION VIII.

(*a*) SANITARY WORKS—MILITARY.

(*a*) Omitted by Order of Government, dated 20th April 1888, No. 419, Public.

(*b*) Omitted by Order of Government, dated 12th July 1886, No. 1455, and 3rd May 1888, No. 465, Public, and reported upon separately.

SECTION V.

GENERAL POPULATION.

RAINFALL.

1. The total average rainfall of the Presidency was 49·40, against an average for the last decade of 44·92 inches. In the Gódávari district, 47·64 inches and in the neighbouring district of Kistna 42·43 inches were received, against a decennial average of 38·80 and 33·58 respectively. In the case of the former district, the fall during September was much above the average, being 11·59 against 6·87 of the previous year. Favoured by the small natural slope of the country available, the presence of a canal having raised banks on both sides passing through a considerable portion of it, and the new embankments due to the East Coast Railway, floods occurred throughout a considerable area. The loss of human life was small, but considerable destruction of mud huts and loss of cattle took place. With the exception of this local rainfall, in no respect as to temperature, humidity, or barometric pressure, did the meteorological aspects of the year vary markedly from the conditions normally found. On the other hand, the districts of Malabar, Nilgiris, Salem, Tinnevelly and Bellary received supplies of rain that were urgently wanted, having regard to the scanty falls of the previous year.

2. There has, hence, been no agricultural distress connected with meteorological conditions such as would exhibit itself in affecting the price of food-grains. In the case of Kistna, no effect on mortality was traceable as a result of the subjection of the country to floods—so far as the imperfect vital statistics obtainable allow this to be ascertained.

TABLE CONTRASTING THE MONTHLY RAINFALL IN INCHES IN THE MADRAS PRESIDENCY DURING 1893, 1894 AND 1895, WITH THE AVERAGE OF PREVIOUS TEN YEARS ENDING 1892, DISTRIBUTED ACCORDING TO MONSOON CURRENTS.

Table contrasting the Monthly Rainfall in Inches in the Madras Presidency during 1893, 1894 *and* 1895,

Groups.	Number.	Districts.		Number of places of observation.	North-East Monsoon.		Inter-Monsoon.†									
					January.*		February.		March.		April.		May.		Total.	
					Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.
South-western.	14	Nilgiris ...	Average of 10 years	11	0·40	0·9	0·91	1·4	1·40	2·6	3·59	7·1	5·24	10·0	11·54	22·0
			1893		0·35	1·0	3·99	2·7	7·04	7·2	2·33	4·8	6·22	11·1	19·93	26·8
			1894		0·58	1·6	1·19	1·3	3·77	5·1	3·79	9·5	4·33	8·9	13·66	26·4
			1895		0·06	0·2	0·32	0·7	0 09	0·4	5·57	10·5	3·24	6·5	9·28	18·3
	15	South Canara.	Average of 10 years	9	0·02	...	0·02	...	0·08	0·1	1·62	2·9	5·11	6·7	6·85	9·7
			1893		...	...	0·03	0·1	0·11	0·3	1·55	2·3	13·15	12·1	14·84	14·8
			1894		...	...	0·82	0·6	0·74	1·1	4·23	5·6	0·62	1·4	6·41	8·7
			1895		...	...	...	...	0·01	...	1·94	3·4	1·92	4·1	3·87	7·5
	16	Malabar ...	Average of 10 years	16	0·03	...	0·19	0·3	0·72	1·5	3·62	5·7	7·74	9·4	12·30	16·9
			1893		0·21	0·2	0·62	1·2	1·98	2·7	1·97	4·2	10·02	11·4	14·80	19·7
			1894		0·13	0·2	0·21	0·4	3·57	4·5	5·47	8·4	4·64	5·9	14·02	19·4
			1895		0·03	0·1	...	...	0·21	0·4	6·87	8·3	3·59	5·1	10·70	13·9
South Midland.	17	Salem ...	Average of 10 years	23	0·09	0·3	0·13	0·4	0·52	0·8	0·99	2·0	3·56	5·7	5·29	9·2
			1893		0·13	0·3	0·80	1·3	1·13	2 3	2·28	4·1	4·48	7·4	8·82	15·4
			1894		0·03	0·1	0·86	1·0	0·39	0·8	1·90	3·9	4·27	7·7	7·45	13·5
			1895		...	...	0·01	...	0·02	...	2·58	4·6	3·31	5·0	5·92	9·6
	18	Coimbatore.	Average of 10 years	16	0·12	0·2	0·26	0·4	0·60	1·0	1·92	2·7	3·32	5·5	6·22	9·8
			1893		0·11	0·2	0·86	1·4	2·91	3·3	2·35	4·2	2·16	4·4	8·39	13·5
			1894		0·03	0·1	0·63	1·0	0·78	1·3	2·22	3·9	3·45	5·8	7·11	12·1
			1895		...	...	0·13	0·1	0·01	0·1	5·01	6·9	2·76	3·5	7·91	10·6
	19	Kurnool ...	Average of 10 years	13	0·04	0·1	...	...	0·14	0·2	0·48	0·9	0·86	1·8	1·52	3·0
			1893		0·26	0·5	0·19	0·3	2·22	3·7	0·16	0·5	1·13	3·5	3·96	8·5
			1894		0·15	0·3	...	...	...	...	0·74	1·6	0·88	2·8	1·77	4·7
			1895		...	...	0·06	0·3	0·02	0·1	1·34	2·7	1·28	2·6	2·70	5·7
North Midland.	20	Cuddapah ...	Average of 10 years	14	0·02	...	0·04	0·1	0·18	0·3	0·39	0·6	1·06	2·0	1·69	3·0
			1893		0·14	0·4	0·26	0·7	2·34	0·9	0·70	1·6	2·08	4·2	3·52	7·8
			1894		0·03	0·1	0·53	0·5	0·08	0·3	0·53	1·1	1·25	2·6	2·42	4·6
			1895		...	...	...	...	...	...	0·56	1·4	2·01	3·7	2·57	5·1
	21	Bellary ...	Average of 10 years	11	0·05	0·1	0·01	...	0·11	0·4	0·69	1·6	1·44	2·8	2·30	4·9
			1893		...	...	0·33	0·5	2·13	3·4	0·45	1·1	2·77	4·3	5·68	9·3
			1894		...	...	...	...	0·22	0·4	0·91	2·9	2·47	3·9	3·60	7·2
			1895		...	...	0·33	0·2	...	...	1·66	3·6	1·81	2·9	3·50	6·7
	22	Anantapur..	Average of 10 years	11	0·02	0·1	...	...	0·13	0·2	0·52	1·2	1·34	2·4	2·01	3·9
			1893		0·03	0·2	0·16	0·7	0·76	1·7	0·99	1·5	2·41	4·5	4·35	8·6
			1894		...	...	0·03	0·1	0·07	0·4	1·15	2·3	1·42	3·0	2·67	5·8
			1895		...	...	...	...	...	...	1·57	3·4	1·56	2·9	3·13	6·3
		Total ...	Average of 10 years	357	0·19	0·4	0·25	0·4	0·44	0·8	1·00	1·7	2·44	3·7	4·32	7·0
			1893		0·32	0·6	0·66	1·0	2·34	3·2	1·18	2·1	3·07	4·8	7·57	11·7
			1894		0·36	0·6	0·58	0·9	0·78	1·1	1·97	3·3	1·66	3·0	5·35	8·9
			1895		0·03	0·1	0·10	0·2	0·03	0·1	2·16	3·5	2·01	3·2	4·33	7·1

* The rainfall of this month should be classed with the north-east monsoon of the previous year; but, as the report deals with the calendar year its inclusion under the 'Inter-monsoon' period is unavoidable.

† Dr. Bellew.

with the Average of previous ten years ending 1892, *distributed according to Monsoon Currents*—cont.

South-West Monsoon.										North-East Monsoon.								Grand Total.	
June.		July.		August.		September.		Total.		October.		November.		December.		Total.			
Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.
8·85	13·9	13·33	16·1	9·10	14·4	6·15	11·7	37·43	56·1	11·93	14·2	5·38	7·1	3·60	4·3	20·91	25·6	69·88	103·7
11·60	15·2	12·37	18·3	9·39	11·5	7·02	10·5	40·38	55·5	11·83	17·5	12·57	14·9	0·10	0·4	24·50	32·8	84·81	115·1
8·42	12·0	10·53	12·5	9·86	1·6	4·38	9·5	33·19	35·6	8·92	14·8	3·11	8·6	0·41	1·2	12·44	24·6	59·29	86·6
13·79	12·4	9·92	14·7	9·40	15·5	6·36	11·1	39·47	53·7	13·59	16·6	3·71	7·3	3·22	2·6	20·52	26·5	69·27	98·5
38·98	25·2	46·39	28·6	27·14	25·4	10·33	16·3	122·84	95·5	10·75	12·4	2·95	4·2	0·56	0·8	14·26	17·4	143·95	122·6
43·14	25·0	37·50	30·3	20·52	25·9	13·20	16·1	114·36	97·3	9·39	12·7	6·07	6·5	...	...	15·46	19·2	144·66	131·3
35·68	27·0	35·55	28·7	44·12	26·0	12·70	19·4	128·05	101·1	8·25	11·9	1·04	1·6	...	...	9·29	13·5	143·75	123·3
40·99	20·6	60·50	30·4	23·79	28·6	5·67	11·9	130·95	91·5	9·72	12·4	1·43	1·5	...	...	11·15	13·9	145·97	112·9
30·85	24·1	31·88	26·5	16·60	19·3	6·78	11·9	86·11	81·8	10·15	13·1	4·40	5·9	0·97	1·7	15·52	20·7	113·93	119·4
34·65	25·4	15·99	24·5	12·39	19·7	7·63	12·1	70·66	81·7	8·51	12·0	5·31	8·5	...	...	13·82	20·5	99·28	121·9
31·16	25·0	25·78	26·4	19·33	23·6	5·91	10·8	82·18	85·8	6·51	10·2	1·60	3·0	0·12	0·3	8·23	13·5	104·43	118·7
38·47	20·9	29·90	27·8	13·81	19·9	4·14	9·4	86·32	78·0	12·26	14·5	2·05	2·4	0·15	0·2	14·46	17·1	111·48	109·0
2·64	4·7	2·20	3·9	4·52	6·6	4·06	6·1	13·42	21·3	6·45	9·2	3·15	5·1	1·87	2·9	11·47	17·2	30·18	47·7
4·28	7·3	5·30	8·1	2·64	4·6	2·39	3·9	14·61	23·9	8·37	10·4	7·46	10·0	0·01	0·1	15·84	20·5	39·27	59·8
1·37	2·0	3·46	5·8	6·21	9·6	4·15	6·2	15·19	23·6	6·97	10·4	2·26	5·3	0·17	0·6	9·40	16·3	32·04	53·4
1·75	2·7	2·72	6·1	6·43	7·7	8·91	10·6	19·81	27·1	7·94	10·5	2·68	4·4	0·03	2·7	12·65	17·6	38·38	54·3
1·59	3·5	1·12	2·8	2·22	4·3	2·22	4·0	7·15	14·6	7·03	9·2	3·04	5·2	1·77	2·9	11·84	17·3	25·21	41·7
3·52	6·5	1·96	4·3	0·96	2·2	1·26	2·0	7·70	15·0	6·78	10·2	9·30	10·7	0·01	0·1	16·09	21·0	32·18	19·5
0·90	1·6	0·91	2·4	3·09	6·0	1·77	3·8	6·67	13·8	7·16	9·8	1·89	4·2	0·02	0·1	9·07	14·1	22·85	40·0
1·74	3·7	1·09	2·8	3·73	6·6	3·00	5·3	9·56	18·4	7·86	10·5	3·15	4·6	1·38	2·7	12·39	17·8	29·86	46·8
3·59	5·5	4·34	7·7	5·50	8·2	5·09	7·5	18·52	28·9	5·70	6·5	1·48	2·8	0·41	0·8	7·59	10·1	27·63	42·0
3·50	6·3	6·31	8·1	4·11	6·3	3·91	7·3	17·83	28·0	5·65	5·8	2·99	5·3	...	...	8·64	11·1	30·43	47·6
1·26	2·6	5·06	7·4	8·37	12·7	3·60	6·1	18·29	28·8	6·01	7·6	2·44	4·8	...	...	8·45	12·4	28·51	45·9
2·32	5·3	3·35	9·5	3·52	7·3	6·62	10·2	15·81	32·3	7·36	6·8	0·23	0·4	0·04	0·2	7·63	7·4	26·14	45·4
2·53	4·5	2·83	5·3	4·67	7·1	4·41	6·0	14·44	22·9	6·82	8·4	3·73	4·3	1·74	2·5	12·29	15·2	28·42	41·1
3·47	5·7	5·38	8·2	1·62	3·4	2·84	5·4	13·31	22·7	6·43	9·1	8·98	11·3	...	...	15·41	20·5	32·24	51·0
1·19	2·7	3·79	5·8	8·68	12·1	3·82	5·2	17·48	25·8	7·31	9·1	1·43	4·1	0·14	0·7	8·88	13·9	28·78	44·3
1·43	3·5	3·52	7·6	3·24	6·1	9·32	9·8	17·51	27·0	6·58	8·0	0·80	2·4	3·03	3·3	10·41	13·7	30·49	45·8
2·52	4·8	2·14	6·1	3·69	6·7	4·42	7·1	12·77	24·7	4·53	6·7	1·68	2·5	0·20	0·5	6·41	9·7	21·48	39·3
3·15	5·2	4·13	8·7	4·50	8·1	4·04	6·3	15·82	28·3	7·37	9·7	1·70	4·5	...	...	9·07	14·2	30·57	51·8
0·81	2·2	3·03	4·9	4·82	9·2	3·58	6·7	12·24	23·0	4·48	8·2	1·94	4·3	...	...	6·42	12·5	22·26	42·7
3·64	5·3	3·74	9·0	2·74	7·1	6·15	8·3	16·27	29·7	5·93	7·2	1·23	1·9	0·05	0·3	7·21	9·4	26·98	45·8
2·31	4·1	2·33	4·7	3·83	5·8	4·11	5·6	12·58	20·2	4·97	7·0	2·12	3·0	0·44	1·1	7·53	11·1	22·12	35·2
3·91	4·7	4·25	9·1	1·96	4·7	2·79	3·7	12·91	22·2	6·23	9·7	2·10	5·9	...	...	8·33	15·6	25·59	46·4
0·89	1·5	2·17	3·5	6·39	9·4	2·38	3·5	11·83	17·9	6·53	8·6	0·91	2·9	...	...	7·44	11·5	21·94	35·2
1·79	4·7	2·32	6·0	1·43	3·2	8·49	7·6	14·03	21·5	6·34	7·1	1·28	2·1	0·25	1·1	7·87	10·3	25·03	38·1
6·06	7·1	7·00	8·5	6·29	9·0	4·87	7·4	24·22	32·0	8·48	9·8	5·05	5·8	2·85	3·4	16·38	19·0	44·92	58·0
7·12	7·6	7·73	10·5	4·76	7·5	4·92	7·2	24·53	32·8	6·77	8·8	11·68	11·0	0·38	0·7	18·83	20·5	50·93	65·0
5·08	5·7	6·23	7·9	8·79	10·2	5·11	8·0	25·21	31·8	7·87	9·8	4·02	6·4	0·80	1·6	12·69	17·8	43·25	58·5
6·61	6·0	8·26	9·8	6·94	10·1	6·80	8·7	28·61	34·6	9·84	11·6	3·40	4·7	3·22	2·5	16·46	18·8	49·40	60·5

Table contrasting the Monthly Rainfall in Inches in the Madras Presidency during 1893, 1894 *and* 1895, *with the Average of previous ten years ending* 1892, *distributed according to Monsoon Currents*—cont.

Groups.	Number.	Districts.	Number of places of observation.	North-East Monsoon.		Inter-Monsoon.†										South-West Monsoon.										North-East Monsoon.								Grand Total.	
				January.*		February.		March.		April.		May.		Total.		June.		July.		August.		September.		Total.		October.		November.		December.		Total.			
				Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.
South-western.	14	Nilgiris ... Average of 10 years	11	0·40	0·9	0·91	1·4	1·40	2·6	3·59	7·1	5·24	10·0	11·54	22·0	8·85	13·9	13·33	16·1	9·10	14·4	6·15	11·7	37·43	56·1	11·93	14·2	5·38	7·1	3·60	4·3	20·91	25·6	69·88	103·7
		1893		0·35	1·0	3·99	2·7	7·04	7·2	2·33	4·8	6·22	11·1	19·93	26·8	11·60	15·2	12·37	18·3	9·39	11·5	7·02	10·5	40·38	55·5	11·83	17·5	12·57	14·9	0·10	0·4	24·50	32·8	84·81	115·1
		1894		0·58	1·6	1·19	1·3	3·77	5·1	3·79	9·5	4·33	8·9	13·66	26·4	8·42	12·0	10·53	12·5	9·86	1·6	4·38	9·5	33·19	35·6	8·92	14·8	3·11	8·6	0·41	1·2	12·44	24·6	59·29	86·6
		1895		0·06	0·2	0·32	0·7	0 09	0·4	5·57	10·5	3·24	6·5	9·28	18·3	13·79	12·4	9·92	14·7	9·40	15·5	6·36	11·1	39·47	53·7	13·59	16·6	3·71	7·3	3·22	2·6	20·52	26·5	69·27	98·5
	15	South Canara. Average of 10 years	9	0·02	...	0·02	...	0·08	0·1	1·62	2·9	5·11	6·7	6·85	9·7	38·98	25·2	46·39	28·6	27·14	25·4	10·33	16·3	122·84	95·5	10·75	12·4	2·95	4·2	0·56	0·8	14·26	17·4	143·95	122·6
		1893		...	...	0·03	0·1	0·11	0·3	1·55	2·3	13·15	12·1	14·84	14·8	43·14	25·0	37·50	30·3	20·52	25·9	13·20	16·1	114·36	97·3	9·39	12·7	6·07	6·5	...	...	15·46	19·2	144·66	131·3
		1894		...	...	0·82	0·6	0·74	1·1	4·23	5·6	0·62	1·4	6·41	8·7	35·68	27·0	35·55	28·7	44·12	26·0	12·70	19·4	128·05	101·1	8·25	11·9	1·04	1·6	...	...	9·29	13·5	143·75	123·3
		1895		...	...	...	...	0·01	...	1·94	3·4	1·92	4·1	3·87	7·5	40·99	20·6	60·50	30·4	23·79	28·6	5·67	11·9	130·95	91·5	9·72	12·4	1·43	1·5	...	...	11·15	13·9	145·97	112·9
	16	Malabar ... Average of 10 years	16	0·03	...	0·19	0·3	0·72	1·5	3·62	5·7	7·74	9·4	12·30	16·9	30·85	24·1	31·88	26·5	16·60	19·3	6·78	11·9	86·11	81·8	10·15	13·1	4·40	5·9	0·97	1·7	15·52	20·7	113·93	119·4
		1893		0·21	0·2	0·62	1·2	1·98	2·7	1·97	4·2	10·02	11·4	14·80	19·7	34·65	25·4	15·99	24·5	12·39	19·7	7·63	12·1	70·66	81·7	8·51	12·0	5·31	8·5	...	...	13·82	20·5	99·28	121·9
		1894		0·13	0·2	0·21	0·4	3·57	4·5	5·47	8·4	4·64	5·9	14·02	19·4	31·16	25·0	25·78	26·4	19·33	23·6	5·91	10·8	82·18	85·8	6·51	10·2	1·60	3·0	0·12	0·3	8·23	13·5	104·43	118·7
		1895		0·03	0·1	...	...	0·21	0·4	6·87	8·3	3·59	5·1	10·70	13·9	38·47	20·9	29·90	27·8	13·81	19·9	4·14	9·4	86·32	78·0	12·26	14·5	2·05	2·4	0·15	0·2	14·46	17·1	111·48	109·0
South Midland.	17	Salem ... Average of 10 years	23	0·09	0·3	0·13	0·4	0·52	0·8	0·99	2·0	3·56	5·7	5·29	9·2	2·64	4·7	2·20	3·9	4·52	6·6	4·06	6·1	13·42	21·3	6·45	9·2	3·15	5·1	1·87	2·9	11·47	17·2	30·18	47·7
		1893		0·13	0·3	0·80	1·3	1·13	2 3	2·28	4·1	4·48	7·4	8·82	15·4	4·28	7·3	5·30	8·1	2·64	4·6	2·39	3·9	14·61	23·9	8·37	10·4	7·46	10·0	0·01	0·1	15·84	20·5	39·27	59·8
		1894		0·03	0·1	0·86	1·0	0·39	0·8	1·90	3·9	4·27	7·7	7·45	13·5	1·37	2·0	3·46	5·8	6·21	9·6	4·15	6·2	15·19	23 6	6·97	10·4	2·26	5·3	0·17	0·6	9·40	16·3	32·04	53·4
		1895		...	...	0·01	...	0·02	...	2·58	4·6	3·31	5·0	5·92	9·6	1·75	2·7	2·72	6·1	6·43	7·7	8·91	10·6	19·81	27·1	7·94	10·5	2·68	4·4	0·03	2·7	12·65	17·6	38·38	54·3
	18	Coimbatore. Average of 10 years	16	0·12	0·2	0·26	0·4	0·60	1·0	1·92	2·7	3·32	5·5	6·22	9·8	1·59	3·5	1·12	2·8	2·22	4·3	2·22	4·0	7·15	14·6	7·03	9·2	3·04	5·2	1·77	2·9	11·84	17·3	25·21	41·7
		1893		0·11	0·2	0·86	1·4	2·91	3·3	2·35	4·2	2·16	4·4	8·39	13·5	3·52	6·5	1·96	4·3	0·96	2·2	1·26	2·0	7·70	15·0	6·78	10·2	9·30	10·7	0·01	0·1	16·09	21·0	32·18	19·5
		1894		0·03	0·1	0·63	1·0	0·78	1·3	2·22	3·9	3·45	5·8	7·11	12·1	0·90	1·6	0·91	2·4	3·09	6·0	1·77	3·8	6·67	13·8	7·16	9·8	1·89	4·2	0·02	0·1	9·07	14·1	22·85	40·0
		1895		...	...	0·13	0·1	0·01	0·1	5·01	6·9	2·76	3·5	7·91	10·6	1·74	3·7	1·09	2·8	3·73	6·6	3·00	5·3	9·56	18·4	7·86	10·5	3·15	4·6	1·38	2·7	12·39	17·8	29·86	46·8
North Midland.	19	Kurnool ... Average of 10 years	13	0·04	0·1	...	...	0·14	0·2	0·48	0·9	0·86	1·8	1·52	3·0	3·59	5·5	4·34	7·7	5·50	8·2	5·09	7·5	18·52	28·9	5·70	6·5	1·48	2·8	0·41	0·8	7·59	10·1	27·63	42·0
		1893		0·26	0·5	0·19	0·3	2·22	3·7	0·16	0·5	1·13	3·5	3·96	8·5	3·50	6·3	6·31	8·1	4·11	6·3	3·91	7·3	17·83	28·0	5·65	5·8	2·99	5·3	...	...	8·64	11·1	30·43	47·6
		1894		0·15	0·3	...	...	...	...	0·74	1·6	0·88	2·8	1·77	4·7	1·26	2·6	5·06	7·4	8·37	12·7	3·60	6·1	18·29	28·8	6·01	7·6	2·44	4·8	...	...	8·45	12·4	28·51	45·9
		1895		...	...	0·06	0·3	0·02	0·1	1·34	2·7	1·28	2·6	2·70	5·7	2·32	5·3	3·35	9·5	3·52	7·3	6·62	10·2	15·81	32·3	7·36	6·8	0·23	0·4	0·04	0·2	7·63	7·4	26·14	45·4
	20	Cuddapah ... Average of 10 years	14	0·02	...	0·04	0·1	0·18	0·3	0·39	0·6	1·06	2·0	1·69	3·0	2·53	4·5	2·83	5·3	4·67	7·1	4·41	6·0	14·44	22·9	6·82	8·4	3·73	4·3	1·74	2·5	12·29	15·2	28·42	41·1
		1893		0·14	0·4	0·26	0·7	2·34	0·9	0·70	1·6	2·08	4·2	3·52	7·8	3·47	5·7	5·38	8·2	1·62	3·4	2·84	5·4	13·31	22·7	6·43	9·1	8·98	11·5	...	...	15·41	20·5	32·24	51·0
		1894		0·03	0·1	0·53	0·5	0·08	0·3	0·53	1·1	1·25	2·6	2·42	4·6	1·19	2·7	3·79	5·8	8·68	12·1	3·82	5·2	17·48	25·8	7·31	9·1	1·43	4·1	0·14	0·7	8·88	13·9	28·78	44·3
		1895		...	...	...	...	...	...	0·56	1·4	2·01	3·7	2·57	5·1	1·43	3·5	3·52	7·6	3·24	6·1	9·32	9·8	17·51	27·0	6·58	8·0	0·80	2·4	3·03	3·3	10·41	13·7	30·49	45·8
	21	Bellary ... Average of 10 years	11	0·05	0·1	0·01	...	0·11	0·4	0·69	1·6	1·44	2·8	2·30	4·9	2·52	4·8	2·14	6·1	3·69	6·7	4·42	7·1	12·77	24·7	4·53	6·7	1·68	2·5	0·20	0·5	6·41	9·7	21·48	39·3
		1893		...	...	0·33	0·5	2·13	3·4	0·45	1·1	2·77	4·3	5·68	9·3	3·15	5·2	4·13	8·7	4·50	8·1	4·04	6·3	15·82	28·3	7·37	9·7	1·70	4·5	...	...	9·07	14·2	30·57	51·8
		1894		...	...	...	...	0·22	0·4	0·91	2·9	2·47	3·9	3·60	7·2	0·81	2·2	3·03	4·9	4·82	9·2	3·58	6·7	12·24	23·0	4·48	8·2	1·94	4·3	...	...	6·42	12·5	22·26	42·7
		1895		...	...	0·33	0·2	...	...	1·66	3·6	1·81	2·9	3·50	6·7	3·64	5·3	3·74	9·0	2·74	7·1	6·15	8·3	16·27	29·7	5·93	7·2	1·23	1·9	0·05	0·3	7·21	9·4	26·98	45·8
	22	Anantapur.. Average of 10 years	11	0·02	0·1	...	...	0·13	0·2	0·52	1·2	1·34	2·4	2·01	3·9	2·31	4·1	2·33	4·7	3·83	5·8	4·11	5·6	12·58	20·2	4·97	7·0	2·12	3·0	0·44	1·1	7·53	11·1	22·12	35·2
		1893		0·03	0·2	0·16	0·7	0·76	1·7	0·99	1·5	2·41	4·5	4·35	8·6	3·91	4·7	4·25	9·1	1·96	4·7	2·79	3·7	12·91	22·2	6·23	9·7	2·10	5·9	...	...	8·33	15·6	25·59	46·4
		1894		...	...	0·03	0·1	0·07	0·4	1·15	2·3	1·42	3·0	2·67	5·8	0·89	1·5	2·17	3·5	6·39	9·4	2·38	3·5	11·83	17·9	6·53	8·6	0·91	2·9	...	...	7·44	11·5	21·94	35·2
		1895		...	...	...	...	...	...	1·57	3·4	1·56	2·9	3·13	6·3	1·79	4·7	2·32	6·0	1·43	3·2	8·49	7·6	14·03	21·5	6·34	7·1	1·28	2·1	0·25	1·1	7·87	10·3	25·03	38·1
		Total ... Average of 10 years	357	0·19	0·4	0·25	0·4	0·44	0·8	1·00	1·7	2·44	3·7	4·32	7·0	6·06	7·1	7·00	8·5	6·29	9·0	4·87	7·4	24·22	32·0	8·48	9·8	5·05	5·8	2·85	3·4	16·38	19·0	44·92	58·0
		1893		0·32	0·6	0·66	1·0	2·34	3·2	1·18	2·1	3·07	4·8	7·57	11·7	7·12	7·6	7·73	10·5	4·76	7·5	4·92	7·2	24·53	32·8	6·77	8·8	11·68	11·0	0·38	0·7	18·83	20·5	50·93	65·0
		1894		0·36	0·6	0·58	0·9	0·78	1·1	1·97	3·3	1·66	3·0	5·35	8·9	5·08	5·7	6·23	7·9	8·79	10·2	5·11	8·0	25·21	31·8	7·87	9·8	4·02	6·4	0·80	1·6	12·69	17·8	43·25	58·5
		1895		0·03	0·1	0·10	0·2	0·03	0·1	2·16	3·5	2·01	3·2	4·33	7·1	6·61	6·0	8·26	9·8	6·94	10·1	6·80	8·7	28·61	34·6	9·84	11·6	3·40	4·7	3·22	2·5	16·46	18·8	49·40	60·5

* The rainfall of this month should be classed with the north-east monsoon of the previous year; but, as the report deals with the calendar year its inclusion under the 'Inter-monsoon' period is unavoidable.

† Dr. Bellew.

Table contrasting the Monthly Rainfall in Inches in the Madras Presidency during 1893, 1894 *and* 1895,

Groups.	Number.	Districts.		Number of places of observation.	North-East Monsoon.		Inter-Monsoon.†									
					January.*		February.		March.		April.		May.		Total.	
					Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.
South-western.	14	Nilgiris ...	Average of 10 years	11	0·40	0·9	0·91	1·4	1·40	2·6	3·59	7·1	5·24	10·0	11·54	22·0
			1893		0·35	1·0	3·99	2·7	7·04	7·2	2·33	4·8	6·22	11·1	19·93	26·8
			1894		0·58	1·6	1·19	1·3	3·77	5·1	3·79	9·5	4·33	8·9	13·66	26·4
			1895		0·06	0·2	0·32	0·7	0 09	0·4	5·57	10·5	3·24	6·5	9·28	18·3
	15	South Canara.	Average of 10 years	9	0·02	...	0·02	...	0·08	0·1	1·62	2·9	5·11	6·7	6·85	9·7
			1893		...	...	0·03	0·1	0·11	0·3	1·55	2·3	13·15	12·1	14·84	14·8
			1894		...	...	0·82	0·6	0·74	1·1	4·23	5·6	0·62	1·4	6·41	8·7
			1895		...	...	...	...	0·01	...	1·94	3·4	1·92	4·1	3·87	7·5
	16	Malabar ...	Average of 10 years	16	0·03	...	0·19	0·3	0·72	1·5	3·62	5·7	7·74	9·4	12·30	16·9
			1893		0·21	0·2	0·62	1·2	1·98	2·7	1·97	4·2	10·02	11·4	14·80	19·7
			1894		0·13	0·2	0·21	0·4	3·57	4·5	5·47	8·4	4·64	5·9	14·02	19·4
			1895		0·03	0·1	...	...	0·21	0·4	6·87	8·3	3·59	5·1	10·70	13·9
South Midland.	17	Salem ...	Average of 10 years	23	0·09	0·3	0·13	0·4	0·52	0·8	0·99	2·0	3·56	5·7		
			1893		0·13	0·3	0·80	1·3	1·13	2·3	2·28	4·1	4·48	7·4	5·29	9·2
			1894		0·03	0·1	0·86	1·0	0·39	0·8	1·90	3·9	4·27	7·7	8·82	15·4
			1895		...	...	0·01	...	0·02	...	2·58	4·6	3·31	5·0	7·45	13·5
															5·92	9·6
	18	Coimbatore.	Average of 10 years	16	0·12	0·2	0·26	0·4	0·60	1·0	1·92	2·7	3·32	5·5		
			1893		0·11	0·2	0·86	1·4	2·91	3·3	2·35	4·2	2·16	4·4	6·22	9·8
			1894		0·03	0·1	0·63	1·0	0·78	1·3	2·22	3·9	3·45	5·8	8·39	13·5
			1895		...	...	0·13	0·1	0·01	0·1	5·01	6·9	2·76	3·5	7·11	12·1
															7·91	10·6
	19	Kurnool ...	Average of 10 years	13	0·04	0·1	...	...	0·14	0·2	0·48	0·9	0·86	1·8		
			1893		0·26	0·5	0·19	0·3	2·22	3·7	0·16	0·5	1·13	3·5	1·52	3·0
			1894		0·15	0·3	...	...	...	...	0·74	1·6	0·88	2·8	3·96	8·5
			1895		...	...	0·06	0·3	0 02	0·1	1·34	2·7	1·28	2·6	1·77	4·7
															2·70	5·7
North Midland.	20	Cuddapah ...	Average of 10 years	14	0·02	...	0·04	0·1	0·18	0·3	0·39	0·6	1·06	2·0	1·69	3·0
			1893		0·14	0·4	0·26	0·7	2·34	0·9	0·70	1·6	2·08	4·2	3·52	7·8
			1894		0·03	0·1	0·53	0·5	0·08	0·3	0·53	1·1	1·25	2·6	2·42	4·6
			1895		...	...	...	...	...	...	0·56	1·4	2·01	3·7	2·57	5·1
	21	Bellary ...	Average of 10 years	11	0·05	0·1	0·01	...	0·11	0·4	0·69	1·6	1·44	2·8	2·30	4·9
			1893		...	...	0·33	0·5	2·13	3·4	0·45	1·1	2·77	4·3	5·68	9·3
			1894		...	...	...	...	0·22	0·4	0·91	2·9	2·47	3·9	3·60	7·2
			1895		...	...	0·33	0·2	...	...	1·66	3·6	1·81	2·9	3·50	6·7
	22	Anantapur..	Average of 10 years	11	0·02	0·1	...	...	0·13	0·2	0·52	1·2	1·34	2·4	2·01	3·9
			1893		0·03	0·2	0·16	0·7	0·76	1·7	0·99	1·5	2·41	4·5	4·35	8·6
			1894		...	...	0·03	0·1	0·07	0·4	1·15	2·3	1·42	3·0	2·67	5·8
			1895		...	...	...	...	...	...	1·57	3·4	1·56	2·9	3·13	6·3
		Total ...	Average of 10 years	357	0·19	0·4	0·25	0·4	0·44	0·8	1·00	1·7	2·44	3·7	4·32	7·0
			1893		0·32	0·6	0·66	1·0	2·34	3·2	1·18	2·1	3·07	4·8	7·57	11·7
			1894		0·36	0·6	0·58	0·9	0·78	1·1	1·97	3·3	1·66	3·0	5·35	8·9
			1895		0·03	0·1	0·10	0·2	0·03	0·1	2·16	3·5	2·01	3·2	4·33	7·1

* The rainfall of this month should be classed with the north-east monsoon of the previous year; but, as the report deals with the calendar year its inclusion under the 'Inter-monsoon' period is unavoidable.

† Dr. Bellew.

with the Average of previous ten years ending 1892, *distributed according to Monsoon Currents*—cont.

South-West Monsoon.										North-East Monsoon.								Grand Total.	
June.		July.		August.		September.		Total.		October.		November.		December.		Total.			
Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.	Rainfall.	Days.
8·85	13·9	13·33	16·1	9·10	14·4	6·15	11·7	37·43	56·1	11·93	14·2	5·38	7·1	3·60	4·3	20·91	25·6	69·88	103·7
11·60	15·2	12·37	18·3	9·39	11·5	7·02	10·5	40·38	55·5	11·83	17·5	12·57	14·9	0·10	0·4	24·50	32·8	84·81	115·1
8·42	12·0	10·53	12·5	9·86	1·6	4·38	9·5	33·19	35·6	8·92	14·8	3·11	8·6	0·41	1·2	12·44	24·6	59·29	86·6
13·79	12·4	9·92	14·7	9·40	15·5	6·36	11·1	39·47	53·7	13·59	16·6	3·71	7·3	3·22	2·6	20·52	26·5	69·27	98·5
38·98	25·2	46·39	28·6	27·14	25·4	10·33	16·3	122·84	95·5	10·75	12·4	2·95	4·2	0·56	0·8	14·26	17·4	143·95	122·6
43·14	25·0	37·50	30·2	20·52	25·9	13·20	16·1	114·36	97·3	9·39	12·7	6·07	6·5	...	...	15·46	19·2	144·66	131·3
35·68	27·0	35·55	28·7	44·12	26·0	12·70	19·4	128·05	101·1	8·25	11·9	1·04	1·6	...	...	9·29	13·5	143·75	123·3
40·99	20·6	60·50	30·4	23·79	28·6	5·67	11·9	130·95	91·5	9·72	12·4	1·43	1·5	...	...	11·15	13·9	145·97	112·9
30·85	24·1	31·88	26·5	16·60	19·3	6·78	11·9	86·11	81·8	10·15	13·1	4·40	5·9	0·97	1·7	15·52	20·7	113·93	119·4
34·65	25·4	15·99	24·5	12·39	19·7	7·63	12·1	70·66	81·7	8·51	12·0	5·31	8·5	...	...	13·82	20·5	99·28	121·9
31·16	25·0	25·78	26·4	19·33	23·6	5·91	10·8	82·18	85·8	6·51	10·2	1·60	3·0	0·12	0·3	8·23	13·5	104·43	118·7
38·47	20·9	29·90	27·8	13·81	19·9	4·14	9·4	86·32	78·0	12·26	14·5	2·05	2·4	0·15	0·2	14·46	17·1	111·48	109·0
2·64	4·7	2·20	3·9	4·52	6·6	4·06	6·1	13·42	21·3	6·45	9·2	3·15	5·1	1·87	2·9	11·47	17·2	30·18	47·7
4·28	7·3	5·30	8·1	2·64	4·6	2·39	3·9	14·61	23·9	8·37	10·4	7·46	10·0	0·01	0·1	15·84	20·5	39·27	59·8
1·37	2·0	3·46	5·8	6·21	9·6	4·15	6·2	15·19	23 6	6·97	10·4	2·26	5·3	0·17	0·6	9·40	16·3	32·04	53·4
1·75	2·7	2·72	6·1	6·43	7·7	8·91	10·6	19·81	27·1	7·94	10·5	2·68	4·4	0·03	2·7	12·65	17·6	38·38	54·3
1·59	3·5	1·12	2·8	2·22	4·3	2·22	4·0	7·15	14·6	7·03	9·2	3·04	5·2	1·77	2·9	11·84	17·3	25·21	41·7
3·52	6·5	1·96	4·3	0·96	2·2	1·26	2·0	7·70	15·0	6·78	10·2	9·30	10·7	0·01	0·1	16·09	21·0	32·18	19·5
0·90	1·6	0·91	2·4	3·09	6·0	1·77	3·8	6·67	13·8	7·16	9·8	1·89	4·2	0·02	0·1	9·07	14·1	22·85	40·0
1·74	3·7	1·09	2·8	3·73	6·6	3·00	5·3	9·56	18·4	7·86	10·5	3·15	4·6	1·38	2·7	12·39	17·8	29·86	46·8
3·59	5·5	4·34	7·7	5·50	8·2	5·09	7·5	18·52	28·9	5·70	6·5	1·48	2·8	0·41	0·8	7·59	10·1	27·63	42·0
3·50	6·3	6·31	8·1	4·11	6·3	3·91	7·3	17·83	28·0	5·65	5·8	2·99	5·3	...	...	8·64	11·1	30·43	47·6
1·26	2·6	5·06	7·4	8·37	12·7	3·60	6·1	18·29	28·8	6·01	7·6	2·44	4·8	...	...	8·45	12·4	28·51	45·9
2·32	5·3	3·35	9·5	3·52	7·3	6·62	10·2	15·81	32·3	7·36	6·8	0·23	0·4	0·04	0·2	7·63	7·4	26·14	45·4
2·53	4·5	2·83	5·3	4·67	7·1	4·41	6·0	14·44	22·9	6·82	8·4	3·73	4·3	1·74	2·5	12·29	15·2	28·42	41·1
3·47	5·7	5·38	8·2	1·62	3·4	2·84	5·4	13·31	22·7	6·43	9·1	8·98	11·;	...	...	15·41	20·5	32·24	51·0
1·19	2·7	3·79	5·8	8·68	12·1	3·82	5·2	17·48	25·8	7·31	9·1	1·43	4·1	0·14	0·7	8·88	13·9	28·78	44·3
1·43	3·5	3·52	7·6	3·24	6·1	9·32	9·8	17·51	27·0	6·58	8·0	0·80	2·4	3·03	3·3	10·41	13·7	30·49	45·8
2·52	4·8	2·14	6·1	3·69	6·7	4·42	7·1	12·77	24·7	4·53	6·7	1·68	2·5	0·20	0·5	6·41	9·7	21·48	39·3
3·15	5·2	4·13	8·7	4·50	8·1	4·04	6·3	15·82	28·3	7·37	9·7	1·70	4·5	...	...	9·07	14·2	30·57	51·8
0·81	2·2	3·03	4·9	4·82	9·2	3·58	6·7	12·24	23·0	4·48	8·2	1·94	4·3	...	...	6·42	12·5	22·26	42·7
3·64	5·3	3·74	9·0	2·74	7·1	6·15	8·3	16·27	29·7	5·93	7·2	1·23	1·9	0·05	0·3	7·21	9·4	26·98	45·8
2·31	4·1	2·33	4·7	3·83	5·8	4·11	5·6	12·58	20·2	4·97	7·0	2·12	3·0	0·44	1·1	7·53	11·1	22·12	35·2
3·91	4·7	4·25	9·1	1·96	4·7	2·79	3·7	12·91	22·2	6·23	9·7	2·10	5·9	...	...	8·33	15·6	25·59	46·4
0·89	1·5	2·17	3·5	6·39	9·4	2·38	3·5	11·83	17·9	6·53	8·6	0·91	2·9	....	...	7·44	11·5	21·94	35·2
1·79	4·7	2·32	6·0	1·43	3·2	8·49	7·6	14·03	21·5	6·34	7·1	1·28	2·1	0·25	1·1	7·87	10·3	25·03	38·1
6·06	7·1	7·00	8·5	6·29	9·0	4·87	7·4	24·22	32·0	8·48	9·8	5·05	5·8	2·85	3·4	16·38	19·0	44·92	58·0
7·12	7·6	7·73	10·5	4·76	7·5	4·92	7·2	24·53	32·8	6·77	8·8	11·68	11·0	0·38	0·7	18·83	20·5	50·93	65·0
5·08	5·7	6·23	7·9	8·79	10·2	5·11	8·0	25·21	31·8	7·87	9·8	4·02	6·4	0·80	1·6	12·69	17·8	43·25	58·5
6·61	6·0	8·26	9·8	6·94	10·1	6·80	8·7	28·61	34·6	9·84	11·6	3·40	4·7	3·22	2·5	16·46	18·8	49·40	60·5

PRICES OF FOOD.

3. Compared with the average of the last ten years, 1·1 tolahs less rice were obtainable in 1895 per rupee; but this means 0·3 tolah more than in the year 1894. In regard to the dry grains, 1·7 tolahs less cholum were obtainable than according to the ten years' average; so that this grain was cheaper by 2·2 tolahs per rupee than in 1894. Similarly, 0·9 tolah per rupee less ragi were purchaseable than according to the average price for the previous decade; but this implies that 3 tolahs per rupee more were sold during 1895 than in the previous year.

4. On contrasting these figures with the average for the quinquennium ending 1890, it is found that all grains were in 1895 more expensive than during that period; although if prices then obtaining be regarded as fairly normal, the markets during 1895 assumed a closer approximation to former prices, than in any of the previous four years, as shown by the following table:—

Average of quinquennial period ending	Rice.	Ragi.	Cholum.
1890	14·3	28·3	25·6
1891	11·8	22·4	21·1
1892	10·2	17·4	16·0
1893	11·2	20·3	18·2
1894	12·5	23·5	21·3
1895	12·8	26·5	23·5

5. This continued slight increased price of food-grains does not seem to me to imply a want of prosperity on the part of the people. On the opposite, whilst there is probably more than one factor at work—including as suggested by Government in last year's review of this report the price of silver—it would seem to be a natural accompaniment of increased prosperity under changing conditions of life consequent upon a greater grade of refinement in living, and especially owing to increased railway facilities. Experience in former years shows that any real scarcity of dry grains is at once followed by a rise of price of rice, and a decrease of its export; but, during 1895 the *export* of paddy and rice to the other countries underwent a decided increase—the figures being as follows:—

	CWT.	RS.
1891–92	1,563,364	6,170,673
1892–93	1,528,059	6,890,342
1893–94	1,941,572	8,162,912
1894–95	2,615,426	9,476,782

6. As further evidence may be stated the fact that the *imports* under grain and pulse in 1894–95 were less by 1,297,609 cwt. in quantity and 39 lakhs in value. "The imports under rice show an increase of $5\frac{1}{4}$ lakhs in value, but there were large decreases of $25\frac{3}{4}$ lakhs under paddy and $18\frac{1}{2}$ lakhs under other grains." (Page 14, Introduction to the volume of trade and navigation of the Madras Presidency for 1894–95.)

7. There would thus seem available in the amount of export of rice and paddy, some index of the agricultural prosperity of the people; for the simple reason that it is the grain which is fallen back upon when by reason of drought the usual crops of dry grain fail. If a good price is obtainable in the Presidency it is not exported; and better terms than can be secured by export can only follow when dry grains fail. On the other hand, in the absence of failure of dry crops causing a decided profit in the Presidency markets, the export inducements may be sufficiently large to react by rise of price of dry grains used as the substitute.

STATEMENT SHOWING THE INFLUENCE OF PRICES OF FOOD UPON THE BIRTH AND DEATH-RATES IN EACH DISTRICT IN THE MADRAS PRESIDENCY.

Statement showing the influence of Prices of Food upon the birth and death-rates in each district in the Madras Presidency.

Districts.	Years.	Rainfall.			Prices of food grains.												Ratio per mille of population.		Ratio per mille of population.			
									Rice.		Cholum.		Ragi.		Cumbu.				Birth.		Death.	
		Quantity in inches.	Increase.	Decrease.	Rice.	Cholum.	Ragi.	Cumbu.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Birth.	Death.	Increase.	Decrease.	Increase.	Decrease.
Anantapur	Average.	22·12	...	2·91	14·4	29·2	32·0	...	2·6	...	...	0·2	...	...	...	...	31·2	20·2	2·6	...	4·9	...
	1893	25·59	0·56	...	12·8	20·7	22·1	...	1·0	...	...	8·7	...	9·9	...	...	24·9	16·8	...	3·7	1·5	...
	1894	21 94	...	3·09	12·4	24·2	26·7	...	0·6	...	...	5·2	...	5·3	...	...	28·3	17·1	...	0·3	1·8	...
	1895	25·03	...	...	11·8	29·4	32·0	...	...	...	...	...	...	...	...	...	28·6	15·3	...	...	...	...
					Warning rate. 24·0																	
Bellary	Average.	21·48	...	5·50	12·8	28·3	33·4	...	1·4	...	...	0·4	...	1·0	...	...	37·3	22·7	5·5	...	3·9	..
	1893	30·57	3·59	...	11·4	25·0	27·4	...	...	...	...	3·7	...	7·0	...	...	28·5	21·0	...	3·3	2·2	...
	1894	22·26	...	4·72	11·3	24·7	27·8	...	...	0·1	...	4·0	...	6·6	...	...	30·8	21·8	...	1·0	3·0	...
	1895	26·98	...	...	11·4	28·7	34·4	...	...	...	...	...	...	...	...	...	31·8	18·8	...	...	...	...
					Warning rate. 23·3																	
Chingleput ...	Average.	46·06	...	1·64	14·5	18 8	24·9	...	1·3	...	...	0·8	2·8	...	...	...	35·1	23·6	...	0·8	2·6	...
	1893	48·57	0·67	...	10·6	...	17·4	...	...	2·6	...	...	...	4·7	...	...	34·3	19·9	...	1·6	...	1·1
	1894	43·95	...	3·75	12·9	...	20·4	...	...	0·3	...	...	...	1·7	...	...	34·1	20·7	...	1·8	...	0·3
	1895	47·70	...	...	13·2	19·6	22·1	...	...	...	...	...	...	...	...	...	35·9	21·0	...	...	...	...
					Warning rate. 12·8																	
Coimbatore ...	Average.	25·21	...	4·65	13·4	22·0	27·2	25·6	2·0	...	1·2	...	2·2	...	2·1	...	26·9	17·1	0·1	...	0·7	...
	1893	32·18	2·32	...	10·2	18·1	19·5	19·0	...	1·2	...	2·7	...	5·5	...	4·5	27·4	17·7	0·6	...	1·3	...
	1894	22·85	...	7·01	11·9	19·8	22·7	21·8	0·5	...	...	1·0	...	2·3	...	1·7	25·8	15·5	...	1·0	...	0·9
	1895	29·86	...	...	11·4	20·8	25·0	23·5	...	...	...	...	...	...	...	...	26·8	16·4	...	...	...	...
							Warning rate.	21·8														
Cuddapah ...	Average.	28·42	...	2·07	14·8	27·1	30·6	...	1·6	...	...	...	1·6	...	...	...	27·4	21·3	0·2	...	1·5	...
	1893	32·24	1·75	...	11·9	18·0	20·5	...	...	1·3	...	3·1	...	8·5	...	...	22·4	23·2	...	4·8	3·4	...
	1894	28·78	...	1·71	12·8	22·2	23·5	...	...	0·4	...	4·9	...	5·5	...	...	25·7	21·1	...	1·5	1·3	...
	1895	30·49	...	...	13·2	27·1	29·0	...	...	...	...	...	...	...	...	...	27·2	19·8	...	...	...	...
					Warning rate. 22·5																	
Ganjám	Average.	44·34	...	11·50	16·0	...	28·9	...	...	1·2	...	...	...	0·2	...	...	13·5	11·2	...	3·3	...	2·0
	1893	59·21	3·37	..	14·1	...	27·3	...	...	3·1	...	...	...	1·8	...	...	18·0	12·0	1·2	...	...	1·2
	1894	46·10	...	9·74	15·2	...	25·8	...	...	2·0	...	...	...	3·3	...	...	18·5	12·3	1·7	...	...	0·9
	1895	55·84	...	...	17·2	...	29·1	...	...	...	...	...	...	...	...	...	16·8	13·2	...	...	...	...
					Warning rate. 14·4																	
Gódávari ...	Average.	38·80	...	9·71	8·84	14·9	25·7	27·7	...	...	...	...	0·2	...	0·5	...	...	19·9	20·1	...	2·9	2·0	...
	1893	57·35	...	...	...	12·5	19·5	22·6	...	...	2·4	...	6·4	...	5·6	...	...	22·4	16·2	...	0·4	...	1·9
	1894	39·69	...	7·95	13·6	21·8	25·4	...	...	1·3	...	4·1	...	2·8	...	...	22·2	16·3	...	0·6	...	1·8
	1895	47·64	...	...	14·9	25·9	28·2	...	...	...	...	...	...	...	...	...	22·8	18·1	...	...	...	...
					Warning rate. 13·1																	
Kistna	Average.	33·58	...	8·85	14·1	21·6	27·4	...	...	0·4	...	1·1	...	0·3	...	...	30·4	21·6	...	0·6	5·1	...
	1893	39·78	...	2·65	12·1	17·1	21·6	...	...	2·4	...	5·6	...	6·1	...	...	28·3	17·6	...	2·7	1·1	...
	1894	31·16	...	11·27	13·6	19·0	25·2	...	...	0·9	...	3·7	...	2·7	...	...	30·9	18·8	...	0·1	2·3	...
	1895	42·43	...	...	14·5	22·7	27·7	...	...	...	...	...	...	...	...	...	31·0	16·5	...	...	...	...
					Warning rate. 12·0																	
Kurnool	Average.	27·63	1·49	...	12·5	26·8	27·7	...	...	0·4	...	1·5	0·3	...	...	...	35·4	25·1	4·5	...	6·1	...
	1893	30·43	4·29	...	12·0	20·6	21·5	...	...	0·9	...	7·7	...	5·9	...	...	25·6	22·3	...	5·3	3·3	...
	1894	28·51	2·37	...	12·8	25·1	26·4	...	...	0·1	...	3·2	...	1·0	...	...	29·5	24·6	...	1·4	5·6	...
	1895	26·14	...	...	12·9	28·3	27·4	...	...	...	...	...	...	...	...	...	30·9	19·0	...	...	...	...
					Warning rate. 22·5																	
Madras	Average.	50·89	3·52	...	12.9	20·1	25·1	...	1·8	...	...	...	3·3	...	...	...	36·7	38·7	...	2·9	3·8	...
	1893	43·98	...	3·39	10·2	14·9	18·7	...	...	0·9	...	5·2	...	3·1	...	...	38·1	39·0	...	1·0	4·1	...
	1894	47·78	0·41	...	11·4	17·3	20·9	...	0·3	...	...	2·8	...	0·9	...	...	36·4	35·2	...	2·7	0·3	...
	1895	47·37	...	...	11·1	20·1	21·8	...	...	...	...	...	...	...	...	...	39·1	34·9	...	...	...	...
					Warning rate. 10·8																	
Madura	Average.	29·95	...	5·43	13·6	27·6	26·9	...	1·6	...	7·7	...	4·1	...	...	...	29·1	19·4	0·8	...	1·9	...
	1893	35·39	0·01	...	9·9	14·8	16·7	...	...	2·1	...	5·1	...	6·1	...	...	28·3	16·9	...	...	...	0·6
	1894	32·35	...	3·03	12·0	20·2	22·9	...	...	..	0·3	...	0·1	...	...	...	26·9	19·8	...	1·4	2·3	...
	1895	35·38	...	...	12·0	19·9	22·8	...	...	...	...	...	...	...	...	...	28·3	17·5	...	...	...	...
							Warning rate.	22·5														
Malabar	Average.	113·93	2·45	...	13·2	...	23·1	...	1·5	...	...	...	...	5·2	...	...	22·3	18·6	...	0·1	2·9	...
	1893	99·28	...	12·20	10·7	...	...	...	...	1·0	...	...	...	...	...	...	19·7	18·3	...	2·7	2·6	...
	1894	104·43	...	7·05	11·7	...	...	...	...	...	...	...	...	...	...	...	21·3	14·8	...	1·1	...	0·9
	1895	111·48	...	...	11·7	...	28·3	...	...	...	...	...	...	...	...	...	22·4	15·7	...	...	...	...
					Warning rate.	11·0																
Nellore	Average.	33·74	3·11	...	13·9	23·0	26·3	...	...	0·1	...	3·5	...	1·2	...	...	23·1	14·7	...	1·3	...	0·5
	1893	43·87	13·24	...	11·9	19·9	22·5	...	...	2·1	...	6·6	...	5·0	...	...	21·6	14·7	...	2·8	...	0·5
	1894	32·26	1·63	...	13·0	23·0	24·9	...	...	1·0	...	3·5	...	2·6	...	...	23·2	15·6	...	1·2	0·4	...
	1895	30·63	...	...	14·0	26·5	27·5	...	...	...	...	...	...	...	...	...	24·4	15·2	...	...	...	...
							Warning rate.	21·8														
Nilgiris	Average.	69·88	0·61	...	10·7	...	20·3	...	1·0	...	...	...	0·6	...	...	...	18·2	17·5	...	8·4	...	5·7
	1893	84·81	15·54	...	8·9	...	16·8	...	...	0·8	...	...	...	2·9	...	...	25·1	20·5	...	1·5	...	2·7
	1894	59·29	...	9·98	9·2	...	18·4	...	...	0·5	...	...	...	1·3	...	...	28·9	22·8	2·3	...	...	0·4
	1895	69·27	...	...	9·7	...	19·7	...	...	...	...	...	...	...	...	...	26·6	23·2	...	...	...	...
					Warning rate.	8·8																

Statement showing the influence of Prices of Food upon the birth and death-rates in each district in the Madras Presidency—cont.

Districts.	Years.	Rainfall.			Prices of food grains.										Ratio per mille of population.		Ratio per mille of population.	
		Quantity in inches.	Increase.	Decrease.	Rice.		Cholum.		Ragi.		Cumbu.		Rice.	Cholum.	Ragi.	Cumbu.	Birth.	Death.
					Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.						
North Arcot ...	Average.	38·44	...	0·67	...	...	...	...	2·3	...	...	...	14·7	25·8	28·9	...	...	...
	1893 ...	39·91	0·80	...	1·8	...	...	7·1	...	6·9	...	...	11·3	16·9	19·7	...	3·7	...
	1894 ...	31·56	...	7·58	...	1·6	...	4·5	...	3·3	...	...	13·1	19·5	23·3	...	1·5	...
	1895 ...	39·11	...	...	...	...	...	...	...	...	...	...	12·9	24·0	26·6	...	0·4	...
													Warning rate.		24·0		...	...
Salem ...	Average.	30·18	...	8·20	...	...	...	...	3·0	...	...	...	14·3	25·4	29·3	...	2·4	...
	1893 ...	39·27	0·89	...	2·4	...	...	3·4	...	6·1	...	...	10·7	17·6	20·2	...	0·8	...
	1894 ...	32·04	...	6·34	...	0·5	...	0·5	...	1·6	...	...	12·4	20·5	24·7	...	0·2	...
	1895 ...	38·38	...	...	...	...	...	...	...	...	...	...	11·9	21·0	26·3	...	...	...
													Warning rate.		23·3		...	...
South Arcot ...	Average.	44·26	...	13·55	...	...	...	...	...	0·8	2·7	...	14·8	...	27·0	26·5	...	0·2
	1893 ...	49·13	...	8·68	0·9	...	...	...	...	10·3	11·5	...	10·7	...	17·5	17·7	...	3·0
	1894 ...	42·20	...	15·61	...	3·2	...	...	...	6·5	7·6	...	13·3	...	21·3	21·6	...	...
	1895 ...	57·81	...	...	...	0·6	...	...	...	...	...	...	13·9	...	27·8	20·2	...	...
													Warning rate.		21·8		...	...
South Canara ...	Average.	143·95	...	2·02	...	...	...	...	...	...	...	...	14·0	...	...	...	...	...
	1893 ...	144·66	...	1·31	...	...	...	...	...	...	...	...	12·1	...	...	...	2·9	...
	1894 ...	143·75	...	2·22	...	...	...	...	...	...	...	...	12·5	...	...	...	...	0·3
	1895 ...	145·97	...	...	...	...	...	...	...	...	...	...	13·3	...	...	...	1·7	...
													Warning rate.		11·8		...	...
Tanjore ...	Average.	45·45	...	8·76	...	...	...	...	...	0·7	...	...	14·7	...	26·5	...	0·4	...
	1893 ...	53·45	...	0·76	1·2	...	...	...	...	11·2	...	...	10·3	...	16·0	...	1·9	...
	1894 ...	38·67	...	15·54	...	0·1	...	...	...	4·6	...	...	13·4	...	22·6	...	4·2	...
	1895 ...	54·21	...	...	...	...	...	...	...	...	...	...	13·5	...	27·2	...	3·6	...
													Warning rate.		12·6		...	...
Tinnevelly ...	Average.	27·88	...	2·58	...	...	...	...	...	...	...	...	12·9	22·5	24·1	20·2	...	...
	1893 ...	26·70	...	3·76	1·7	...	4·4	...	4·4	...	2·8	...	9·8	14·5	15·3	12·8	1·6	1·6
	1894 ...	19·86	...	10·60	...	1·4	...	3·3	...	...	...	1·1	11·2	18·8	20·9	18·5	1·0	3·1
	1895 ...	30·46	...	...	...	...	...	1·2	...	...	...	...	11·2	17·8	19·7	17·4	0·8	...
														Warning rate.		18·0	2·2	...

Trichinopoly ...	Average.	32·45	...	1·94	...	8·63	...	13·7	34·2	27·1	25·3	28·8	21·9	0·8	...	1·2	...	
	1893 ...	43·02	...	...	2·1	...	...	9·4	17·3	16·2	15·8	28·1	22·9	0·1	...	2·2	...	
	1894 ...	29·01	...	12·07	...	8·8	12·9	12·3	22·6	20·2	19·2	24·4	21·5	...	3·6	0·8	...	
	1895 ...	41·08	...	...	...	4·8	4·0	11·5	21·3	25·0	23·5	28·0	20·7	...	...	...	...	
									Warning rate		21·0							
Vizagapatam ...	Average.	39·79	...	13·77	...	...	...	14·4	...	27·1	...	18·3	14·0	...	5·8	...	4·7	
	1893 ...	60·80	7·24	...	2·3	...	...	12·9	...	26·0	...	21·6	14·2	...	2·5	...	4·5	
	1894 ...	52·93	...	0·63	3·4	...	...	13·2	...	26·5	...	25·7	16·2	1·6	...	...	2·5	
	1895 ...	53·56	...	...	2·9	...	...	14·3	...	29·4	...	24·1	18·7	...	...	...	...	
								Warning rate.	12·8									
Total, Madras Presidency.	Average.	44·92	...	4·48	...	...	...	13·9	25·2	27·4	...	25·5	19·1	...	4·3	0·6	...	
	1893 ...	50·93	1·53	...	0·9	...	...	11·2	18·2	20·3	...	26·1	18·7	...	3·7	0·2	...	
	1894 ...	43·25	...	6·15	...	6·2	...	12·5	21·3	23·5	...	26·4	19·0	...	3·4	0·5	...	
	1895 ...	49·40	...	...	...	3·0	...	12·8	23·5	26·5	...	29·8	18·5	...	...	...	...	

Comparative Statement showing the Mortuary and Meteorological Statistics for the undermentioned six head-quarter stations of each Collectorate for 1895 *and five years preceding it,*

Districts.		Population.	Total deaths.	Deaths from				Temperature of air in shade.			Mean humidity.	Wind.	
				Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Maximum.	Minimum.	Mean.		Prevailing direction.	Mean velocity (in miles) per diem.
Gódávari.	1895 ...	2,077,858	40,264	...	236	19,920	1,258	88·5	74·2	81·4	76	W; N.W.; N.	194
	1894 ...	2,077,858	35,528	395	443	17,401	822	89·0	74·7	81·8	79	N; S.W; W; N.W	185
	1893 ...	2,077,858	34,898	1,099	2,008	15,575	786	87·5	73·0	79·4	79	N.; S.W.	202
	1892 ...	2,077,858	56,341	13,618	6,211	18,446	1,217	116·1	58·9	83·0	75	...	...
	1891 ...	2,077,858	39,922	1,496	4,101	17,753	874	114·1	57·9	83·9	73	...	...
	1890 ...	1,790,850	34,514	...	1,716	17,536	686	113·6	58·9	82·9	79	...	...
Kurnool.	1895 ...	817,660	16,840	286	464	12,345	153	92·8	70·3	81·6	67	Calm & W.	...
	1894 ...	817,660	21,404	803	248	16,515	210	93·1	70·3	81·7	67	Calm & W.	...
	1893 ...	817,660	19,081	29	224	15,071	227	90·6	69·9	80·4	70	Calm & W.	...
	1892 ...	817,660	28,701	4,886	421	18,691	428	111·6	51·2	81·2	70	...	...
	1891 ...	817,660	22,381	3,286	214	14,315	550	108·6	46·6	82·9	63	...	...
	1890 ...	678,464	20,190	127	421	15,560	314	111·6	47·7	81·4	68	...	...
Chingleput.	1895 ...	1,199,901	26,897	771	76	7,743	2,289	91·2	74·3	82·8	75	S.W.; W.	156
	1894 ...	1,199,901	24,757	376	157	7,351	2,458	91·5	74·8	83·1	76	S.W.; W; S; N.	158
	1893 ...	1,133,901	23,416	24	306	6,729	2,568	90·8	74·2	82·5	77	S.W.; W.	156
	1892 ...	1,133,901	26,389	1,957	367	7,099	3,646	108·4	62·6	80·8	76	...	157
	1891 ...	1,133,901	32,132	4,985	623	7,453	4,088	107·3	61·7	82·2	75	...	179
	1890 ...	978,524	23,565	410	684	6,454	2,809	109·0	61·7	80·9	78	...	144
Salem.	1895 ...	1,961,784	34,781	312	181	15,677	774	92·9	71·2	82·1	74	Calm.	77
	1894 ...	1,961,784	34,582	2,143	474	13,942	1,036	93·1	71·4	82·2	73	Calm ; S.W.; S.	94
	1893 ...	1,961,784	34,973	1,498	1,092	15,956	678	91·9	70·7	81·4	74	N.E.;S.W.&calm	103
	1892 ...	1,961,784	36,388	3,861	1,598	14,540	885	107·3	58·1	80·8	66	...	88
	1891 ...	1,961,784	40,470	5,896	1,180	15,129	1,391	106·0	58·0	81·6	67	...	78
	1890 ...	1,592,274	40,545	2,548	1,388	19,545	935	106·1	56·3	80·6	69	...	69
Madura.	1895 ...	1,573,318	29,974	1,455	105	9,703	815	93·3	74·0	83·7	71	N.; N.W.	62
	1894 ...	1,573,318	33,322	5,481	353	9,153	1,244	93·9	74·3	84·1	70	N.W.; N.	62
	1893 ...	1,573,318	27,823	1,175	1,110	8,951	823	92·8	73·5	83·2	73	N.; N.W.	50
	1892 ...	1,573,318	30,687	2,838	2,509	8,499	983	105·5	64·7	83·7	68	...	66
	1891 ...	1,563,317	37,515	7,731	3,159	8,770	1,186	104·0	64·2	84·1	69	...	72
	1890 ...	1,293,829	30,976	4,015	1,246	9,491	1,023	105·5	62·7	83·8	69	...	72
South Canara.	1895 ...	1,052,002	20,877	84	114	8,635	1,383	87·3	74·5	80·9	79	Calm & E.	89
	1894 ...	1,052,002	22,522	129	182	9,514	1,374	87·1	73·9	80·5	80	E. & calm.	60
	1893 ...	1,052,002	20,176	544	173	7,722	1,269	86·1	73·6	79·9	83	E. & calm.	62
	1892 ...	1,052,002	23,447	1,266	485	8,766	1,563	95·3	64·5	80·3	83	...	62
	1891 ...	1,052,002	19,721	357	147	7,618	1,359	96·8	63·5	81·1	83	...	48
	1890 ...	955,595	25,333	...	63	10,303	2,439	94·8	65·6	80·2	82	...	72

selected districts of the Pre idency, together with the prices current of the chief food-grains sold at the required by the Government of India, vide *G.O., No.* 1239 *L., dated 25th May* 1892.

Rainfall in inches.	Average quantity in seers per rupee of the chief food-grains in general use in the districts.				Remarks.
	Rice (2nd sort).	Cholum.	Cumbu.	Ragi.	
47·64	14·7	...	...	29·1	Rainfall, though a little more than the average and of the previous year, did not come up to the fall in 1893. Rice and ragi were easier than in previous years. Fever mortality was greater than in any of the preceding five years.
39·69	12·7	16·1	23·3	24·7	
57·35	12·0	17·5	23·4	23·8	
50·53	10·9	15·9	17·9	17·3	
25·34	13·7	22·4	24·5	25·0	
41·21	15·1	24·7	26·2	28·9	
26·14	11·7	27·9	21·5	...	Rainfall less than in previous years excepting 1891. Rice and cholum were cheaper than in previous years, and the total deaths were also less.
28·51	11·5	24·3	19·7	...	
30·43	10·8	20·5	19·8	...	
38·96	9·7	16·6	14·9	...	
15·41	11·5	24·0	19·9	...	
29·14	11·2	26·1	23·8	31·0	
47·70	11·3	...	...	21·0	Rainfall slightly exceeded the average. Rice and ragi sold cheaper than in any of the previous four years. The deaths were larger than in previous years with the exception of 1891.
43·95	10·9	...	12·9	20·0	
48·57	9·6	14·8	12·8	17·6	
36·06	9·1	...	...	15·5	
31·31	10·8	...	17·2	19·3	
29·44	11·5	...	17·2	24·1	
38·38	11·8	21·7	22·4	25·1	Rainfall exceeded the average. All the food-grains were cheaper than in previous years excepting 1890. Extent of mortality was much the same as in 1893 and 1894.
32·04	11·6	19·9	18·7	23·2	
39·27	10·1	18·3	16·9	20·4	
30·48	9·3	15·7	15·4	17·4	
43·74	10·7	18·8	19·4	21·5	
30·21	12·8	22·7	24·4	28·7	
35·38	11·4	19·2	...	21·7	Rainfall exceeded the average. Rice was cheaper than in previous years. Mortality was less than in 1894.
32·35	10·8	18·8	17·2	20·9	
35·39	9·7	14·7	13·4	17·2	
20·47	9·9	14·3	14·3	15·7	
36·19	11·2	17·1	16·6	19·4	
28·82	10·8	18·9	17·8	22·1	
145·97	13·1	...	...	...	Rainfall was a little more than the average. Price of rice was the same as in 1894, but mortality was less.
143·75	13·1	...	...	...	
144·66	11·8	...	...	19·0	
175·88	11·5	...	...	16·6	
116·49	12·1	...	...	19·0	
132·56	13·3	...	...	21·6	

VITAL STATISTICS.

GENERAL POPULATION.

REGISTRATION.

8. The population under registration during 1895 amounted to 33,605,784 according to the census, and 36,137,558 according to the estimated population. Areas inhabited by a total of 2,036,044 souls were not under any registration system during the year. This population consisted of hill tribes, inhabitants of zemindaries and certain islands on the west coast, where it has not yet been possible to graft this refinement upon existing systems of Government.

9. The system of registration, which was fully described in the annual report of this office for 1893, had undergone no change up to the end of the year either in Local Fund or Municipal areas. Increased attention had, however, been bestowed on this subject by Revenue authorities in rural areas. Thus, several Collectors not only systematically scrutinize the registration records during their annual inspection at 'jamabandi,' but issue monthly 'Proceedings,' in which progress in their districts is closely gauged and the attention of their subordinate officers concerned is called to any exhibition of carelessness. Mr. Bradley, Collector of Coimbatore, suggested that inspection by Deputy Inspectors of Vaccination would be of greater advantage, if it were arranged that they should obtain the explanation of the village officers as to irregularities at the time of inspection and before submitting the cases for disposal, instead of a special reference for this purpose being made subsequently by the Revenue authorities. This suggestion was circulated by me to all Collectors, with the result that, so far as answers have been received, only two officers objected. The matter will be referred to Government, when it is hoped this suggestion will receive final approval for the Presidency. Government further in G.O., No. 1210L., dated 2nd July 1894, desired special reports from the Collectors of Gódáveri, Vizagapatam, and Malabar, as to the possibility of improving registration in zemindaries and hill tracts. The various propositions having been considered, Government decided that beyond exercise of greater pressure upon kurnams, it would be impossible at present to introduce any change. In this connection, I may state that, should the proposed Village Proprietary ~~Act~~ Bill be passed, considerable improvement may be expected in zemindaries, as a clause has been introduced giving Collectors authority over kurnams in respect to maintenance of birth and death registration.

10. References were made to Collectors as to irregularities of registration in 65 villages. These instances were reported to this office, chiefly by District Sanitary Officers during their inspections.

11. In municipalities, a considerable amount of improvement has been indirectly effected by the working of the system laid down in G.O., No. 1502 M., dated 19th October 1894, for the better checking of the results of compulsory vaccination. Under this order, the name of each infant born is identified by a number, and by means of special registers its subsequent history can be traced till vaccination is completed. Under these circumstances, it has been found that several births existed only in the imagination of Municipal subordinates who considered it their duty to maintain that they had, by their diligent searching, discovered a certain number of unreported births. Although I call attention to this fact, I may state that I do not think this evil practice is widespread in this

Presidency. Such results can follow only in localities where pressure is placed upon unscrupulous subordinates, without subsequent efforts to check their reports.

12. Efforts are made by myself and Deputy to verify registration during inspection, and as a result such instances have been brought to light. But these attempts being made in the midst of giving attention to the requirements of sanitation and the verification of vaccination, cannot do more than deal superficially with possibilities. I believe much good could be effected during inspection if a trustworthy subordinate were at disposal for investigation up to a stage when suspicious circumstances were discovered, as several parts of a town might have to be examined fruitlessly—and at an expenditure of time that cannot be afforded—before discovering the special areas under the charge of men given to falsifying. Reserve Deputy Inspectors of Vaccination or unattached medical subordinates would be suitable for the purpose, when available from time to time.

13. Towards the close of the year Government made special enquiries as to the methods pursued for registration in municipalities (G.O., No. 313 M., dated 22nd February 1896) with the result that standard forms have been adopted throughout the Presidency.

14. Judging by the results gathered by registration, that is to say, allowing simply for gain by births and loss by deaths, the population on the last day of the year 1895 amounted to 34,840,783; but, according to the estimated population, the number should be 36,137,558. This affords some measure of the very defective condition of registration up to date, and the necessity for regarding all deductions from vital statistics almost solely in the light of comparisons gained by experience in fairly normal years, seeing that in accordance with the perfection of the organization used for obtaining statistics, the results differ as shown by the following figures:—

—	Population according to the census of 1891.	Estimated population on 31st December 1895.	Population on 31st December 1895 according to registration results.	Remarks.
Districts	33,733,121	36,137,558	34,840,783	Registration not compulsory.
Municipalities	2,130,508	2,259,155	2,150,900	Registration compulsory.

15. In calling attention to this contrast, I do not desire to ignore the fact that calculations based on the intercensal rate of increase have been found, in other countries, on the taking of the next census to be far from absolutely accurate; hence, all that I claim is that the method of calculation is the best available, and that the chances are in favour of the great deficit in numbers being due to inaccurate registration. In this connection, it may be stated that emigration and immigration as far as information is available was as follows:—

Presidency (1895).

1st Qr.		2nd Qr.		3rd Qr.		4th Qr.		Total gain or loss.
Emigration.	Immigration.	Emigration.	Immigration.	Emigration.	Immigration.	Emigration.	Immigration.	
46,448	62,460	72,795	60,388	69,118	48,857	58,420	47,145	
+ 16,012		— 12,407		— 20,261		— 11,275		— 27,931

Tanjore.

5,083	7,293	6,888	12,073	9,513	6,086	8,324	5,267	
+ 2,210		+ 5,185		— 3,427		— 3,057		+ 911

Births and Deaths.

16. The birth and death rates for the whole Presidency were 27·0 and 18·2 per mille, respectively. In the following table these are compared with the rates for the previous fourteen years :—

Years.	Birth-rate per mille of estimated population.	Death-rate per mille of estimated population.
1881	24·4	15·8
1882	24·9	15·8
1883	25·6	17·9
1884	26·4	21·2
1885	25·9	19·8
1886	26·5	17·6
1887	26·5	18·9
1888	25·7	18·4
1889	26·3	20·1
1890	26·8	19 5
1891	27·3	22·0
1892	24·6	21·8
1893	26·1	18·7
1894	26·4	19·0
1895	27·0	18·2

The birth-rate is, with the exception of that for 1891 (27·3), the highest on record: the death-rate is the lowest on record since 1886.

17. The birth- and death-rates for Hindus, Muhammadans and Christians compared with preceding years were as follows :—

Years.	Ratio of births per 1,000 of population.			Ratio of deaths per 1,000 of population.		
	Hindus.	Muhammadans.	Native Christians.	Hindus.	Muhammadans.	Native Christians.
1891	27·8	24·1	21·1	22·3	21·8	17·9
1892	25·3	23·2	20·7	22·4	22·8	16 8
1893	27·3	24·3	22·5	19·4	18·0	15·5
1894	28·0	25·6	22·8	20·3	17·5	14·8
1895	29·4	26·9	24·1	19·9	17·2	15·6

18. Remembering that Mr. Stokes' standard for the birth-rate of the Presidency is 42·45 and Mr. Stuart's 52 per mille, it might at least be hoped that fairly careful registration would result in a birth-rate being shown of about 40 per mille. The following districts, however, reported rates below 30 per mille :—

Anantapur	29·9	North Arcot	28·5
Trichinopoly	29·5	Vizagapatam	26·7
Coimbatore	29·1	Nellore	26·5
Tanjore	29·1	Gódávari	24·3
Cuddapah	28·7	Malabar	24·0
Nilgiris	28·5	Ganjám	17·3

There is no reason to believe these rates result otherwise than from defective registration; although in the case of the Tanjore district the considerable fluctuation of emigration and immigration as shown in the above table which has taken place there for some years past, cannot fail to have had some influence.

19. In the case of municipalities, there can, however, be little real excuse for defective registration. It can only result from a want of appreciation of the importance of the matter by Municipal Councils in enabling both Government and themselves to arrive at a just conclusion as to the efficiency of efforts employed to raise the sanitary condition of the people. Indeed, there is still great reluctance on the part of Municipal Councils to prosecute persons who fail to report births and deaths, and it is still the practice in several municipalities to trust to the information gained from peons who, having ascertained cases, give the people forms and

invite their attendance at office. Under such a system, if the peon fails to find a case, the event is not reported; as no action is likely to be taken by persons who are aware that no penalty is probable if they neglect this requirement of municipal law. Thus, during the year, notwithstanding that manifestly imperfect registration continued, the following table shows that there was but little resort to legal compulsion in this matter :—

Districts.	Municipal Towns.	Number of cases in which penalties were inflicted for omitting to register births and deaths.	
		Births.	Deaths.
Anantapur	Anantapur	..	..
Bellary	Ádóni	19	9
	Bellary	3	3
Chingleput	Conjeeveram	..	..
Coimbatore	Coimbatore	2	..
	Erode	28	21
	Karúr	9	..
Cuddapah	Cuddapah	4	5
Ganjám	Berhampur	..	..
	Chicacole	11	12
	Parlákimedi	..	..
Gódávari	Cocanada	*..	*..
	Ellore	11	6
	Rajahmundry	..	..
Kistna	Bezwada	24	14
	Guntúr	1	..
	Masulipatam	16	13
Kurnool	Kurnool	..	..
Madura	Dindigal	..	..
	Madura	*..	*..
	Palni	..	†1
	Periyakulam	10	..
Malabar	Calicut	† 46	† 33
	Cannanore	..	..
	Cochin	..	..
	Palghat	28	21
	Tellicherry	13	1
Nellore	Nellore	28	11
	Ongole	6	6
Nilgiris	Coonoor	..	..
	Ootacamund	..	..
North Arcot	Gudiyáttam	..	..
	Tirupati	..	..
	Vellore	*..	*..
	Wallajapet	1	..
Salem	Salem	5	4
	Tirupatur	† 13	† 11
	Vániyambádi	3	7
South Arcot	Chidambaram	..	..
	Cuddalore	*..	*..
South Canara ..	Mangalore	..	..
Tanjore	Kumbakónam	10	9
	Máyavaram	6	3
	Munnárgudi	21	16
	Negapatam	15	8
	Tanjore	3	..
Tinnevelly	Palamcotta	17	11
	Srivliliputtúr	..	..
	Tinnevelly	6	..
	Tuticorin	*..	*..

* Information not furnished. † Prosecutions.

Districts.	Municipal Towns.	Number of cases in which penalties were inflicted for omitting to register births and deaths.	
		Births.	Deaths.
Trichinopoly ..	Srírangam	25	15
	Trichinopoly	2	1
Vizagapatam ..	Anakapallo	..	..
	Bimlipatam	..	..
	Vizagapatam	..	..
	Vizianagram	..	..
	Total ..	392	241

20. Of a total of 57 municipalities, 2 report birth-rates over 45 per mille, 22 over 35, 20 over 30, and 13 below this. Of those below 30, Cuddapah has, with reference to prevalence of malaria, a reason for absence of fecundity; but there would seem to exist no valid excuse in the case of Madura (29·0), Cocanada (20·2), Chicacole (21·6) and Berhampur (24·2). In the case of Cocanada, special representations were made to the municipality and the Collector of the district as to neglect of registration during the year, with the result of ultimately securing some improvement in working, but too late to exhibit any effect on the total statistics for the year. Chidambaram was shown by the last census to be undergoing decrease of population; but, granting this is so, I cannot regard the birth-rate of 24·0 otherwise than with suspicion, especially as the decrease has occurred less gradually than might resonably be expected. Thus, in 1893 the rate was 29·9, in 1894, 28·5 and in 1895, 24·0.

21. In 20 municipalities, death-rates show increase when compared with last year; but it must be remembered that 12 of these also show a marked rise of the birth-rate. This means, in short, that increased attention has been paid to registration generally.

22. Thus in Vániyambadi with a birth-rate of 53, it is to be expected that a rise of the death-rate would occur under infantile mortality as actually shown, namely, from 188·3 per mille of registered births in 1894 to 213·3 per mille in the year under report. In this light, the municipality of Anantapur presents a curious lesson. Here the birth-rate has jumped from 26·7 in 1894 to 40·1 in 1895; but the death-rate of 14·9 animadverted upon last year has only risen to 16·5 with a decrease, not an increase, of infantile mortality of 9·1 per mille of births, namely, from 147·9 in 1894 there was a fall to 138·8 in 1895. It is evident from the better birth statistics this year that the Anantapur Municipality has made an effort to effect improvement, which was probably entrusted largely to subordinates, whose duty it was also to see to vaccination; hence, the better attention to births and less adequate attention to deaths. This sudden healthiness of Anantapur, if statistics were alone to be trusted, is the more remarkable, when it is remembered that in 1891 and 1892 the death-rate was stated respectively at 28·9 and 36·3 per mille. The slightly diminished death-rate and improved birth-rate of Cuddapah is referred to in Section IX dealing with major works. Berhampur being one of the municipalities where registration is imperfect, it is impossible to regard the increase of the death-rate from 21·1 to 24·2 per mille with any seriousness, as it would be unsafe to draw any conclusions on the subject. But so far as the figures go, it would appear that an increase of mortality occurred under all heads, except 'injuries,' and cholera, which was not present in the town. In Madras a birth-rate of 42·5 was reached against 37·7 in the previous year, but the death-rate, after the slight improvement of 1894 (36·9), rose to the heavy figure of 38 per mille.

23. For every 100 boys there were 95·8 births of girls registered; for every 100 deaths of males, there were 95·4 deaths of females.

24. The infantile mortality of the Presidency was at the rate of 162·3 per mille of births; but as this rate is very far exceeded in towns—making allowance for the greater mortality that might be expected—the chances are that it is much lower

than the truth, and that numbers of infants are buried without registration. Lest I be misunderstood here, I would state that there is no reason to think female infants are got rid of as suspected in other parts of India. On the opposite, Madrasees, though not appreciating female births, are, as a race, most devoted to, and careful of, their children. If there be truth in my opinion, the result must be due simply to the tendency for deaths of infants being held as of less importance than adults, and, consequently, more likely to escape observation of subordinates responsible for registration. The rate I obtained as a standard from 23 not abnormally unhealthy municipal towns in 1894 was 176·25 deaths per mille of births. The following compares the death-rates of infants and children under four years of age in municipalities and districts :—

Statement showing the rate of Mortality of Infants under one year of age in Districts and Municipalities in 1895.

Districts.	Ratio per mille of registered births.*			Municipalities.	Ratio per mille of registered births.†		
	Males.	Females.	Total.		Males.	Females.	Total.
Ganjám	174·1	158·5	166·7	Chicacole	167·5	212·4	189·4
				Berhampur	237·0	169·9	203·2
				Parlákimedi	153·0	162·2	157·2
Vizagapatam	162·2	148·0	155·2	Vizagapatam	230·8	212·5	221·2
				Bimlipatam	133·0	142·9	137·7
				Vizianagram	168·5	207·1	186·5
				Anakápalle	190·2	164·8	178·8
Gódávari	153·3	142·7	148·1	Cocanada	129·0	137·3	133·3
				Rajahmundry	230·5	206·8	220·0
				Ellore	263·9	198·3	232·1
Kistna	148·4	132·8	140·7	Masulipatam	246·1	201·3	224·1
				Guntúr	236·1	183·3	210·0
				Bezwada	266·1	222·2	245·7
Nellore	147·8	127·9	138·1	Nellore	214·4	127·2	173·1
				Ongole	195·8	165·8	180·6
Madras	299·0	257·9	278·9	Madras	297·3	255·6	276·9
Chingleput	203·3	179·1	191·3	Conjeeveram	242·3	221·1	231·6
				Cuddalore	167·3	150·0	158·4
South Arcot	199·1	183·0	191·1	Chidambaram	206·4	113·0	158·5
				Trichinopoly	152·1	141·6	147·0
Trichinopoly	186·5	174·0	180·4	Srírangam	203·6	193·7	198·9
				Tanjore	250·0	218·7	235·1
				Kumbakónam	309·6	238·2	274·3
Tanjore	220·3	191·0	206·1	Máyavaram	245·7	219·9	233·3
				Negapatam	314·4	272·9	293·7
				Mannárgudi	214·3	181·8	199·0
				Madura	203·0	176·0	189·4
Madura	154·1	139·2	146·7	Periyakulam	241·2	173·0	207·0
				Dindigul	229·5	152·1	194·7
				Palni	294·6	206·3	249·5
				Tinnevelly	255·2	218·7	236·7
				Palamcottah	221·2	196·1	208·9
Tinnevelly	190·1	175·7	183·1	Tuticorin	292·5	232·2	264·6
				Srívilliputtúr	134·2	128·5	131·4
	152·2	138·6	145·4	Kurnool	212·6	213·1	212·8
Kurnool	172·3	147·7	160·2	Cuddapah	282·4	215·9	252·6
Cuddapah				Bellary	281·6	233·6	257·1
	156·5	139·6	148·1	Adóni	189·5	185·6	187·6
Bellary				Anantapur	197·3	74·6	138·8
	131·2	115·6	123·5	Vellore	174·8	166·7	170·9
Anantapur				Gudiyáttam	212·6	169·0	191·0
	147·5	130·1	139·0	Wallajapet	294·1	207·3	253·6
North Arcot				Tirupati	283·0	141·0	208·3
				Salem	217·0	176·8	197·4
	174·5	159·1	167·0	Vániyambádi	236·7	188·7	213·3
Salem				Tiruppattúr	180·8	156·4	168·2
				Coimbatore	221·9	211·5	216·8
	167·7	153·1	160·4	Erode	170·5	133·6	152·1
Coimbatore				Karúr	258·2	225·4	254·3
				Ootacamund	211·6	210·7	211·2
	217·6	224·3	220·9	Coonoor	225·2	185·2	205·5
Nilgiris				Mangalore	266·3	210·9	238·5
	179·4	159·4	169·8	Tellicherry	159·7	161·8	160·7
South Canara				Calicut	170·1	124·7	148·3
				Palghat	246·4	231·1	239·0
	111·5	95·7	103·9	Cochin	176·8	164·5	171·0
Malabar				Cannanore	180·7	173·1	177·3
	170·9	153·6	162·3		240·0	205·0	223·0

* Excluding Europeans and Eurasians.

† Including Europeans and Eurasians.

Table showing the Ratios of Births and Deaths for Urban and Rural Circles.

Districts.	Registration Circles.	Ratio of births per mille of population.		Ratio of deaths per mille of population.	
		1895.	1894.	1895.	1894.
Anantapur ..	Municipal towns	40·1	26·7	16·5	14·9
	Rural towns	22·8	27·4	11·4	21·7
	Rural villages	29·3	29·9	16·1	18·0
Bellary	Municipal towns	36·4	35·9	25·3	27·4
	Rural towns	34·7	29·4	16·3	17·9
	Rural villages	35·7	33·1	20·9	23·3
Chingleput ..	Municipal towns	38·3	39·4	33·6	30·6
	Rural towns	28·0	4·0	23·1	7·7
	Rural villages	38·5	34·0	21·9	20·4
Coimbatore ..	Municipal towns	39·1	36·0	27·4	27·3
	Rural towns	..	..	..	..
	Rural villages	28·6	27·9	17·4	16·6
Cuddapah	Municipal towns	22·7	15·8	33·2	34·2
	Rural towns	..	..	..	..
	Rural villages	28·8	26·3	20·8	21·8
Ganjám	Municipal towns	25·6	27·9	24·0	22·2
	Rural towns	..	..	..	..
	Rural villages	17·1	18·8	13·2	12·3
Gódávari	Municipal towns	26·7	27·1	23·1	25·3
	Rural towns	19·5	24·2	16·7	18·6
	Rural villages	24·3	23·1	19·3	16·6
Kistna	Municipal towns	34·3	30·4	27·2	30·5
	Rural towns	37·4	27·6	22·2	24·1
	Rural villages	33·5	33·0	17·4	19·5
Kurnool	Municipal towns	34·6	34·1	30·5	31·3
	Rural towns	18·0	10·2	13·8	15·5
	Rural villages	33·7	31·6	20·4	26·2
Madras	Municipal town	42·5	37·7	38 0	36·9
	Municipal towns	32·4	36·0	26·7	31·1
Madura	Rural towns	21·0	18·1	15·8	16·6
	Rural villages	31·0	28·4	18·4	20·3
	Municipal towns	38·9	34·9	29·2	26·9
Malabar	Rural towns	..	..	..	..
	Rural villages	22·9	21·2	15·7	14·6
	Municipal towns	32·2	30·9	21·9	21·8
Nellore	Rural towns	..	..	..	..
	Rural villages	26·3	24·4	16·3	16·5
	Municipal towns	34·1	32·3	25·2	26·6
Nilgiris	Rural towns	..	..	..	..
	Rural villages	27·2	29·0	24 8	22·8
	Municipal towns	35·7	32·9	25·1	20·2
North Arcot ..	Rural towns	21·3	16·4	13·9	19·2
	Rural villages	28·3	28·5	15·9	16·4
	Municipal towns	42·5	40·1	22·7	25·3
Salem	Rural towns	20·8	19·6	10·1	9·0
	Rural villages	31·5	32·1	17·5	17·3
	Municipal towns	33·4	29·8	25·5	24·1
South Arcot ..	Rural towns	12·6	12·0	9·8	13·7
	Rural villages	33·1	29·5	22·8	23·2
	Municipal towns	29·5	32·9	26·0	27·0
South Canara ..	Rural towns	..	..	..	..
	Rural villages	30·1	33·3	19·6	21·2
	Municipal towns	32·5	29·8	28·4	34·2
Tanjore ..	Rural towns	26·5	21·2	28·2	26·7
	Rural villages	28·7	25·2	22·5	26·0
	Municipal towns	31·4	31·1	26·4	33·4
Tinnevelly ..	Rural towns	32·4	34·9	26·9	30·0
	Rural villages	29·8	28·3	24·8	26·4
	Municipal towns	25·4	20·4	25·5	25·5
Trichinopoly ..	Rural towns	..	..	..	..
	Rural villages	29·9	25·9	21·5	22·2
	Municipal towns	32·1	33·5	26·9	28·3
Vizagapatam ..	Kural towns	23·9	29·8	20·1	18·9
	Rural villages	26·5	26·0	20·4	16·0
	Municipal towns	35·3	33·2	28·9	30·0
Total ..	Rural towns	25·2	25·2	18·9	20·9
	Rural villages	28·7	27·4	19·0	19·2

SECTION VI.

GENERAL HISTORY OF CHIEF DISEASES.

CHOLERA.

29. In the year under review a total of 21,172 deaths from cholera occurred, against ~~43,427~~ 42,289 in 1894. In the first month of 1895, cholera was present in the following thirteen districts:—

1. Chingleput,
2. Coimbatore,
3. Ganjám,
4. Madras,
5. Madura,
6. Malabar,
7. Nellore,
8. North Arcot,
9. Salem,
10. South Arcot,
11. Tanjore,
12. Tinnevelly, and
13. Trichinopoly.

30. The subjoined table shows that, as usual, in the districts chiefly affected by the south-west monsoon, the incidence upon the population of these gradually declined—being ·14 per mille of the population from June to September and ·03 from October to December. But, in the north-east monsoon districts, the disease showed a greater tendency than usual to linger through the south-west monsoon, with a decline instead of the usual increase during the north-east monsoon months:—

Cholera incidence exhibited according to monsoon periods.

Districts.		South-west monsoon.					North-east monsoon.				Grand total of both the monsoon periods.
		June.	July.	August.	September	Total.	October.	November.	December.	Total.	
Districts chiefly affected by south-west monsoon.	*East coast, north—*										
	Ganjám	...	...	15	22	37	13	113	165	291	328
	Vizagapatam	...	...	...	...	...	...	4	25	29	29
	Gódávari	...	...	...	...	...	...	...	...	...	...
	Kistna	...	...	...	...	...	...	...	...	...	...
	North midland—										
	Kurnool	...	21	159	49	229	55	2	...	57	286
	Cuddapah	17	79	37	39	172	...	...	...	...	172
	Bellary	250	484	460	351	1,545	70	48	18	136	1,681
	Anantapur	...	6	22	33	61	10	...	...	10	71
	South-western—										
	South Canara	17	11	...	...	28	...	...	...	...	28
	Malabar	91	14	...	...	105	6	...	...	6	111
	Nilgiris	...	...	...	...	...	...	...	...	...	...
	Total ...	375	615	693	494	2,177	154	167	208	529	2,706
Incidence per mille of population of south-west monsoon group.		...	...	...	...	0·14	...	...	...	0·03	0·17

Table showing the Ratios of Births and Deaths for Urban and Rural Circles.

Districts.	Registration Circles.	Ratio of births per mille of population.		Ratio of deaths per mille of population.	
		1895.	1894.	1895.	1894.
Anantapur ..	Municipal towns	40·1	26·7	16·5	14·9
	Rural towns	22·8	27·4	11·4	21·7
	Rural villages	29·3	29·9	16·1	18·0
Bellary	Municipal towns	36·4	35·9	25·3	27·4
	Rural towns	34·7	29·4	16·3	17·9
	Rural villages	35·7	33·1	20·9	23·3
Chingleput ..	Municipal towns	38·3	39·4	33·6	30·6
	Rural towns	28·0	4·0	23·1	7·7
	Rural villages	38·5	34·0	21·9	20·4
Coimbatore ..	Municipal towns	39·1	36·0	27·4	27·3
	Rural towns	..	..	..	..
	Rural villages	28·6	27·9	17·4	16·6
Cuddapah	Municipal towns	22·7	15·8	33·2	34·2
	Rural towns	..	..	..	..
	Rural villages	28·8	26·3	20·8	21·8
Ganjám	Municipal towns	25·6	27·9	24·0	22·2
	Rural towns	..	..	..	..
	Rural villages	17·1	18·8	13·2	12·3
Gódávari	Municipal towns	26·7	27·1	23·1	25·3
	Rural towns	19·5	24·2	16·7	18·6
	Rural villages	24·3	23·1	19·3	16·6
Kistna	Municipal towns	34·3	30·4	27·2	30·5
	Rural towns	37·4	27·6	22·2	24·1
	Rural villages	33·5	33·0	17·4	19·5
Kurnool	Municipal towns	34·6	34·1	30·5	31·3
	Rural towns	18·0	10·2	13·8	15·5
	Rural villages	33·7	31·6	20·4	26·2
Madras	Municipal town	42·5	37·7	38 0	36·9
	Municipal towns	32·4	36·0	26·7	31·1
Madura	Rural towns	21·0	18·1	15·8	16·6
	Rural villages	31·0	28·4	18·4	20·3
	Municipal towns	38·9	34·9	29·2	26·9
Malabar	Rural towns	..	..	..	..
	Rural villages	22·9	21·2	15·7	14·6
	Municipal towns	32·2	30·9	21·9	21·8
Nellore	Rural towns	..	..	..	..
	Rural villages	26·3	24·4	16·3	16·5
	Municipal towns	34·1	32·3	25·2	26·6
Nilgiris	Rural towns	..	..	..	..
	Rural villages	27·2	29·0	24 8	22·8
	Municipal towns	35·7	32·9	25·1	20·2
North Arcot ..	Rural towns	21·3	16·4	13·9	19·2
	Rural villages	28·3	28·5	15·9	16·4
	Municipal towns	42·5	40·1	22·7	25·3
Salem	Rural towns	20·8	19·6	10·1	9·0
	Rural villages	31·5	32·1	17·5	17·3
	Municipal towns	33·4	29·8	25·5	24·1
South Arcot ..	Rural towns	12·6	12·0	9·8	13·7
	Rural villages	33·1	29·5	22·8	23·2
	Municipal towns	29·5	32·9	26·0	27·0
South Canara ..	Rural towns	..	..	..	..
	Rural villages	30·1	33·3	19·6	21·2
	Municipal towns	32·5	29·8	28·4	34·2
Tanjore ..	Rural towns	26·5	21·2	28·2	26·7
	Rural villages	28·7	25·2	22·5	26·0
	Municipal towns	31·4	31·1	26·4	33·4
Tinnevelly ..	Rural towns	32·4	34·9	26·9	30·0
	Rural villages	29·8	28·3	24·8	26·4
	Municipal towns	25·4	20·4	25·5	25·5
Trichinopoly ..	Rural towns	..	..	..	..
	Rural villages	29·9	25·9	21·5	22·2
	Municipal towns	32·1	33·5	26·9	28·3
Vizagapatam ..	Kural towns	23·9	29·8	20·1	18·9
	Rural villages	26·5	26·0	20·4	16·0
	Municipal towns	35·3	33·2	28·9	30·0
Total ..	Rural towns	25·2	25·2	18·9	20·9
	Rural villages	28·7	27·4	19·0	19·2

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1. Chingleput,
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5. Madura,
6. Malabar,
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8. North Arcot,
9. Salem,
10. South Arcot,
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30. The subjoined table shows that, as usual, in the districts chiefly affected by the south-west monsoon, the incidence upon the population of these gradually declined—being ·14 per mille of the population from June to September and ·03 from October to December. But, in the north-east monsoon districts, the disease showed a greater tendency than usual to linger through the south-west monsoon, with a decline instead of the usual increase during the north-east monsoon months:—

Cholera incidence exhibited according to monsoon periods.

	Districts.	South-west monsoon.					North-east monsoon.				Grand total of both the monsoon periods.
		June.	July.	August.	September	Total.	October.	November.	December.	Total.	
Districts chiefly affected by south-west monsoon.	*East coast, north—*										
	Ganjám	...	...	15	22	37	13	113	165	291	328
	Vizagapatam	...	...	...	...	...	...	4	25	29	29
	Gódávari	...	...	...	...	...	...	...	...	...	...
	Kistna	...	...	...	...	...	...	...	...	...	...
	North midland—										
	Kurnool	...	21	159	49	229	55	2	...	57	286
	Cuddapah	17	79	37	39	172	...	...	...	...	172
	Bellary	250	484	460	351	1,545	70	48	18	136	1,681
	Anantapur	...	6	22	33	61	10	...	...	10	71
	South-western—										
	South Canara	17	11	...	...	28	...	...	...	...	28
	Malabar	91	14	...	...	105	6	...	...	6	111
	Nilgiris	...	...	...	...	...	...	...	...	...	...
	Total ...	375	615	693	494	2,177	154	167	208	529	2,706
	Incidence per mille of population of south-west monsoon group.	...	...	...	...	0·14	...	...	...	0·03	0·17

Table showing the Ratios of Births and Deaths for Urban and Rural Circles.

Districts.	Registration Circles.	Ratio of births per mille of population.		Ratio of deaths per mille of population.	
		1895.	1894.	1895.	1894.
Anantapur ..	Municipal towns	40·1	26·7	16·5	14·9
	Rural towns	22·8	27·4	11·4	21·7
	Rural villages	29·3	29·9	16·1	18·0
Bellary	Municipal towns	36·4	35·9	25·3	27·4
	Rural towns	34·7	29·4	16·3	17·9
	Rural villages	35·7	33·1	20·9	23·3
Chingleput ..	Municipal towns	38·3	39·4	33·6	30·6
	Rural towns	28·0	4·0	23·1	7·7
	Rural villages	38·5	34·0	21·9	20·4
Coimbatore ..	Municipal towns	39·1	36·0	27·4	27·3
	Rural towns	..	..	..	..
	Rural villages	28·6	27·9	17·4	16·6
Cuddapah	Municipal towns	22·7	15·8	33·2	34·2
	Rural towns	..	..	..	..
	Rural villages	28·8	26·3	20·8	21·8
Ganjám	Municipal towns	25·6	27·9	24·0	22·2
	Rural towns	..	..	..	..
	Rural villages	17·1	18·8	13·2	12·3
Gódávari	Municipal towns	26·7	27·1	23·1	25·3
	Rural towns	19·5	24·2	16·7	18·6
	Rural villages	24·3	23·1	19·3	16·6
Kistna	Municipal towns	34·3	30·4	27·2	30·5
	Rural towns	37·4	27·6	22·2	24·1
	Rural villages	33·5	33·0	17·4	19·5
Kurnool	Municipal towns	34·6	34·1	30·5	31·3
	Rural towns	18·0	10·2	13·8	15·5
	Rural villages	33·7	31·6	20·4	26·2
Madras	Municipal town	42·5	37·7	38 0	36·9
	Municipal towns	32·4	36·0	26·7	31·1
Madura	Rural towns	21·0	18·1	15·8	16·6
	Rural villages	31·0	28·4	18·4	20·3
	Municipal towns	38·9	34·9	29·2	26·9
Malabar	Rural towns	..	..	..	..
	Rural villages	22·9	21·2	15·7	14·6
	Municipal towns	32·2	30·9	21·9	21·8
Nellore	Rural towns	..	..	..	..
	Rural villages	26·3	24·4	16·3	16·5
	Municipal towns	34·1	32·3	25·2	26·6
Nilgiris	Rural towns	..	..	..	..
	Rural villages	27·2	29·0	24 8	22·8
	Municipal towns	35·7	32·9	25·1	20·2
North Arcot ..	Rural towns	21·3	16·4	13·9	19·2
	Rural villages	28·3	28·5	15·9	16·4
	Municipal towns	42·5	40·1	22·7	25·3
Salem	Rural towns	20·8	19·6	10·1	9·0
	Rural villages	31·5	32·1	17·5	17·3
	Municipal towns	33·4	29·8	25·5	24·1
South Arcot ..	Rural towns	12·6	12·0	9·8	13·7
	Rural villages	33·1	29·5	22·8	23·2
	Municipal towns	29·5	32·9	26·0	27·0
South Canara ..	Rural towns	..	..	..	..
	Rural villages	30·1	33·3	19·6	21·2
	Municipal towns	32·5	29·8	28·4	34·2
Tanjore ..	Rural towns	26·5	21·2	28·2	26·7
	Rural villages	28·7	25·2	22·5	26·0
	Municipal towns	31·4	31·1	26·4	33·4
Tinnevelly ..	Rural towns	32·4	34·9	26·9	30·0
	Rural villages	29·8	28·3	24·8	26·4
	Municipal towns	25·4	20·4	25·5	25·5
Trichinopoly ..	Rural towns	..	..	..	..
	Rural villages	29·9	25·9	21·5	22·2
	Municipal towns	32·1	33·5	26·9	28·3
Vizagapatam ..	Kural towns	23·9	29·8	20·1	18·9
	Rural villages	26·5	26·0	20·4	16·0
	Municipal towns	35·3	33·2	28·9	30·0
Total ..	Rural towns	25·2	25·2	18·9	20·9
	Rural villages	28·7	27·4	19·0	19·2

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GENERAL HISTORY OF CHIEF DISEASES.

CHOLERA.

29. In the year under review a total of 21,172 deaths from cholera occurred, against ~~43,427~~ in 1894. In the first month of 1895, cholera was present in the following thirteen districts:— 42,289

1. Chingleput,	6. Malabar,	10. South Arcot,
2. Coimbatore,	7. Nellore,	11. Tanjore,
3. Ganjám,	8. North Arcot,	12. Tinnevelly, and
4. Madras,	9. Salem,	13. Trichinopoly.
5. Madura,		

30. The subjoined table shows that, as usual, in the districts chiefly affected by the south-west monsoon, the incidence upon the population of these gradually declined—being ·14 per mille of the population from June to September and ·03 from October to December. But, in the north-east monsoon districts, the disease showed a greater tendency than usual to linger through the south-west monsoon, with a decline instead of the usual increase during the north-east monsoon months:—

Cholera incidence exhibited according to monsoon periods.

	Districts.	South-west monsoon.					North-east monsoon.				Grand total of both the monsoon periods.
		June.	July.	August.	September	Total.	October.	November.	December.	Total.	
Districts chiefly affected by south-west monsoon.	*East coast, north—*										
	Ganjám	...	...	15	22	37	13	113	165	291	328
	Vizagapatam	...	...	...	...	...	...	4	25	29	29
	Gódávari	...	...	...	...	...	...	...	...	...	...
	Kistna	...	...	...	...	...	...	...	...	...	...
	North midland—										
	Kurnool	...	21	159	49	229	55	2	...	57	286
	Cuddapah	17	79	37	39	172	...	...	...	...	172
	Bellary	250	484	460	351	1,545	70	48	18	136	1,681
	Anantapur	...	6	22	33	61	10	...	...	10	71
	South-western—										
	South Canara	17	11	...	...	28	...	...	...	...	28
	Malabar	91	14	...	...	105	6	...	...	6	111
	Nilgiris	...	...	...	...	...	...	...	...	...	...
	Total ...	375	615	693	494	2,177	154	167	208	529	2,706
	Incidence per mille of population of south-west monsoon group.	...	...	...	...	0·14	...	...	...	0·03	0·17

Cholera incidence exhibited according to monsoon periods—cont.

	Districts.	South-west monsoon.					North-east monsoon.				Grand total of both the monsoon periods.
		June.	July.	August.	September	Total.	October.	November.	December.	Total.	
Districts chiefly affected by north-east monsoon.	*East coast, central*—										
	Nellore	...	...	...	...	...	...	...	...	...	...
	Madras	1	3	14	16	34	1	...	...	1	35
	Chingleput	...	1	28	67	96	22	5	...	27	123
	North Arcot	...	...	...	5	5	13	13	1	27	32
	East coast, south—										
	South Arcot	446	1,047	633	108	2,234	37	71	83	191	2,425
	Trichinopoly	12	114	114	18	258	2	1	...	3	261
	Tanjore	132	248	50	9	439	1	2	12	15	454
	South-eastern—										
	Madura	42	42	165	70	319	29	64	14	107	426
	Tinnevelly	396	591	318	235	1,540	536	630	398	1,564	3,104
	South midland—										
	Salem	18	4	2	3	27	...	1	...	1	28
	Coimbatore	7	1	9	1	18	...	...	...	...	18
	Total ...	1,054	2,051	1,333	532	4,970	641	787	508	1,936	6,906
	Incidence per mille of population of north-east monsoon group.	...	...	...	...	0·27	...	...	...	0·10	0·37

31. The districts of Madura, South Arcot, Tinnevelly and Tanjore were affected with cholera throughout the year.

32. The districts yielding the chief mortality from this cause were Tinnevelly (4,649 deaths), South Arcot (4,307 deaths). Both districts have water-supplies liable to contamination in a very marked degree: tanks and irrigation channels that run through large tracts of country and pass villages *en route* being the chief sources of water-supply. As illustrating how cholera may be conveyed by irrigation channels (of which there is ample proof) even when not subjected to the defilement incident to passing a village, I may cite a case that occurred a day previous to my last inspection of Palamcottah. A native was brought in from the rice fields in a state of collapse. He had undergone all the usual symptoms of vomiting and purging in his field, over which the surplus water passed to the irrigation channel at a lower level. In a widely-irrigated tract of country, it may well happen that mysterious cases of cholera may be thus originated, in that the irrigation water is used for drinking and 'other domestic purposes' by all villagers.

33. In 57 municipalities, a total of 1,447 deaths from cholera were registered. In nine of them, the deaths did not exceed ten in each case. The bulk of the mortality was distributed between Trichinopoly (290), Chidambaram (216), and Madras and Periyakulam (115 each).

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1895, to accompany the Cholera Map.

1	2	3		4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of Circle.		Population for which Returns were received.	Date of First Case of Cholera in the Circle during the Year.	Date of Last Case of Cholera in the Circle during the Year.	Cholera. Total Deaths in each of the Circles.	Cholera. Ratio per 10,000 of Population.	Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Number of those Affected by Cholera.	Number of those Not affected by Cholera.
Anantapur.	1	Anantapur ...	M.T.C.	6,973	...	...	...	...	...	1	...	1
	2	Tadpatri ...	T.C.	10,275	...	...	...	...	...	1	...	1
	3	Anantapur ...	R.C.	97,481	...	...	...	...	...	122	...	122
	4	Gooty ...	R.C.	142,577	9th Aug....	18th Oct. ...	63	4·4	September...	153	3	150
	5	Tadpatri ...	R.C.	102,373	18th July...	6th Aug....	8	0·8	July ...	95	2	93
	6	Penukonda ...	R.C.	81,100	...	...	...	...	...	103	...	103
	7	Dharmavaram	R.C.	66,113	...	...	...	...	...	215	...	215
	8	Hindúpur ...	R.C.	80,843	...	...	...	...	...	101	...	101
	9	Madakasíra ...	R.C.	67,992	...	...	...	...	...	150	...	150
	10	Kalyandroog ...	R.C.	71,592	...	...	...	...	...	* ...	...	...
	10	Total, District ...		727,319	18th July...	18th Oct. ...	71	1·0	September...	941	5	936
Bellary.	11	Bellary ...	M.T.C.	57,780	27th June...	9th Aug....	53	9·2	July ...	1	1	...
	12	Ádóni ...	M.T.C.	26,216	12th July ...	7th Aug....	2	0·8	...	1	1	...
	13	Hospet ...	T.C.	12,869	17th July ...	22nd Nov....	9	0·7	July ..	1	1	...
	14	Kampli ...	T.C.	10,528	14th Aug....	...	40	37·9	November...	1	...	1
	15	Rayadrug ...	T.C.	10,378	...	...	...	...	...	129	34	95
	16	Bellary ...	R.C.	120,800	30th May ...	29th Nov....	345	28·5	September...	77	26	51
	17	Hospet ...	R.C.	69,103	7th June...	18th Nov...	269	38·9	August ...	105	5	100
	18	Kúdligi ...	R.C.	94,295	8th May ...	29th July ...	78	8·3	June ...	85	29	56
	19	Hadagalli ...	R.C.	104,035	28th April.	4th Oct. ...	347	33·3	July ...	83	15	68
	20	Harpanahalli ...	R.C.	82,240	25th April.	22nd Oct....	178	21·6	June ...	91	...	91
	21	Alúr ...	R.C.	88,076	...	...	...	...	...	129	19	110
	22	Ádóni ...	R.C.	134,551	25th July ...	30th Dec. ...	346	25·7	August ...	91	5	86
	23	Rayadrug ...	R.C.	68,243	27th June ..	8th Sept....	56	8 2	August ...	24	4	20
	24	Zemíndari ...	...	11,371	13th June ...	3rd Oct. ...	55	48·4	June ...	819	141	678
	14	Total, District ...		890,485	25th April.	30th Dec. ...	1,778	20·0	July ...			
Chingleput.	25	Conjeeveram ...	M.T.C.	42,543	2nd Jan. ...	4th Mar. ...	75	17·7	February ...	1	1	...
	26	St. Thomas' Mount	T.C.	12,140	18th Jan. ...	18th Jan. ...	1	0·8	...	1	1	...
	27	Saidapet ...	R.C.	209,477	1st Jan. ...	11th Oct. ...	175	8·3	January ...	275	33	242
	28	Chingleput ...	R.C.	137,176	1st Jan. ...	28th Oct. ...	44	3·2	January ...	300	23	277
	29	Madurántakam	R.C.	263,130	1st Jan. ...	16th Oct. ...	247	9·4	January ...	514	36	478
	30	Conjeeveram ...	R.C.	176,121	1st Jan. ...	8th May ...	145	8·2	January ...	372	25	347
	31	Tiruvallúr ...	R.C.	236,916	2nd Jan. ...	22nd Nov....	48	2·0	January ...	431	13	418
	32	Ponnéri ...	R.C.	122,398	1st Jan. ...	12th Oct. ...	36	2·9	September.	240	7	233
	8	Total, District ...		1,199,901	1st Jan. ...	22nd Nov....	771	6·4	January ...	2,134	139	1,995
Coimbatore.	33	Coimbatore ...	M.T.C.	46,007	...	...	...	...	...	1	...	1
	34	Erode ...	M.T.C.	12,238	...	...	...	...	...	1	...	1
	35	Karúr ...	M.T.C.	10,740	9th March.	9th March.	1	0·9	...	1	1	...
	36	Coimbatore ...	R.C.	260,421	30th July ...	30th July ...	1	0·04	...	263	1	262
	37	Erode ...	R.C.	234,677	12th Jan. ...	30th May ...	585	24·9	April ...	202	58	144
	38	Satyamangalam	R.C.	184,088	18th March.	29th June...	23	1·2	March ...	191	3	188
	39	Pollachi ...	R.C.	183,650	1st Jan. ...	2nd Sept.	184	10·0	January ...	161	13	148
	40	Palladam ...	R.C.	270,384	1st Jan. ...	22nd March.	127	4·7	February ...	195	10	185
	41	Bhaváni ...	R.C.	119,867	...	...	...	...	...	63	...	63
	42	Kollegal ...	R.C.	88,524	...	...	...	...	...	130	...	130
	43	Udamalpet ...	R.C.	143,056	3rd Jan. ...	16th April...	94	6·6	January ...	93	10	83
	44	Karúr ...	R.C.	201,043	25th Feb. ..	1st April...	65	3·2	March ...	95	8	87
	45	Dhárápuram ...	R.C.	249,216	16th Jan. ...	19th June ..	724	29·0	March ...	82	49	33
	13	Total, District ...		2,003,911	1st Jan. ...	2nd Sept.	1,804	9·0	March ...	1,478	153	1,325
Cuddapah.	46	Cuddapah ...	M.T.C.	17,211	...	...	...	...	...	1	...	1
	47	Badvél ...	R.C.	93,150	...	...	...	...	...	120	...	120
	48	Proddatur ...	R.C.	98,417	...	...	...	...	...	91	...	91
	49	Sidhavattam ...	R.C.	66,809	...	...	...	...	...	79	...	79
	50	Pullampet ...	R.C.	149,093	16th July...	27th Sept.	96	6·4	September.	135	7	128
	51	Cuddapah ...	R.C.	137,455	...	...	...	...	...	151	...	151
	52	Jammalamadugu	R.C.	101,273	26th June...	13th Aug....	76	7·5	July ...	127	3	124
	53	Pulivendla ...	R.C.	105,842	...	...	...	...	...	106	...	106
	54	Ráyachóti ...	R.C.	113,234	...	...	...	...	...	94	...	94
	55	Kadiri ...	R.C.	134,892	...	...	...	...	...	142	...	142
	56	Vayalpad ...	R.C.	127,035	...	...	...	...	...	125	...	125
	57	Madanapalle ...	R.C.	127,310	...	...	...	...	...	105	...	105
	12	Total, District ...		1,271,721	26th June...	27th Sept.	172	1·3	July ...	1,276	10	1,266

* Included in Dharmavaram R.C.

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1895, to accompany the Cholera Map—cont.

1	2	3		4	5	6	7		8	9	10	
							Cholera.				Number of those	
Districts.	Number of Circles of Registration.	Name of Circle.		Population for which Returns were received.	Date of First Case of Cholera in the Circle during the Year.	Date of Last Case of Cholera in the Circle during the Year.	Total Deaths in each of the Circles.	Ratio per 10,000 of Population.	Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Affected by Cholera.	Not affected by Cholera.
Ganjám.	58	Chicacole	M.T.C.	18,204	...	...	...	...	...	1	...	1
	59	Berhampur	M.T.C.	25,493	...	...	...	...	...	1	...	1
	60	Parlákimedi	M.T.C.	16,379	...	...	...	...	...	1	...	1
	61	Chicacole	R.C.	194,330	5th Feb. ...	31st Dec. ...	153	7·9	December...	305	5	300
	62	Berhampur	R.C.	297,736	17th Jan. ...	26th Dec. ...	66	2·2	November...	543	11	532
	63	Goomsur	R.C.	185,831	22nd Aug....	16th Dec. ...	14	0·7	November...	710	4	706
	64	Zamíndaries	...	851,109	13th Aug. ...	2nd Dec. ...	97	1·1	November...	2,630	22	2,608
	65	Agency Tracts	...	307,318	...	...	...	...	...	1,846	...	1,846
	8	Total, District	...	1,896,400	17th Jan. ...	31st Dec....	330	1·7	December ..	6,037	42	5,995
Gódávari.	66	Cocanada	M.T.C.	40,068								
	67	Rajahmundry	M.T.C.	28,279						1	...	1
	68	Ellore	M.T.C.	29,296						1	...	1
	69	Pithápuram	T.C.	13,731						1	...	1
	70	Peddápuram	T.C.	13,652						1	...	1
	71	Samalkot	T.C.	13,409						1	...	1
	72	Dowlaishweram	T.C.	10,454						1	...	1
	73	Rámachandrapuram	R.C.	261,183						1	...	1
	74	Narsapúr	R.C.	230,315						164	...	164
	75	Amalápuram	R.C.	256,072	...	...	...	...	...	139	...	139
	76	Tanuku	R.C.	204,040						170	...	170
	77	Bhímavaram	R.C.	121,990						176	...	176
	78	Ellore	R.C.	142,585						138	...	138
	79	Yernagúdem	R.C.	136,204						219	...	219
	80	Rajahmundry	R.C.	106,866						137	...	137
	81	Peddápuram	R.C.	124,028						116	...	116
	82	Bhadráchalam	R.C.	* 127,114						123	...	123
	83	Zamíndaries	...	218,572						969	...	969
										245	...	245
	18	Total, District	...	2,077,858			...	...		2,603	...	2,603
Kistna.	84	Masulipatam	M.T.C.	38,667								
	85	Guntúr	M.T.C.	23,267						1	...	1
	86	Bezwada	M.T.C.	20,611						1	...	1
	87	Chírála	T.C.	10,581						1	...	1
	88	Répallo	R.C.	222,756						1	...	1
	89	Bápatla	R.C.	171,345						151	...	151
	90	Guntúr	R.C.	143,367						116	...	116
	91	Palnad	R.C.	142,005						112	...	112
	92	Narasaraopet	R.C.	156,364	...	...	...	...	...	98	...	98
	93	Gudiváda	R.C.	118,308						115	...	115
	94	Sattenapalle	R.C.	138,611						213	...	213
	95	Masulipatam	R.C.	159,547						176	...	176
	96	Nandigáma	R.C.	126,698						188	...	188
	97	Bezwada	R.C.	85,731						169	...	169
	98	Vinukonda	R.C.	82,431						108	...	108
	99	Zamíndaries	...	214,735						72	...	72
										326	...	326
	16	Total, District	...	1,855,024			...	...		1,848	...	1,848
Kurnool.	100	Kurnool	M.T.C.	24,306	6th July ...	21st Oct. ...	46	18·9	Sept. & Oct.	1	1	...
	101	Nandyal	T.C.	10,704	2nd Nov. ...	6th Nov. ...	2	1·9	...	1	1	...
	102	Ramallakot	R.C.	100,590	6th July ...	30th Oct....	220	21·8	August ...	106	18	88
	103	Pattikonda	R.C.	138,703	9th Aug. ...	25th Aug. ..	7	0·5	...	107	1	106
	104	Nandikotkur	R.C.	88,559	8th Sept. ...	18th Oct. ...	6	0·7	...	113	3	110
	105	Nandyal	R.C.	85,542	16thSept. ...	20th Oct. ...	5	0·6	...	100	3	97
	106	Koilkuntla	R.C.	86,543	...	...	...	...	...	85	...	85
	107	Sirvél	R.C.	65,164	...	...	...	...	...	87	...	87
	108	Cumbum	R.C.	117,578	...	...	...	...	...	108	...	108
	109	Markapúr	R.C.	99,971	...	...	...	...	...	94	...	94
	10	Total, District	...	817,660	6th July ...	6th Nov. ...	286	3·5	August ...	802	27	775
Madras.	110	Madras	M.T.C.	436,375	1st Jan. ...	1st Oct. ...	115	2·6	January ...	1	1	...

* Including Agency Hill Tracts.

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1895, to accompany the Cholera Map—cont.

1	2	3		4	5	6	7		8	9	10	
							Cholera.				Number of those	
Districts.	Number of Circles of Registration.	Name of Circle.		Population for which Returns were received.	Date of First Case of Cholera in the Circle during the Year.	Date of Last Case of Cholera in the Circle during the Year.	Total Deaths in each of the Circles.	Ratio per 10,000 of Population.	Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Affected by Cholera.	Not affected by Cholera.
Madura.	111	Madura	M.T.C.	87,121	1st Jan. ...	31st Aug. ...	27	3·1	January and May.	1	1	...
	112	Dindigul	M.T.C.	20,115	4th Jan. ...	20th Jan. ...	4	2·0	...	1	1	...
	113	Periyakulam	M.T.C.	16,363	6th Jan. ...	24th April. .	115	70·3	April ...	1	1	...
	114	Palni	M.T.C.	16,940	1st Jan. ...	23rd Jan. ...	23	13·6	...	1	1	...
	115	Ramnad	T.C.	13,589	2nd Jan. ...	16th Oct. ...	164	120·7	August ...	1	1	...
	116	Aruppukóttai	T.C.	12,673	9th June. ...	12th June....	3	2·4	...	1	1	...
	117	Kílakarai	T.C.	12,396	6th Sept. ...	22nd Sept ...	6	4·8	...	1	1	...
	118	Paramagudi	T.C.	10,001	30th July ...	3rd Sept. ...	34	34·0	August ...	1	1	...
	119	Madura	R.C.	173,755	1st Jan. ...	10th Dec. ...	216	12·4	January ...	280	29	251
	110	Mélúr	R.C.	148,650	1st Jan. ...	29th Dec. ...	147	9·9	August ...	100	12	88
	121	Tirumangalam	R.C.	264,620	1st Jan. ...	10th Dec. ...	103	3·9	April ...	273	24	249
	122	Periyakulam	R.C.	246,845	1st Jan. ...	13th Dec. ...	427	17·3	January ...	85	45	40
	123	Dindigul	R.C.	370,857	1st Jan. ...	10th May ...	144	3·9	January ...	213	20	193
	124	Palni	R.C.	178,110	12th Jan. ...	10th Sept. ...	42	2·3	March ...	115	11	104
	125	Sattenandal Villages, &c.		1,283	...	...	...	...	...	4	...	4
	15	Total, District	...	1,573,318	1st Jan. ...	29th Dec. ...	1,455	9·2	January ...	1,078	149	929
Malabar.	126	Tellicherry	M.T.C.	26,631	...	...	...	...	...	1	...	1
	127	Calicut	M.T.C.	64,798	3rd Feb. ...	3rd Feb. ...	1	0·1	...	1	1	...
	128	Palghat	M.T.C.	39,367	18th Feb. ...	9th Mar. ...	8	2·0	March ...	1	1	...
	129	Cochin	M.T.C.	16,147	28th Feb. ...	9th Mar. ...	16	9·3	February ...	1	1	...
	130	Cannanore	M.T.C.	26,653	...	...	...	...	...	1	...	1
	131	Chirakkal	R.C.	283,471	...	...	...	...	...	282	...	282
	132	Kóttayam	R.C.	168,260	...	...	...	...	...	220	...	220
	133	Kurumbranád	R.C.	304,011	2nd Feb. ...	11th Oct. ...	99	3·2	April ...	340	17	323
	134	Calicut	R.C.	171,582	...	...	...	...	...	191	...	191
	135	Ernád	R.C.	339,187	11th May....	15th May ...	4	0·1	...	233	2	231
	136	Ponnáni	R.C.	449,253	3rd Jan....	21st July. ...	85	1·9	May ...	460	7	453
	137	Walavanád	R.C.	332,334	...	...	...	...	...	317	...	317
	138	Palghat	R.C.	332,627	2nd Jan. ...	10th July ...	216	6·5	June ...	136	19	117
	139	Wynaad	R.C.	76,365	...	...	...	...	...	58	...	58
	140	Cochin	R.C.	5,988	...	...	...	...	...	3	...	3
	15	Total, District	...	2,636,674	2nd Jan....	11th Oct. ...	429	1·6	June ...	2,245	48	2,197
Nellore.	141	Nellore	M.T.C.	29,128						1	...	1
	142	Ongole	M.T.C.	10,832	...	...	...	...	...	1	...	1
	143	Gudur	R.C.	61,305						121	...	121
	144	Rapúr	R.C.	168,548	2nd Jan. ...	5th Feb....	10	0·6	January ...	113	...	113
	145	Nellore	R.C.	96,349						150	2	148
	146	Átmakúru	R.C.	68,876						104	...	104
	147	Kávali	R.C.	55,382						55	...	55
	148	Udayagiri	R.C.	113,357	...	...	...	...	...	53	...	53
	149	Kandukúr	R.C.	61,066						115	...	115
	150	Kanigiri	R.C.	166,979						50	...	50
	151	Ongole	R.C.	514,777						112	...	112
	152	Zamíndaries	...							918	...	918
	12	Total, District	...	1,463,357	2nd Jan....	5th Feb. ...	10	0·06	January ...	1,793	2	1,791
Nilgiris.	153	Ootacamund	M.T.C.	13,991						1	...	1
	154	Coonoor	M.T.C.	5,586	...	...	...	...	...	1	...	1
	155	Nilgiris	R.C.	52,168						38	...	38
	156	South-East Wynaad	R.C.	25,020						12	...	12
	4	Total, District	...	96,765	...	...	...	...	...	52	...	52
North Arcot.	157	Vellore	M.T.C.	44,724	...	...	...	...	...	1	...	1
	158	Wálajápet	M.T.C.	10,485	3rd Jan. ...	8th Feb. ...	14	13·3	January ...	1	1	...
	159	Gudiyáttam	M.T.C.	18,745	...	...	...	...	...	1	...	1
	160	Tirupati	T.C.	14,238	10th Jan. ...	25th Dec. ...	5	3·5	...	1	1	...
	161	Kálahasti	T.C.	11,715	22nd Jan. ...	22nd Jan. ...	1	0·8	...	1	1	...
	162	Arcot	T.C.	10,928	13th Jan. ...	14th Feb. ...	19	17·4	January ...	1	1	...
	163	Ambúr	R.C.	10,583	...	...	...	...	...	1	...	1
	164	Chittoor	R.C.	200,186	4th Jan. ...	21st Mar. ...	26	1·3	March ...	337	10	327
	165	Chendragiri	R.C.	100,030	12th Feb. ...	30th Sept. ...	27	2·7	March ...	231	2	229
	166	Palmanér	R.C.	48,131	...	...	...	...	...	93	...	93
	167	Gudiyáttam	R.C.	157,863	1st Jan. ...	18th Nov ...	110	7·0	January ...	183	25	158

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1895, to accompany the Cholera Map—cont.

1	2	3		4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of Circle.		Population for which Returns were received.	Date of First Case of Cholera in the Circle during the Year.	Date of Last Case of Cholera in the Circle during the Year.	Cholera.		Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Number of those	
							Total Deaths in each of the Circles.	Ratio per 10,000 of Population.			Affected by Cholera.	Not affected by Cholera.
N. Arcot—*cont.*	168	Vellore ...	R.C.	137,367	3rd Jan. ...	23rd Oct ...	16	1·1	March ...	149	10	139
	169	Pólúru ...	R.C.	139,697	3rd Jan. ...	3rd Nov....	105	7·5	January ...	263	15	248
	170	Wandiwash ...	R.C.	177,719	1st Jan. ...	11th Mar....	213	12·0	January ...	285	13	272
	171	Arcot ...	R.C.	165,948	1st Jan. ...	29th Mar....	247	14·9	January ...	258	34	224
	172	Wálajápet ...	R.C.	228,630	1st Jan. ...	10th Mar....	242	10·6	January ...	250	36	214
	173	Zamindaries ...		636,596	1st Jan. ...	14th Nov....	126	1·9	January ...	2,272	19	2,253
	17	Total, District ...		2,113,585	1st Jan. ...	25th Dec. ...	1,151	5·4	January ...	4,328	168	4,160
Salem.	174	Salem ...	M.T.C.	67,640	22nd Jan. ...	28th Feb. ...	17	3·5	January ...	1	1	...
	175	Vániyambádi ...	M.T.C.	15,838	...	...	...	...	...	1	...	1
	176	Tiruppattúr ...	M.T.C.	16,463	...	...	...	...	...	1	...	1
	177	Sendamangalam ...	T.C.	13,354	...	...	...	...	...	1	...	1
	178	Rásipuram ...	T.C.	10,539	...	...	...	...	...	1	...	1
	179	Salem ...	R.C.	338,759	1st Jan. ...	10th May ...	107	3·1	April ...	499	7	492
	180	Atúr ...	R.C.	183,202	1st Jan. ...	4th Aug....	54	2·9	January ...	176	15	161
	181	Námakkal ...	R.C.	286,686	11th Jan. ...	29th Sept. ...	49	1·7	June ...	347	18	329
	182	Tiruchengódu ...	R.C.	248,667	2nd Jan. ...	23rd April...	32	1·3	April ...	168	11	157
	183	Hosúr ...	R.C.	155,693	...	...	...	...	...	757	...	757
	184	Krishnagiri ...	R.C.	152,116	...	...	...	...	...	510	...	510
	185	Dharmapuri ...	R.C.	178,420	...	...	...	...	...	575	...	575
	186	Tiruppattúr ...	R.C.	156,295	5th Jan. ...	18th Feb. ...	51	3·2	January ...	322	3	319
	187	Úttangarai ...	R.C.	138,112	1st Jan. ...	29th Nov. ...	2	0·1	...	452	2	450
	14	Total, District ...		1,961,784	1st Jan. ...	29th Nov. ...	312	1·6	January ...	3,811	57	3,754
South Arcot.	188	Cuddalore ...	M.T.C.	47,025	3rd Jan. ...	30th Dec. ...	49	10·4	August ...	1	1	...
	189	Chidambaram...	M.T.C.	18,634	2nd Jan....	21st Dec. ...	216	115·9	July ...	1	1	...
	190	Porto Novo ...	T.C.	14,045	8th Feb....	26th Dec. ...	18	12·8	August ...	1	1	...
	191	Tiruvannámalai	T.C.	12,148	1st Jan. ...	16th Oct. ...	4	3·3	...	1	1	...
	192	Cuddalore ...	R.C.	289,908	1st Jan. ...	28th Dec. ...	388	13·4	July ...	231	46	185
	193	Villupuram ...	R.C.	301,690	1st Jan. ...	31st Dec. ...	103	3·4	January ...	305	24	281
	194	Chidambaram	R.C.	249,569	1st Jan. ...	31st Dec. ...	2,175	87·1	July ...	437	208	229
	195	Tindivanam ...	R.C.	315,994	1st Jan. ...	13th Oct. ...	154	4·9	January ...	474	28	446
	196	Kallakurchi ...	R.C.	240,179	1st Jan. ...	28th Dec....	229	9·5	January ...	383	41	342
	197	Tirukkóyilúr ...	R.C.	257,115	1st Jan. ...	25th Dec. ...	352	13·7	August ...	354	48	306
	198	Tiruvannámalai	R.C.	193,238	1st Jan. ...	8th Dec. ...	64	3·3	January ...	402	16	386
	199	Vriddhachalam	R.C.	222,791	1st Jan. ...	25th Sept. ...	555	24·9	August ...	307	100	207
	12	Total, District ...		2,162,336	1st Jan. ...	31st Dec. ...	4,307	19·9	July ...	2,897	515	2,382
S. Canara.	200	Mangalore ...	M.T.C.	40,620	...	...	...	...	...	1	...	1
	201	Mangalore ...	R.C.	237,974	— Mar. ...	— May ...	24	1·0	March ...	307	6	301
	202	Kasaragód ...	R.C.	280,655	...	...	...	...	...	243	...	243
	203	Uppinangadi ...	R.C.	118,804	— May ...	— June ...	3	0·2	...	277	3	274
	204	Udipi ...	R.C.	253,699	— Mar. ...	— July ...	14	0·5	July ...	259	3	256
	205	Coondapoor ...	R.C.	120,250	— May ...	— June ...	43	3·6	May ...	190	7	183
	6	Total, District ...		1,052,002	— Mar. ...	— July ...	84	0·8	May ...	1,277	19	1,258
Tanjore.	206	Tanjore ...	M.T.C.	54,258	3rd Jan ...	8th Nov. ...	80	14·7	March ...	1	1	...
	207	Kumbakónam...	M.T.C.	54,254	1st Jan. ...	15th July ...	55	10·1	January ...	1	1	...
	208	Máyavaram ...	M.T.C.	23,754	9th Feb. ...	11th July ...	17	7·1	July ...	1	1	...
	209	Negapatam ...	M.T.C.	58,573	20th July ...	25th Dec. ...	7	1·2	...	1	1	...
	210	Mannárgudi ...	M.T.C.	20,392	22nd Jan....	24th Feb. ...	3	1·5	...	1	1	...
	211	Tiruválúr ...	T.C.	12,934	10th Feb. ...	18th Feb. ...	6	4·6	...	1	1	...
	212	Tanjore ...	R.C.	356,021	1st Jan. ...	6th Nov....	729	20·5	January ...	426	80	346
	213	Kumbakónam...	R.C.	323,350	1st Jan. ...	12th Sept.	418	12·9	February ...	519	58	461
	214	Máyavaram ...	R.C.	220,977	1st Jan. ...	30th Dec. ...	288	13·0	July ...	338	55	283
	215	Shiyali ...	R.C.	119,801	26th Jan. ...	1st Aug. ...	224	18·7	July ...	191	39	152
	216	Nannilam ...	R.C.	215,905	2nd Jan....	7th Sept. ...	159	7·4	March ...	388	36	352
	217	Negapatam ...	R.C.	148,177	1st Feb. ...	14th Oct. ...	62	4·2	May ...	317	10	307
	218	Mannárgudi ...	R.C.	167,033	14th Jan. ...	5th June ..	100	6·0	February ...	308	20	288
	219	Tirutturaippúndi	R.C.	180,293	9th Jan. ...	6th Aug....	65	3·6	February ...	226	18	208
	220	Pattukkóttai...	R.C.	271,359	21st Jan. ...	3rd Sept. ...	30	1·1	August ...	831	10	821
	15	Total, District ...		2,227,081	1st Jan. ...	30th Dec. ...	2,243	10·1	January ...	3,550	332	3,218

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1895, to accompany the Cholera Map—cont.

1	2	3		4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of Circle.		Population for which returns were received.	Date of First Case of Cholera in the Circle during the Year.	Date of Last Case of Cholera in the Circle during the Year.	Cholera.		Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Number of those	
							Total Deaths in each of the Circles.	Ratio per 10,000 of Population.			Affected by Cholera.	Not affected by Cholera.
Tinnevelly.	221	Tinnevelly ...	M.T.C.	24,756	1st Jan. ...	24th Dec. ...	60	24·2	November.	1	1	...
	222	Palamcottah ...	M.T.C.	18,612	9th Jan. ...	9th Dec....	58	31·2	November.	1	1	...
	223	Tuticorin ...	M.T.C.	24,964	2nd Feb. ...	29th Oct. ...	19	7·6	May ...	1	1	...
	224	Srívilliputtúr ...	M.T.C.	29,541	10th Jan. ...	15th Jan. ...	2	0·7	...	1	1	...
	225	Kulasékarapatnam ...	T.C.	15,910	17th May ...	17th Dec. ...	109	68·5	...	1	1	...
	226	Virudupatti ...	T.C.	14,075	17th Apl. ...	17th Apl. ...	1	0·7	...	1	1	...
	227	Viravanallúr ...	T.C.	13,951	12th Jan. ...	8th Dec. ...	40	28·7	October ...	1	1	...
	228	Rajahpalaiyam	T.C.	13,301	15th Jan. ...	15th Jan. ...	1	0·7	...	1	1	...
	229	Tenkási ...	T.C.	12,861	1st Jan. ...	30th Dec. ...	121	94·0	January ...	1	1	...
	230	Sivakási ...	T.C.	12,184	1st Jan. ...	5th Feb. ...	3	2·4	...	1	1	...
	231	Káyalpatnam...	T.C.	11,464	30th July...	5th Oct. ...	4	3·5	...	1	1	...
	232	Kalladakurchi ...	T.C.	11,096	5th Jan. ...	29th Oct. ...	75	67·6	March ...	1	1	...
	233	Ottappidáram ...	R.C.	316,990	1st Jan. ...	28th Sep. ...	239	7·5	April ...	395	48	347
	234	Srivikuntam ...	R.C.	260,196	1st Jan. ...	31st Dec. ...	1,650	63·4	July ...	146	109	37
	235	Tinnevelly ...	R.C.	141,252	13th Jan. ...	31st Dec. ...	334	23·6	November...	120	55	65
	236	Srívilliputtúr...	R.C.	152,253	2nd Jan. ...	10th June...	62	4·1	January ...	98	8	90
	237	Sankaranayinárkóyil ...	R.C.	209,213	4th Jan....	30th Dec. ...	85	4·0	December.	127	16	111
	238	Nángunéri ...	R.C.	174,410	2nd Jan. ...	31st Dec. ...	829	47·5	November.	236	107	129
	239	Ambásamudram ...	R.C.	158,552	1st Jan. ...	30th Dec. ...	509	32·1	March ...	94	67	27
	240	Sáttúr ...	R.C.	158,046	1st Jan. ...	29th Oct. ...	147	9·3	July ...	209	20	189
	241	Tenkási ...	R.C.	142,075	1st Jan	30th Dec. ...	301	21·2	January ...	101	39	62
	21	Total, District ...		1,915,702	1st Jan. ...	31st Dec. ...	4,649	24·3	November.	1,538	481	1,057
Trichinopoly.	242	Trichinopoly ...	M.T.C.	89,666	1st Jan. ...	26th Mar....	290	32·3	January ...	1	1	...
	243	Srírangam ...	M.T.C.	21,632	3rd Jan. ...	19th Feb....	69	31·9	January ...	1	1	...
	244	Trichinopoly ...	R.C.	248,561	3rd Jan. ...	18th Nov....	265	10·6	February ...	364	72	292
	245	Musiri ...	R.C.	282,615	12th Jan. ...	15th Feb....	4	0·1	...	223	2	221
	246	Kulittalai ...	R.C.	243,685	6th Jan. ...	4th Sep....	49	2·0	March ...	246	5	241
	247	Perambalúr ...	R.C.	195,004	4th Jan. ...	29th Sep. ..	71	3·6	February ...	219	17	202
	248	Udaiyárpálaiyam.	R.C.	201,530	1st Jan. ...	11th Oct. ...	344	17·0	July ...	335	51	284
	249	Zemindaries ...	...	89,033	26th Jan. ...	18th Sep. ...	83	9·3	February ...	113	15	98
	8	Total, District ...		1,371,726	1st Jan. ...	18th Nov....	1,175	8·6	January ...	1,502	164	1,338
Vizagapatam.	250	Vizagapatam ...	M.T.C.	33,961	...	...	...	...	...	1	...	1
	251	Bimlipatam ...	M.T.C.	9,696	...	...	...	...	...	1	...	1
	252	Vizianagram ...	M.T.C.	30,735	...	...	...	...	...	1	...	1
	253	Anakápalle ...	M.T.C.	17,001	...	...	...	...	...	1	...	1
	254	Bobbili ...	T.C.	14,448	...	...	...	...	...	1	...	1
	255	Sálúru ...	T.C.	12,910	...	...	...	...	...	1	...	1
	256	Palkonda ...	T.C.	10,364	...	...	...	...	...	1	...	1
	257	Párvatípuram...	T.C.	10,053	...	...	...	...	...	1	...	1
	258	Sarvasiddhi ...	R.C.	151,487	15th May ...	15th May...	1	0·06	...	145	1	144
	259	Narasapatnam or Golgonda ...	R.C.	113,499	...	...	...	...	...	176	...	176
	260	Anakápalle ...	R.C.	127,489	...	...	...	...	...	142	...	142
	261	Vizagapatam ...	R.C.	56,681	...	...	...	...	...	74	...	74
	262	Viravilli ...	R.C.	188,723	...	...	...	...	...	240	...	240
	263	Bimlipatam ...	R.C.	95,612	...	...	...	...	...	117	...	117
	264	Srungavarapukota ...	R.C.	123,939	...	...	...	...	...	181	...	181
	265	Vizianagram ...	R.C.	125,854	...	...	...	...	...	193	...	193
	266	Gajapatinagaram	R.C.	110,108	...	...	...	...	...	222	...	222
	267	Chipurupalle ...	R.C.	145,876	...	...	...	...	...	268	...	268
	268	Sálúru ...	R.C.	62,149	...	...	...	...	...	159	...	159
	269	Bobbili ...	R.C.	107,205	...	...	...	...	...	169	...	169
	270	Palkonda ...	R.C.	181,548	...	...	...	...	...	371	...	371
	271	Párvatípuram		85,520	29th Nov. ...	25th Dec. ...	29	3·4	December.	203	2	201
	22	Total, District ...		1,814,858	15th May ...	25th Dec. ...	30	0·2	December.	2,668	3	2,665

SMALL-POX.

34. The presence of this disease was reported in all districts; but the total deaths for the Presidency did not exceed 5, 111, or 0·1 per mille of the population; or, when reckoned on the estimated population, the rate was 0·1, against 0·3, 0·8 and 1·3 for the three previous years. The district of Malabar, which has been long notorious, showed the decreased mortality of only ·03 per mille. Anantapur, Bellary and Kurnool returned the highest rates, namely, 0·5, 0·6 and 0·6, respectively. The deaths of children below 1 year and 12 years amounted to 1,111 and 1,966, respectively, or 1·1 and 7·5 per mille of the population of that age.

35. From 38 municipalities 292 deaths were reported, or a total of 0·17 per mille of their united populations. In Guntúr and Vellore the rates per mille were 1·3 and 1·2, respectively. Of towns reporting the presence of small-pox, Madras and Tuticorin registered a mortality of only ·006 and ·004, respectively.

FEVERS.

36. A total of 277,337 deaths were registered in districts and municipalities from fevers. The district of Vizagapatam showed the high rate of mortality of 18·2 from this cause, or 4 per mille over and above that registered last year, which again was an increase on the previous period. There is no reason to think this implies any actual increase of incidence of fever in this district. But even this high rate is exceeded by that recorded for the Nilgiris, namely, 19·2 per mille of the population. Certain parts of the Nilgiris are malarious and parts of Vizagapatam are markedly so; but in these instances the increase must be regarded as due to greater attention to registration by the Revenue officers, coupled with ignorance of the subordinates employed. Thus, if the statistics for Vizagapatam be accepted, it must be supposed that only 2·5 of the total mortality of 20·7 per mille was due to any cause but fever, and, as to the Nilgiris, that all but 5·7 per mille was so brought about, whilst although undesirable, the total death-rate (24·9) is not so great as to lead to the suspicion that a large increase over normal mortality of the locality had occurred from one special disease. Cuddapah and Kurnool, both notoriously malarious districts, follow with a death-rate from fever of 16·0 and 15·1 per mille respectively.

37. In the case of municipal towns, Cuddapah, as formerly, exhibits the highest rate (18·3) from this cause followed by the chief town in the Presidency, namely, Madras, with 14·2 per mille.

DYSENTERY AND DIARRHŒA.

38. A total of 23,937 deaths were recorded from these causes. The rate for municipalities is markedly in excess for districts as a whole, namely, 3·4 per mille of population against 0·7 per mille. Even making allowance for indifferent registration, I consider the result sufficiently striking in pointing to the influence of the usual concomitant of communities living under the evil hygienic conditions found in most of the municipalities up to date, namely, foul and damp soil, and water subject to fæcal contamination; where to these conditions the use of brackish water is added, the incidence of diarrhœa and dysentery becomes greater, for example, at Vizagapatam, Karúr, and Tuticorin where the rates range from 10·3 to 7·6 and 6·3 respectively.

SUICIDES, INJURIES, &c.

39. The practically unvarying proportion of injuries and suicides, namely, 0·3 per mille of the population, was returned. This implies a total of 10,357 deaths from these causes arranged as follows:—

Suicides	1,913
Wounds and accidents	6,248
Snake-bites and killed by wild beasts	2,196

40. Suicides by women bore the proportion of 107 to 100 by men. With women drowning, and with men hanging or throat-cutting are the favourite methods.

SECTION IX.

SANITARY WORKS—CIVIL.

MUNICIPALITIES.

41. During the year, the Special Committee of the Legislative Council held numerous meetings for discussion of the various proposals suggested to Government for the revision of Act No. IV of 1884, under which all the municipalities, with the exception of Madras town, which has a special Act, are administered. The result of the committee's work was the incorporation of several important sanitary measures. Had the country possessed a completely organized and equipped Sanitary Executive Department, it would, doubtless, have been an easy matter to have made several further improvements; but, even as they stand, the additional powers that are proposed, in respect to food and water protection, the combating of infectious diseases, and improvement of administration must prove in the near future of very great advantage in stimulating general sanitary advance. The revised Bill was at the end of the year still under criticism by the Legislative Council; but it is hoped, before the issue of the next annual report from this office, the new Act will be in operation.

42. In last year's report, I called special attention to the very backward condition of the municipal towns of the Presidency in the matter of conservancy, and suggested that important as the subject of new and protected water-supplies was, it must be almost regarded as a refinement to provide at a cost of some lakhs a town with a water-supply, knowing that the simple question of night-soil removal was attended to in the most perfunctory manner and that, even after the admission of water, no improvement in this special respect could follow, in the absence of any intention to adopt the "water carriage system." Hence, I argued that it was a mistake for municipal councils to consider that the borrowing of money for sanitary works, should be confined solely to provision of water and sewerage works. I then suggested that the Sanitary Board should consider the subject of how sewerage of the towns now provided was likely to be conducted in the future, so that the pushing forward the completion of conservancy might be entered into, it being obvious that should "water carriage" be ultimately adopted in a town, it would not be advisable to press the acquisition of special plant when it might be required to be shortly discarded. Government, having thereupon referred the question to the Sanitary Board, decided that in view of the indebtedness of towns lately provided with public water works and the probable rate of introduction of complete sewerage schemes, it would not be necessary to retard provision of special plant for conservancy of towns other than Ootacamund and Cuddapah, both being likely to be provided with under-ground sewerage at an early date. Since then the Government has directed that full estimates for the correct conservancy of each municipality should be framed. This, I consider, a measure likely to prove of benefit of a most comprehensive and radical nature.

43. In consideration of the high rate of expenditure on account of carting and the very filthy process involved, I trust that in the larger towns it will be possible, in the absence of under-ground sewerage systems, to utilize the Shone ejector method for despatch to depôts of night-soil as practised in Warrington, England, in combination with destruction of refuse by incineration in localities where its sale is not remunerative, or disposal is attended with doubtful sanitary conditions.

44. Rubbish incineration was a favourite method of disposal of town rubbish in this Presidency twenty years back, and there are to be found in several municipalities incinerators of the old pattern, for the most part, however, neglected, or only used for ocular demonstration to inspecting sanitary officers of the process not having been quite forgotten. This disuse has been in part due to increasing use of town rubbish by ryots to whom it is sold, and to the fact that in wet weather such incinerators were useless. So far as India is concerned, the incineration process can only be said to have just passed through the experimental stage. Hence rapid adoption cannot be expected—nor is it universally necessary; but there are obviously localities where incineration offers the only solution of rubbish disposal. Calicut is an example of a municipality where both rubbish and night-soil disposal present unusual difficulty. It is further a town where the distances to be traversed are very heavy. Under these circumstances, in 1893, I advised the municipality to arrange for the conduct of their conservancy by the aid of a tramway and to incinerate their rubbish, and manufacture poudrette for export to the planting community in the neighbouring Wynaad Hills. The municipality pressed the question of the tramway energetically, and have, with the consent of Government, entered into an arrangement. The making of poudrette still, however, has not been effected, owing apparently to the non-erection of the experimental incinerator. In Masulipatam, a Silchar incinerator was duly erected during the year. In the town of Madras, the difficulties attending the disposal of rubbish has reached an acute stage. The municipality collects the rubbish in open carts in which also large amounts of human excreta are stored. The mixture is duly deposited in tanks and other localities having depressions, in proximity to the dwellings of human beings. Having regard to the condition of the sub-soil water of this town, irrespective of other generally acknowledged facts as to "made-soil," the process cannot be said to be otherwise than highly dangerous to human life. In this respect, Madras has been left far behind in sanitary advance by mofussil municipalities. I am, however, glad to be able to report that I believe this is the last year when Madras will thus add to the already long list of causes of preventible mortality within its limits. Government has placed at disposal a grant of Rs. 3,50,000 for purchase of conservancy plant, and for the erection of incinerators.

45. Under the private scavengering system in municipalities, there has been a considerable increase during the year—a total of 38,310 houses being conserved under this method against 35,252 in 1894. These increases occurred chiefly in Palamcottah, Guntúr, Cocanada, Vellore, Periyakulam, Mayávaram and Dindigul.

Table showing the conservancy establishment and plant available in each Municipality during 1895.

Districts.	Municipalities.	Population as per census of 1891.	Sanitary inspectors.	Sanitary overseers.	Sanitary maistries.	Sanitary peons.	Sweepers for cleaning roads, streets, &c.	Toties for cleaning public latrines.	Toties for private scavengering.	Private latrines. Total number in town.	Private latrines. Number cleaned by the municipal toties.	Carts. Night-soil.	Carts. Rubbish.	Carts. Sewage.	Public latrines. Pukka built.	Public latrines. Brick-wall enclosures.	Public latrines. Mud-wall enclosures.	Public latrines. Tatty.	Dust-bins. Wooden.	Dust-bins. Masonry.	Dust-bins. Iron.	Tank watchers.
Anantapur	Anantapur	6,073	1	...	...	2	14	8	3	125	125	1	3	...	...	5	3	...	...	26	46	...
Bellary	Ádóni	26,216	1	...	2	6	30	24	16	1,500	862	9	2	...	6	6	4	...	...	74	51	5
	Bellary	57,780	8	...	...	21	66	28	24	2,492	1,576	30	30	2	25	...	4	...	...	285	95	6
Chingleput	Conjeeveram	42,543	1	4	...	...	44	12	13	...	770	6	22	...	20	9	...	...	...	376	123	6
Coimbatore	Coimbatore	46,007	3	...	8	...	78	31	30	1,375	393	10	28	...	14	8	7	*4	...	...	92	1
	Erode	12,238	1	..	...	...	24	7	5	...	254	10	11	3	4	...	7	...	...	64	116	1
Cuddapah	Karúr	10,740	2	...	1	2	28	7	3	320	121	1	6	1	3	...	6	...	...	25	55	...
	Cuddapah	17,211	2	..	1	6	29	24	17	...	884	4	12	...	22	...	7	+7	...	163	12	...
Ganjám	Berhampur	25,493	4	3	2	1	77	21	26	...	621	...	11	8	...	5	...	...	2	190	10	2
	Chicacole	18,204	...	1	1	4	38	4	4	...	286	2	6	1	‡4	4	...	...	...	28	21	3
	Parlakimedi	16,379	1	...	...	3	32	8	16	...	120	...	4	1	‡4	10	...	...	8	9	...	3
Gódávari	Cocanada	40,068	1	2	...	6	47	39	39	...	803	6	11	...	10	...	...	...	9	6	139	9
	Ellore	29,296	5	...	4	2	30	23	8	...	167	1	5	...	...	9	5	...	...	46	54	1
	Rajahmundry	28,279	2	...	1	7	48	21	42	...	1,013	...	...	4	4	...	...	...	‡16	...	5	2
Kistna	Bezwada	20,611	1	2	1	6	33	20	14	700	560	7	16	3	4	...	...	...	...	...	179	...
	Guntúr	23,367	...	6	3	6	44	31	22	1,194	1,022	24	21	2	21	...	...	...	...	4	66	4
	Masulipatam	38,667	6	1	1	4	69	8	12	...	313	5	31	3	5	8	...	...	...	...	111	2
Kurnool	Kurnool	24,206	1	...	1	...	38	13	4	1,763	166	2	16	...	38	...	...	38	...	255	...	...
Madura	Dindigul	20,115	2	...	...	6	18	19	8	532	304	5	15	6	6	3	2	...	...	26	18	3
	Madura	87,121	10	...	...	11	99	42	13	12,560	689	26	62	...	7	...	14	...	...	50	334	1
	Palni	16,940	1	...	...	...	9	5	1C	1,272	865	3	8	...	1	1	...	...	...	23	20	2
	Periyakulam	16,363	1	...	...	2	8	6	8	1,600	545	3	8	2	...	1	10	2	...	13	75	2
Malabar	Calicut	64,798	6	...	8	...	78	14	41	...	1,183	4	9	...	14	...	...	...	...	20	121	...
	Cannanore	26,553	1	1	...	...	24	14	14	...	18	15	15	...	11	...	...	...	‖7	18	19	...
	Cochin	16,147	1	4	...	1	21	24	24	...	257	7	6	...	6	...	...	11	2	33	...	...
	Palghat	39,307	1	...	8	2	46	16	16	1,000	550	7	23	3	1	...	...	4	2	...	151	...
	Tellicherry	26,631	3	...	...	...	23	16	17	1,268	474	7	4	...	4	5	...	‖19	7	26	...	...
Nellore	Nellore	23,128	2	...	6	...	45	26	17	1,268	886	7	15	...	2	13	...	13	...	70	147	1
	Ongole	19,832	1	...	1	2	20	6	8	282	282	1	2	...	...	4	1	4	...	...	1	...
North Arcot	Gudiyáttam	18,745	2	...	5	...	18	12	2	173	173	7	12	...	*6	4	3	...	...	†100	*74	...
	Tirupati	14,238	1	...	3	...	34	8	2	510	174	3	15	...	1	1	...	12	...	145	35	3
	Vellore	44,724	6	...	...	7	40	48	22	2,016	872	8	39	2	1	22	...	1	...	309	252	7
	Wallajapet	10,485	1	1	...	2	17	9	5	1,000	541	3	7	...	9	...	...	...	...	40	†480	...

* Zinc. † Stone slab. ‡ Corrugated iron. § Crawford. ‖ Sentry box.

Table showing the conservancy establishment and plant available in each Municipality during 1895—cont.

Districts.	Municipalities.	Population as per census of 1891	Sanitary inspectors.	Sanitary overseers.	Sanitary maistries.	Sanitary peons.	Sweepers for cleaning roads, streets, &c.	Toties for cleaning public latrines.	Toties for private scavengering.	Private latrines.		Carts.			Public latrines.				Dust-bins.			Tank watchers.
										Total number in town.	Number cleaned by the toties.	Night-soil.	Rubbish.	Sewage.	Puka built.	Brickwall enclosures.	Mudwall enclosures.	Tatty.	Wooden.	Masonry.	Iron.	
Nilgiris	Conoor	5,586	1	...	2	...	19	7	7	132	132	8	6	2	13	...	...	...	...	...	55	...
	Ootacamund	13,991	4	2	8	...	76	24	20	255	255	13	12	5	48	...	...	...	...	...	4	...
Salem	Salem	67,640	3	...	11	*28	148	56	16	1,195	551	15	29	3	15	9	25	...	...	37	248	2
	Tiruppattúr	16,463	2	...	3	...	30	12	10	3,390	448	8	10	...	1	6	2	...	...	39	85	1
	Vániyambádi	15,838	1	...	2	...	44	12	6	328	328	15	15	...	1	1	3	6	...	...	112	7
South Arcot	Chidambaram	18,634	1	...	5	...	22	13	5	...	190	6	11	3	2	2	...	5	...	218	67	4
	Cuddalore	47,025	7	...	...	6	57	28	6	366	159	5	27	3	13	...	...	9	23	187	173	3
South Canara	Mangalore	40,620	1	8	...	...	24	6	28	2,870	2,362	5	5	1	8	1	1	†9	...	80	52	...
Tanjore	Kumbakónam	54,254	8	...	...	8	32	‡25	32	...	626	17	32	...	...	21	...	†3	...	170	253	1
	Mannárgudi	20,392	1	...	2	...	36	§6	...	220	191	3	11	7	...	3	...	...	28	18	60	6
	Máyavaram	23,754	3	...	...	6	17	6	13	...	503	5	17	1	3	...	...	12	...	179	25	4
	Negapatam	58,573	1	4	1	13	§92	19	...	5,000	1,561	11	17	19	‖6	14	...	1	...	497	94	...
	Tanjore	54,258	7	...	...	18	88	35	20	...	763	12	24	...	1	28	...	...	...	194	62	14
Tinnevelly	Palamcottah	18,612	3	...	...	3	7	10	36	3,500	2,513	36	7	3	6	2	...	4	...	106	...	2
	Srívilliputtúr	29,541	1	...	...	4	24	6	3	1,000	79	5	2	2	4	1	...	...	...	26	1	3
	Tinnevelly	24,756	4	...	...	6	42	14	18	3,112	1,344	6	10	7	9	7	1	5	...	20	132	2
	Tuticorin	24,964	3	...	...	5	20	23	...	1,019	1,019	13	10	5	8	2	...	10	...	12	144	4
Trichinopoly	Srírangam	21,632	3	...	2	10	14	20	18	...	1,023	8	15	1	...	8	...	8	...	83	33	2
	Trichinopoly	89,666	14	¶2	7	15	55	81	94	...	3,876	29	78	1	4	4	72	1	...	212	130	29
Vizagapatam	Anakapalli	17,001	...	1	3	1	31	19	4	160	146	3	4	...	2	2	18	1	...	10	32	...
	Bimlipatam	9,696	1	4	...	2	37	3	24	300	272	...	2	...	4	...	...	...	...	29	1	1
	Vizagapatam	33,961	14	...	6	18	119	57	51	1,193	1,100	12	14	...	4	37	...	36	**140	180	93	1
	Vizianagram	30,735	4	...	11	37	93	28	63	1,320	1,000	5	28	...	28	...	...	...	39	13	168	7
	Total	1,664,157	166	47*	116	305	2,390	1,104	982	59,650	38,310	467	856	105	431	273	211	272	410	4,757	4,926	151
	Madras City	436,375	7	20	50	161	1,420	712	27	..	20	480	276	158	115	79	3	18	4	992	48	...

* Drain cleaners. † Corrugated iron. ‡ This does not include 25 street and 4 river bank toties. § Attend to private scavengering also.
‖ Two of these are Horbury's patent. ¶ Slaughter house superintendent. ** Wicker baskets.

Statement showing the estimated income, allotment, and expenditure for sanitary purposes in each Municipality during the year 1895-96.

46. The following table exhibits generally the expenditure for sanitary purposes made by municipalities during the year. The amount devoted to sanitation varies with the individual municipalities. Thus, omitting towns wherein special works of a costly nature were in progress, it will be seen the allotment varies from 77·5 per cent. in the case of Vizagapatam to 18·4 per cent. in the case of Anantapur. Certain Municipal Councils also failed to utilize a reasonable proportion of the allotment within the calendar year: —

Districts.	Municipalities.	Population as per census of 1891.	1895-96. Estimated income, 1895-96.	Rate per cent. of sanitary allotment to estimated income.	Rate per cent. of sanitary expenditure to amount sanctioned.	Sanitary allotment.	Expenditure during the 9 months ending December 1895.	Conservancy. Allotment.	Conservancy. Expenditure.	Improvement of village sites. Allotment.	Improvement of village sites. Expenditure.	Improvement of water-supply, including cleansing, repairing, &c. Allotment.	Improvement of water-supply, including cleansing, repairing, &c. Expenditure.	Sanitary arrangements during fairs and festivals. Allotment.	Sanitary arrangements during fairs and festivals. Expenditure.	Construction and repairs of markets and slaughter-houses. Allotment.	Construction and repairs of markets and slaughter-houses. Expenditure.	Other sanitary object including construction and repair of tanks. Allotment.	Other sanitary object including construction and repair of tanks. Expenditure.
			Rs.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Anantapur	Anantapur	6,973	18,980	18·4	82·5	3,500	2,887	2,600	2,053	750	707	50	43	50	...	50	62	...	22
Bellary	Ádóni	26,216	36,320	44·1	242·6	16,020	38,871	8,810	5,266	2,500	1,676	2,250	29,467	...	...	...	2,197	2,460	265
	Bellary	57,780	77,300	53·5	57·8	41,390	23,927	28,630	20,380	6,700	3,088	3,160	382	...	...	100	21	2,800	56
Chingleput	Conjeeveram	42,543	2,20,240	91·3	6·6	2,01,200	13,414	9,000	6,732	6,370	4,828	1,82,610	362	1,500	1,395	1,000	97	720	...
Coimbatore	Coimbatore	46,007	46,040	29·0	61·4	13,360	8,212	11,620	7,680	...	...		540	176	...	...	100	4	1,100	352
	Erode	12,238	16,000	36·3	48·9	5,810	2,840	3,120	2,235	2,110	508	150	74	30	...	150	23	250	...
	Karúr	10,740	15,030	38·7	68·1	5,830	4,007	3,700	2,544	1,600	1,296	130	23	...	...	...	15	400	129
Cuddapah	Cuddapah	17,211	1,22,030	10·4	78·0	12,800	9,991	8,170	5,864	...	...	3,430	2,958	...	22	900	758	300	389
Ganjám	Berhampur	25,493	27,350	44·1	68·6	12,080	8,294	6,160	4,898	3,750	2,717	630	30	...	...	70	34	1,470	615
	Chicacole	18,204	22,230	33·2	52·8	7,380	3,898	3,670	2,394	2,300	1,257	210	138	...	...	900	...	300	109
	Parlákimedi	16,379	13,060	30·1	62·6	3,930	2,461	2,720	1,729	900	367	10	10	...	...	...	...	300	355
Gódávari	Cocanada	40,068	49,460	35·9	101·0	17,780	17,964	11,440	7,432	3,500	7,341	1,040	1,694	...	...	...	...	1,800	1,497
	Ellore	29,296	28,950	47·8	51·9	13,850	7,189	6,580	4,885	4,150	1,492	770	45	...	...	1,500	...	850	767
	Rajahmundry	28,279	34,130	43·3	39·9	14,780	5,907	11,160	3,635	3,300	1,592	320	242	...	...	...	156	...	282
Kistna	Bezwada	20,611	44,000	36·3	69·3	16,000	11,100	10,100	7,310	4,500	2,840	570	350	80	...	450	300	300	300
	Guntúr	23,267	42,080	58·9	58·9	24,790	14,622	11,230	7,356	5,000	4,114	2,760	1,117	...	...	3,500	...	2,300	2,035
	Maslipatam	38,667	61,470	45·6	62·7	27,420	17,186	12,620	8,983	10,200	3,908	2,600	1,819	...	...	300	1,030	1,700	1,446
Kurnool	Kurnool	24,306	1,71,730	85·6	5·9	1,47,190	8,806	6,910	5,427	3,950	2,189	1,36,040	1,139	...	...	...	...	290	51
Madura	Dindigul	20,115	1,04,860	87·7	39·5	91,950	36,331	6,440	3,538	3,220	1,294	81,070	30,821	...	...	...	...	1,220	678
	Madura	87,121	1,78,490	57·0	51·0	1,01,820	52,022	29,620	20,043	10,000	6,663	51,700	19,623	1,500	1,430	9,000	4,113	...	150
	Palni	16,940	12,030	39·4	67·6	4,740	3,208	3,110	2,323	1,100	525	110	70	100	21	260	193	120	76
	Periyakulam	16,363	12,380	47·1	75·4	5,837	4,406	3,490	2,586	1,850	1,669	110	88	...	...	...	...	387	63
Malabar	Calicut	64,798	67,290	37·5	85·4	25,245	21,559	12,520	10,152	10,500	9,367	50	441	...	...	175	99	2,000	1,500
	Cannanore	26,653	26,130	39·3	49·7	10,270	5,108	6,210	4,200	3,070	908	870	...	...	...	60	...	60	...
	Cochin	16,147	20,610	30·7	90·4	6,330	5,723	4,580	3,709	820	949	10	63	...	...	450	39	470	963
	Palghat	39,307	64,160	48·3	47·4	30,968	14,694	8,080	5,717	7,620	6,303	520	23	50	19	13,690	2,532	1,008	100
	Tellicherry	26,631	46,410	23·6	61·4	10,975	6,734	7,800	5,379	2,500	1,009	50	38	...	...	75	...	550	308
Nellore	Nellore	29,128	41,510	19·3	75·6	8,040	6,083	6,940	5,154	...	...	200	230	...	...	...	...	900	699
	Ongole	10,832	12,450	24·3	62·9	4,270	2,689	3,130	2,236	850	208	90	81	...	...	...	...	200	162
Nilgiris	Coonoor	5,586	60 500	25·4	85·5	15,392	13,172	6,800	5,148	5,500	5,068	892	1,269	...	...	1,150	1,093	1,050	594
	Ootacamund	13,991	1,24,940	69·3	39·2	86,883	34,097	22,170	17,672	10,900	8,529	48,530	2,996	...	...	1,175	1,147	4,108	3,753

Statement showing the estimated income, allotment, and expenditure for sanitary purposes in each Municipality during the year 1895-96—continued.

Districts.	Municipalities.	Population as per census of 1891.	Estimated income, 1895-96.	Rate per cent. of sanitary allotment to estimated income.	Rate per cent. of sanitary expenditure to amount sanctioned.	Sanitary allotment. Allotment.	Sanitary allotment. Expenditure during the 9 months ending December 1895.	Conservancy. Allotment.	Conservancy. Expenditure.	Improvement of village sites. Allotment.	Improvement of village sites. Expenditure.	Improvement of water-supply, including cleansing, repairing, &c. Allotment.	Improvement of water-supply, including cleansing, repairing, &c. Expenditure.	Sanitary arrangements during fairs and festivals. Allotment.	Sanitary arrangements during fairs and festivals. Expenditure.	Construction and repairs of markets and slaughter-houses. Allotment.	Construction and repairs of markets and slaughter-houses. Expenditure.	Other sanitary objects, including construction and repair of tanks. Allotment.	Other sanitary objects, including construction and repair of tanks. Expenditure.
			Rs.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
North Arcot.	Gudiyáttam ...	18,745	15,740	31·8	75·9	5,010	3,805	3,400	2,443	1,390	1,015	200	145	20	7	...	195	...	...
	Tirupati ...	14,238	96,880	93·9	5·7	20,990	5,253	4,210	2,956	1,600	852	80,200	650	500	522	100	90	4,380	183
	Vellore ...	44,724	58,310	60·3	48·6	35,200	17,136	11,970	10,887	11,655	3,251	1,515	922	...	...	2,000	21	8,060	2,105
	Wallajapet ...	10,485	14,700	58·9	32·9	4,850	2,858	2,970	1,613	1,200	727	430	240	...	...	150	144	100	134
Salem ...	Salem ...	67,640	70,710	49·5	64·5	35,042	22,622	19,720	14,652	4,050	1,849	5,970	3,166	...	...	1,673	766	3,729	2,189
	Tirupputtúr ...	16,463	17,340	37·5	48·7	6,515	4,178	3,750	2,752	1,940	975	80	43	...	...	345	2	400	406
	Vániyámbádi ...	15,588	16,990	35·3	54·0	6,000	3,242	3,700	2,516	1,800	400	370	267	...	...	...	...	130	59
South Arcot.	Chidambaram ...	18,634	21,500	47·2	72·5	10,160	7,388	5,360	3,649	2,500	3,387	1,200	216	100	44	500	20	500	52
South Canara.	Cuddalore ...	47,025	44,790	58·3	64·3	26,101	16,799	11,001	8,251	12,830	7,098	540	401	...	...	...	...	1,730	1,049
	Mangalore ...	40,620	41,530	44·6	63·9	18,545	11,855	8,100	5,736	7,500	4,920	1,050	310	...	...	225	205	1,670	684
	Kumbakónam ...	54,254	69,400	55·3	68·0	38,380	26,122	20,000	12,964	10,500	8,205	3,570	1,658	10	...	200	170	4,100	3,126
Tanjore ...	Mannárgudi ...	20,892	25,170	45·2	67·0	11,380	7,684	4,080	4,221	5,800	493	830	1,633	250	927	420	160	...	...
	Máyavaram ...	23,754	33,840	52·8	53·1	17,870	9,495	6,740	4,947	4,380	3,276	410	442	140	144	220	221	6,030	465
	Negapatam ...	58,573	70,470	53·4	62·6	37,665	23,580	21,700	15,746	9,460	4,922	4,750	2,754	300	...	485	...	970	158
	Tanjore	54,258	90,580	23·9	58·5	21,660	* 12,681	15,550	11,168	1,000	35	2,410	595	...	...	2,000	388	700	495
	Palamcottah ...	18,612	23,620	36·9	61·4	8,730	5,367	6,930	4,970	690	267	410	30	...	...	170	...	530	100
Tinnevelly.	Srivilliputtúr ...	29,541	11,860	30·0	56·9	4,492	2,548	2,480	1,786	932	485	360	157	...	115	...	...	560	5
	Tinnevelly ...	24,756	26,530	47·1	69·2	12,510	8,632	9,310	6,100	2,400	1,276	320	690	160	35	280	338	150	214
	Tuticorin ...	24,964	35,120	52·7	86·4	18,540	16,022	9,050	6,970	5,800	5,545	2,000	1,144	...	...	150	62	1,540	2,301
Trichi-nopoly.	Srirangam ...	21,632	28,670	49·0	41·5	14,010	5,825	7,410	4,822	4,800	379	320	205	600	...	50	160	830	259
	Trichinopoly ...	89,666	157,220	99·8	39·9	152,320	60,860	37,110	23,734	13,000	9,483	94,610	27,391	...	...	4,800	...	2,800	252
	Anakapalle ...	17,001	14,080	45·6	65·1	6,710	4,372	3,390	2,612	2,450	1,039	110	437	...	...	410	...	350	254
Vizagapa-tam.	Bimilipatam ...	9,696	12,830	34·6	76·7	4,440	3,407	2,990	2,154	1,010	621	...	...	...	...	...	...	440	632
	Vizagapatam ...	33,901	41,280	77·5	68·5	32,020	21,925	14,200	9,747	12,930	11,031	340	233	...	...	300	...	4,250	914
	Vizianagram ...	30,735	28,650	57 8	85·2	16,570	14,231	9,650	7,967	4,500	4,196	450	618	...	...	120	90	1,850	1,360
	Total for 1895 ...	1,664,157	28,86,470	56·2	44·6	16,23,540	7,25,250	5,23,901	3,69,982	2,45,577	1,58,139	7,23,917	1,40,359	5,440	4,681	49,493	16,947	75,212	35,142
	Total for 1894 ...	1,634,616	25,26,060	59·9	57·3	13,62,785	7,81,321	4,95,835	3,55,365	2,45,076	1,51,938	4,99,382	2,13,926	4,830	4,032	48,933	15,176	68,729	40,584
	Madras City ...	436,375	1,683,360	48·6	36·0	818,996	295,496	346,886	190,816	60,040	59,640	34,760	17,640	160	160	6,620	990	58,560	26,300

* Excludes Rs. 7,130 and Rs. 35,578 amounts sanctioned and spent for water works.

——	1894-95. Amount sanctioned.	1894-95. Amount expended.	Rate per cent. of expenditure to total allotment.	1895-96. Amount sanctioned.	1895-96. Amount spent in 9 months ending with December 1895.	Percentage of expenditure to total allotment.
	Rs.	Rs.		Rs.	Rs.	
For conservancy	4,96,210	4,65,506	93·8	5,23,901	3,69,982	70·6
For improvement of village or town sites	2,59,556	2,29,844	88·5	2,45,577	1,58,139	64·3
For improvement of water-supply, cleansing, repairing, and construction of tanks and wells	5,00,326	2,72,627	54·4	7,23,917	1,40,359	19·4
For sanitary arrangements during fairs and festivals.	4,910	5,346	108·8	5,440	4,681	86·0
For construction and repair of markets and slaughter houses	48,888	25,708	52·6	49,493	16,947	34·2
For other sanitary objects ..	68,209	80,750	118·4	75,212	35,142	46·7
Total ..	13,78,099	10,79,781	78·3	16,23,540	7,25,250	44·6

47. The above table shows a considerable but still not satisfactory increase of attention to the question of conservancy, or in other words, to the cleanliness of town sites, in that additional latrines, conservancy plant and staff have been provided during the year. In the matter of latrines those erected are much superior to those hitherto employed, as all sanitary works costing over Rs. 200 have to run the gauntlet of the criticism of the Sanitary Board.

48. There are very few municipalities where it can be said that the storing or treatment of night-soil and rubbish after collection has any approach to exactitude or ordinary care. The night-soil and rubbish depôts are usually 'out of sight and out of mind' of the caste members of municipal bodies, and, in certain of them, it can have been but rarely that those responsible have made visits to these places to ascertain in what manner arrangements are conducted. Further, even if they did, they have had no one available who could interpret intelligently any orders on the subject until recently when the municipalities have had at disposal certificated sanitary inspectors. It is hoped that when these men are employed more freely, they will be given by the Councils every opportunity of attempting to prove by object lessons the advantage of the use of night-soil in its various prepared forms as manure. Mr. Gooch, Chairman, Anakapalle, has specially applied to this office to obtain a certificated sanitary inspector, so that this matter may be put on a correct footing. In Cocanada also a special municipal garden has been opened for the purpose of cropping over night-soil. Negapatam reports securing excellent crops of jowari and raggi over night-soil trenches.

49. Twelve months is in certain respects a considerable period of time for attainment of progress, but when confronted with the various difficulties that are to be encountered in introducing reform, it seems often short enough. At least this is the case as regards sewage farming. In every town inspected where facilities for sewage farming exist, the necessity has been duly impressed upon the Council, but actual progress is decidedly slow. Nevertheless, the record of the year's work is not quite bare. In reference to my remarks in the report of 1893 on sewage farming, both Tanjore and Madras were called upon by Government to attempt improvement of methods employed. In the case of Tanjore, plans and estimates are now under discussion by the Sanitary Board, and it is hoped that before the end of the current year this place will possess a model sewage farm.

50. In the town of Madras, certain of the more glaring defects, as to which I alluded in the matter of conduct of sewage farming, were rectified during the year. Thus one of the lifting stations serving the Kistnampet farm, and which each Sunday

used to cease work, and allow the crude sewage to pass into the Cochrane canal was abolished, the sewage being carried on to the farm direct by an alteration of the sewage pipe line. Still, however, this farm fails to deal with sewage for a period varying from a few hours to some days subsequent to rainfall sufficient to have caused soakage of the ground. During this period, as the cultivators find that moisture suffices for their purposes, sewage is no longer placed upon the soil of the farm; backing up of the sewage then occurs in the sewers, and relief is afforded by discharge into the Junction Canal whence the sewage reaches the Cooum. In the DeMellow's farm, a single downpour of rain is sufficient at times to render the soil unfit for receipt of sewage till the lapse of even three days. Throughout this time, the sewage backs up in the sewer and discharges behind inhabited houses, where during part of 1895 it collected in stagnant pools that were diminished by soakage in the soil and evaporation, or found its way to a neighbouring tank. These conditions were, however, undergoing much amelioration at the hands of the Municipality during the year. It remains to be seen whether this will materially alter the insanitary arrangement hitherto pursued at DeMellow's farm of relieving the accumulation of sewage by pumping it untreated direct into the surrounding ditch, whence it passes by a tank to Cochrane canal, and thus to the Cooum which passes through the heart of the city, and is a stagnant cesspool. Into the Cooum also is allowed to pass direct the crude sewage of the minor farms on its banks during the period of saturation of the soil. It is obvious that under-draining of plots, where this measure is applicable, or the use of sewage filters or a combination of both methods should be pursued, so as to receive sewage whilst the ground is suffering from soakage by rainfall, and is for this or other reason temporarily in an unfit condition for receipt of more moisture, and that even the sewage diluted by rainfall should be treated before discharge up to a reasonable extent. With this view of matters, Government agreed in G.O., No. 818 M., dated 10th May 1895, Local and Municipal. As the question of sewerage of the town is now before the Municipal Commission, it is presumed that these and other obvious defects of otherwise well-conducted sewage farming will be duly remedied.

51. In the proposed scheme for sub-soil drainage and sewerage in the town of Cuddapah, the Sanitary Board suggests the use of a correctly under-drained sewage farm. This will form part of the Sanitary Works programme for 1896–97. Vizianagram during the year submitted proposals for sewage farming, but my inspection of the site showed that it would be unsuitable, owing to its being water-logged by neighbouring rice cultivation. Action, however, is being duly taken by the municipality for a new site, and I trust by next year this town may be added to the slender list. Vizagapatam has provided in this year's budget a sum of money for opening a sewage farm. Erode reports that it has commenced sewage farming on a small scale during the year.

52. In the matter of advance in sewage farming it has to be held in mind that as the majority of the towns have no complete drainage systems, much cannot be expected for some time to come, beyond the use of sewage on small plots by broad irrigation. I believe however that there exists a large opening for the purification of sewage by filtration. It often occurs that the sewage of two or three streets is brought by the imperfect drains at disposal to a point where soakage is permitted in great pools where land is not available, or direct pollution of streams and tanks occurs. Thus at Vizianagram, I found that the huge mass of water known as the Peddadcheruvu, which for years on end has been a constant source of nuisance to the inhabitants, receives a large quantity of the total sewage of the town *untreated*. During my inspection, under my advice, the municipal council erected a temporary sewage filter having earthen banks clay-lined and charged with under-drained broken metal, gravel, and sand, which simple expedient acted efficiently. It is hoped the municipality will now similarly treat the whole of the sewage of this part of the town, pending it being possible to make the expensive intercepting sewer necessary to lead it to a sewage farm, and thus prevent pollution of the tank. In this town, I also attempted the introduction of a household sewage filter, which has since been tried at Negapatam and Coimbatore and Bellary. The idea of filtering sewage at the household is, of course, not original. Dr. Poore specifically refers to this mode in his 'Rural Hygiene,' and Mr. Scott Moncrieff also practised it. There

is, however, much scope for adaptation. Thus, in the form used here, I employed a simple iron kerosine drum having a central funnel whereby upward filtration through stones, gravel and sand was employed. The action of this simple and inexpensive filter is very good up to ten to fifteen days. The filtrate is clear and odourless. But this provides indifferently for the essential of sewage filtration, namely, æration of the filtering media on account of these being more or less water-logged. This form would, therefore, be best combined with a second filter to receive the filtrate of the first by downward filtration, the first filter acting more as a strainer. I have recently made other forms of domestic filters allowing of forced æration by a hand bellows, and by the intermitting action of a syphon.

53. I consider that the adaptation of sewage filters, to the requirements of native households, will effect much good in those localities where no drains exist. Seeing that the filtrate is allowed to soak on the ground surface (unless it happens that vegetation is at hand) the device does not get rid of the difficulty that soakage and dampness of soil is still not prevented. Still, it is better that the threshhold of a poor man's house should be soaked with a fairly pure sewage filtrate than with pools of untreated sewage, or that he should launch his sewage into the sub-soil direct by means of pervious cess-pools as largely practised. In using this method for the first time, it is of course essential to see that the whole area on which crude sewage has formerly soaked near a house be correctly cleansed, and that fresh earth be placed in position. The filtration media when they require to be changed form good manure.

54. In the case of Vizagapatam, much of the sewage of the town is sent direct into the swamp caused by the backwater. The result is that the swamp is an abominable nuisance. Here, also, I found an admirable case for filtration of sewage before discharge. The Chairman, M.R.Ry. B. Suriyanarayana Sastri, quickly fell in with my views, and had made whilst I was there an under-drained sewage filter. He describes the results as follows:—

"The amount of sewage daily dealt with is about 7,200 gallons (=750,000 per acre); the filtrate is clear and looks like pure water. At first a few days after the filter began to work the filtrate tasted brackish, now it is not so."

55. A considerable gain in the matter of the repression of epidemic diseases was obtained during the year by the action of the Government in regard to the failure of the Municipality of Trichinopoly to take adequate precautions, in spite of advice offered as reported by me during the epidemic of cholera in that town in 1893–94, when 1,500 persons perished. In their order on this subject, Government affirmed the responsibility of municipalities, especially in regard to prompt action upon advice offered by the local sanitary officers or by this office. This plain declaration of policy has been, I believe, instrumental in securing during 1895 a far greater display of energy in endeavouring to repress an epidemic at its commencement by municipalities than has hitherto been the case in the history of this Presidency.

56. Beyond the improvements effected under major works, advance in the all-important matter of improvement of water-supply has been less than could be wished, but it is far more difficult to get a municipality to act in the matter of protection of water-supply than the disposal of sewage. Sewage is a nuisance that all are glad to get rid of, and so long as the expenditure contemplated is not very great, petty schemes for its removal are readily voted for; but to persuade a council that water they have used day by day for many years on end—albeit that their less lucky contemporaries who also used it died prematurely—is unfit for use, is not so easy a task. There is still a decided tendency to regard the dipping of hands, feet and chatties into drinking-water tanks as a matter of little consequence, in virtue of the self-purifying powers of water. Even where the question of the introduction of a public water-supply is discussed, there are always to be found members who will strongly oppose any other mode than the bringing of water into the usual type of open tanks within the town. Nevertheless, under expenditure for improvement of water-supply, there has been an increase this year over the past that bespeaks a certain amount of energy in this matter. I conceive that a want of familiarity with apparatus and methods usually employed to fulfil sanitary ends is at the bottom of

this want of appreciation. This can only be got over effectually by the opening of a public Museum of Hygiene, that should serve to illustrate fully the practical side of municipal sanitation.

THE SANITARY ASPECTS OF MAJOR WORKS DISCUSSED BY THE SANITARY BOARD DURING 1895.

57. *Ootacamund.*—As a result of a sanitary survey, aided by analyses conducted by the Chemical Examiner of samples taken at the different sources of supply at various parts of the storage reservoir, and at definite depths in them, I reported in my inspection notes embodied in G.O., No. 648 M., dated 23rd May 1894, that there could exist no doubt that the Marlimund reservoir was unfit for the purpose of storage, its bed—as subsequently proved by samples removed from the bottom by the Acting Sanitary Engineer Mr. Ellis—being formed by a mass of vegetable matter, which consisted of but partly transformed peat subject to ready decomposition. Within the catchment area is a coffee estate, which contributes impurities of animal origin. The following are some of the analyses by the Chemical Examiner of the water after storage in the reservoir :—

		A.	B.	K.
Total solids ..	Grms. per litre	0·070	0·080	0·030
Volatile solids ..	Do.	0·035	0·045	0·015
Chlorine ..	Do.	0·007	0·007	0·0017
Total hardness ..	Clark's scale	0°·175	0°·175	0°·175
Permanent hardness ..	Do.	0°·175	0°·175	0°·175
Free ammonia, ..	Mlgrms. per litre	0·064	0·032	0·240
Albumenoid ammonia ..	Do.	1·760	2·080	0·800
Nitric acid ..	Do. (as ammonia) ..	1·500	3·000	0·450

58. It was therefore advised that the existing reservoir be abandoned and a new storage reservoir be built, that catchment areas where unusual masses of vegetable matter undergoing but slow change in the depths of dark and thickly-wooded jungle should be abandoned, in favour of clean grass land which was available, and that certain springs be collected to compensate for ground thus lost. The whole question was fully discussed, after inspection of the reservoir and catchment area by the full Board (Colonel Pennycuick, C.S.I., Chief Engineer to Government, President, Mr. Jones, Sanitary Engineer, and myself). It being found impossible to supply a few houses without resort to the Marlimund reservoir, I advised the use of Anderson's revolvers previous to subjection of the water to ordinary sand filtration before distribution. The general principles laid down were accepted by the Sanitary Board, its conclusion being aided by a very careful and detailed report on the subject by Mr. Ellis, Acting Sanitary Engineer. There being, however, much engineering work to be undertaken before a complete scheme could be formulated, the Sanitary Board advised the entertainment of an Engineer who could devote his time to its special investigation.

59. In the above inspection notes, I drew attention also to the defective state of the 'intercepting sewer' at Ootacamund, showing that it was incapable of fulfilling its supposed functions. This matter was also discussed by the Sanitary Board, and its failure was ascribed to imperfect laying by the local engineer. In connection with this matter, the question of sewage farming for Ootacamund was discussed.

60. I took the opportunity at a special meeting of the Municipal Council of Ootacamund to urge the necessity for their taking up the question of the sewerage of the chief part of the town at the time of altering the intercepting sewer, so as to derive its full advantages.

61. The reclamation of the upper lake of Ootacamund and the improvement of the ground already reclaimed by sub-soil drainage were also questions discussed by the Sanitary Board. Government was advised that both works were sanitarily necessary.

62. *Salem.*—This is one of the towns that not only suffers from impure water, but also from scarcity of supply. Mr. Ellis, Acting Sanitary Engineer, having proposed a sub-soil water scheme, the Collector of the district in the interest of the municipality brought the matter before the Sanitary Board. The Sanitary Board advised the tapping of the sub-soil stream at its probable outlet—the river. But a sanitary survey by me showed that this would be undesirable, and I advised the tapping of the sub-soil near the Namem Hill, and pointed to possible additional sources in certain springs and surface water proceeding from the back of the Gurumallais. This matter is under investigation.

63. *Cuddapah.*—My inspection notes No. 182, dated 7th February 1895, discussed fully the causes of excessive prevalence of malaria in the town of Cuddapah, in reference to obstructed sub-soil and surface water flow, and saturation of the sub-soil with sewage from pervious cess-pools. I urged a pipe sewerage system accompanied by a complete sub-soil drainage system, and the filtration of the existing public water-supply. With the views expressed, the Sanitary Board concurred.

64. *Coonoor.*—In my inspection notes (G.O., No. 800 M., dated 6th May 1895) I urged that the source of supply selected by the Sanitary Engineer should not be accepted by the Municipal Council without further investigation as to other possible sources; and, especially, that it should not, even if chosen, be used without the precaution of using filtration, and cutting off certain undesirable portions of the catchment area. I suggested that a source partly discussed by the Sanitary Engineer might be feasible if certain adaptations were made, but which I had not had time to investigate. Subsequent inspection of this source by me, however, showed that it was not sanitarily preferable to that already selected by the Sanitary Engineer. We, therefore, met at Coonoor and exchanged views, with the result of advising an investigation of a new source that seemed to us more likely to yield an unexceptionable supply.

65. *Bezwada.*—In my inspection notes (G.O., No. 521 M., dated 23rd April 1894) I warned against the selection of a site for water-supply of that town on the ground that, though wells were to be sunk in a reclaimed part of the river-bed, their position was such that a draw upon the sub-soil water of this undrained town was possible. This matter was still under discussion at the end of the year by the Sanitary Board.

66. *Gudiyáttam.*—In my inspection notes (G.O., No. 1237 M., dated 1st August 1895) I pointed to Gudiyáttam, though small in population as a town where, on account of frequent visitation of cholera, it was most desirable a protected water-supply should be obtained. In default of it being possible for so small a town to bear the charges of a sufficiently complete scheme, it was suggested that a cheap system of distribution should be employed, looking to infiltration galleries in the river sub-stream as a source. The Assistant Sanitary Engineer thereupon presented a scheme which usefully modified the rough proposals made by me. The scheme was, at the end of the year, still under discussion by the Sanitary Board.

67. *Calicut water-supply.*—In my inspection notes (G.O., No. 513 M., dated 23rd April 1894) I objected to the use of the Mananchera tank as a source of water-supply that had been selected by the Sanitary Engineer's department, until further investigation had been undertaken. I advised that the sub-soil water in the neighbourhood of Calicut should be explored, with the object of obtaining a site less open to objection as to purity of the area drained. If, however, the Mananchera tank were used, I showed that the chances were it would be found that

possessed not only a supply from the sub-soil, but that probably during excavation the impermeable stratum supporting the sub-soil water had been penetrated, so that a subterranean source had been tapped, which contributed to the total bulk. It was then pointed out that, whilst the sub-soil water in this particular position was objectionable, it might be possible to utilize the tank or its neighbourhood, provided an iron cylinder were sunk, that should, whilst giving egress to the subterranean flow, completely cut off that from the sub-soil. The Chairman of the Municipality has since forwarded to Government proposals that, with the exception of suggesting a concrete ring in lieu of the iron cylinder, coincide with the above; but has, at the same time, apparently from failure to consult my notes, at time of his writing, attributed to me views that were not expressed by me. In the meantime, Mr. Ellis, Acting Sanitary Engineer, had proposed the use of certain springs in the neighbourhood that, in the event of the theory as to a subterranean source not being verified, offers an excellent alternative. The matter was before the Sanitary Board at the end of the year.

WORKS COMPLETED DURING THE YEAR.

68. Only the following two works were completed and opened for public use during the year 1895 :—

(*a*) *Adóni waterworks.*—[Population 28,305.] This is a surface water scheme commenced in November 1893. The storage tank is an old one, and was formerly used for irrigation purposes. Much of the catchment was originally rice land. This, the Municipal Council has duly bought up. The remaining catchment area is not without objection—being largely cultivated land. The Municipal Council has been advised to acquire the rights over the valley by purchase as early as possible. The town is supplied by gravitation from filtered water reservoirs. The three filters measure 50′ × 40′ each, which, with two in action and one out, will permit of filtration of the 230,000 gallons required at a rate a little over Koch's limits. The water enters the filter-beds at single points on one side instead of being distributed as evenly as possible. The filtering head is controlled by telescopic pipes; but the man in charge has to trust to the use of a rough stick and tape, as no gauges are provided. I have urged the Sanitary Board, without avail, to render the filtering speed of filter-beds as largely under control of automatic arrangements as possible, in view of the poorly-educated class of men likely to be entertained in municipalities for charge of these works. No arrangement exists for filling the filter-beds on starting from below with filtered water. The only place available for drying the washed sand of the filters is a verandah of a house. The collection of sand for the filter-bed was during the year from undesirable localities. The filtered water reservoirs are incompletely dark, and inefficiently protected from heat and dust by a corrugated iron roof. These are all readily removable sanitary faults.

(*b*) *The Tanjore Water-works* [Population 54,390.]—The water is obtained by pumping from an infiltration bed in the river Venár. On the banks within a hundred yards of the filter-bed is a chatram in which a cholera patient died in 1894. I have advised the municipality to abolish this: otherwise the site is not objectionable. I found on inspection that the engines ceased work on Sunday, so that on each seventh day the people were dependent upon their old contaminated sources, and aspiration through empty pipes of undesirable matters was possible. I have advised the municipality against this. The purity of the water in the case of this town will have to be watched carefully, as the rate at which the water from the surface flow, when the river is not dry, passes to the collecting well through the filter-bed, must vary considerably with the rate of pumping. The Sanitary Engineer informs me that he intends suggesting the making of a service reservoir that will receive all surplus water pumped, and will thus keep the pipes full and prevent the danger of aspiration during intermittence. This will form an important sanitary addition to this work.

SANITARY RESULTS OF WORKS COMPLETED.

69. The following remarks are made with reference to tables printed on page 48 :—

I.—Madras.

	Population according to census of 1891.	Population estimated for 1895.	Density of population per square mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
	452,518	476,962	15,604·1	40·1	35·8

(1) The public water-supply having been introduced in the various divisions of the Madras town at different periods, it is necessary to treat the town not as a whole, but with regard to this fact. Black Town being the locality which is supplied both with a sewerage scheme and public water-supply, it ought to be possible to show a marked improvement in the general health of the population. But it will be seen that no permanent material change for the better can be demonstrated. (See tables I and II, page 49.) This disappointing result can only be ascribed to the incomplete manner in which the sanitary works have been carried out. Thus, the Black Town sewerage scheme is on the 'open system.' This system has its sanitary disadvantages, but still the open *versus* the closed sewerage system for native towns is a question that is still subject to much discussion, and much can be said on both sides of the matter. Personally, I do not like the open method otherwise than when unavoidable in small villages, but there can be no reason why it should not have secured in Madras Black Town obvious sanitary good, had the details as to house connections been correctly completed. The arrangements for a system of night-soil conservancy specially suited for the 'open system' of sewage removal have never been more than partially adopted. Again, as to water-supply, notwithstanding the existence of the public water-supply, householders in Black Town, as throughout Madras, use shallow well water, that is, water from the sub-soil that is saturated with filth—as testified to by repeated borings disclosing 'made-soil' in many localities. The 'old main drain,' which is an ancient structure, fit at the best to run off surplus rainfall, I have found by personal inspection to be freely pervious. This old drain runs at right angles to the sub-soil waterflow of Black Town. Yet this daily receives a large amount of sewage that the modern sewer No. 1 fails to discharge, and is retained there until pumped from it. Can it be imagined that under these conditions of known filthy sub-soil (so filthy that it has been described as of the colour of 'tin-sand') that shallow well water is a fit fluid to use even for the washing of domestic vessels, irrespective of its use at times for drinking purposes. It seems to me clearly the duty of the Municipality of Madras, if they wish to see results secured by the past expenditure on water-supply and sewerage, as a first step, to see that these shallow wells are shut. Power that would enable them to secure this end has been conferred in the Revised Act No. II of 1892. The excuse that the private latrines and drains would suffer if the wells were closed, seems to me an unhappy way of regarding so urgent a sanitary matter. The amount expressed in gallons actually used per head from the pipe supply in 1894 in the divisions where water has been introduced, was 12·6 of the estimated population. This is doubtless scanty; but it must be remembered, though in the outlying parts of the town the supply is limited owing to defective pressure, that in the populous areas this is not so markedly the case, and that more could be drawn off here, if the people had not the inducement of a supply from wells nearer at hand than the public stand-posts.

(2) I have in special reports shown how open to contamination the Madras system is by reason of intermission and defective pressure where leaky pipes in the filthy sub-soil and fittings are concerned. To this must be added further the fact that the water-supply is received from a doubtful collecting area, flows in an

open channel, and is not subjected to filtration before delivery. Until the water-supply of Madras is at least guarded by filtration, and, if feasible, by a covered conduit bringing water from a catchment protected from defilement, and is delivered under reasonable pressure, it is not likely the town will get the full benefit of the expenditure undergone for a water-supply; and as long as the municipality neglects to shut shallow wells used by the people, it is impossible to hope it will secure any marked benefit even if the public supply were itself not open to suspicion.

(3) The extension of a sewerage system to parts other than Black Town is still the subject of discussion by the municipality as it has been during the last thirty years, notwithstanding the advantage of having had schemes prepared by three European experts at intervals in that period. It is believed that a decision is likely this year.

(4) In the meantime, a scheme for flushing the river Cooum—which is the recipient of a large proportion of the total sewage and is land-locked—by aid of a canal communicating with the sea near the Harbour, has received the assent of Government.

II.—Madura.

Population according to census of 1891.	Population estimated for 1895.	Density of population per square mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
87,428	93,053	6,725	27·3	24·5

Here a decrease of the death-rate has occurred, since the public water-supply has been opened. But, I think it would be premature to ascribe this to the influence of this sanitary work, as the people have had to depend very largely upon their former sources of supply; because the amount of water yielded by the infiltration beds was less than had been hoped by the Sanitary Engineer until, by good fortune, at the end of the year, the completion of the Periyár Works brought surplus water into the river Vaigai. Indeed, not only would this fact militate against drawing conclusions, but I consider the reduced death-rate simply implies increased carelessness in registration on the part of the Municipal Council, as both the birth and death rates have simultaneously decreased without good cause.

III.—Coonoor.

Population according to census of 1891.	Population estimated for 1895.	Density of population per square mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
6,049	6,409	672	34·2	26·4

Here a genuine improvement in the death-rate seems to have occurred since the introduction of the sewerage system, although this conclusion must be guarded by the fact that if the statistics were formerly trustworthy, Coonoor has yet not reached the condition of health found in 1886. The chances are, however, in favour of the change being due to the better drainage of the place. Yet, a sanitary inspection of the works brings the conviction that much remains to be done. Not only is a considerable portion of the town not attended to, but the arrangements within the houses for connecting with the 'open drains' of the system are such as to ensure that a large quantity of the total sewage never leaves private premises. No action in this matter seems to have been taken by the Municipal Council during the year. The encouraging results as to the death-rate ought to induce them to render the system sanitarily complete, by attention to the house connections and flushing arrangements.

IV.—Ádóni and Tanjore.

—	Population according to census of 1891.	Population estimated for 1895.	Density of population per square mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
Ádóni	26,243	28,305	10,497	41·4	21·9
Tanjore	54,390	...	7,252	29·6	25·5

Ádóni and Tanjore water-supplies having been opened only during the year, no conclusion can be drawn; but, as in both instances, the people still are using largely the old supplies, the full influence for good cannot be expected. In Ádóni the works are appreciated by the mass of the people; but, in Tanjore, there is much conservatism exhibited even by the highly educated, and the most filthy sources of water-supply are still resorted to. On the latter matter, the Sanitary Board made special representations during the year.

V.—Kumbakónam.

Population according to census of 1891.	Population estimated for 1895.	Density of population per sq. mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
54,307	56,466	9,051	31·9	30·0

As remarked last year, the drainage scheme here is merely for the removal of surplus surface water, and, although the unlined trenches dug for this purpose may have some influence in their vicinity in lowering the sub-soil water, it cannot be hoped that any marked improvement in general health of the town will occur from this work. The existing water-supplies and general sanitary state of this town are unusually evil.

VI.—Cuddapah.

Population according to census of 1891.	Density of population per square mile according to the census of 1891.	Birth-rate per mille for 1895.	Death-rate per mille for 1895.
17,379	915	22·6	32·9

Here, there would seem to have resulted some improvement on the death-rate following the introduction of a purer water-supply. This is shown both by a rise of the birth-rate and a fall of the death-rate. In view of the theory of propagation of malaria by water, and the late hypothesis of Dr. Manson (supported by the late observations of Surgeon-Major Ross of the Indian Medical Service), there is reason to believe that, in the protected water-supply derived from a clean source, much good has been effected; so that with the further improvements contemplated as to sewerage, sub-soil drainage, and filtration of the existing water-supply, there be yet hopes of making Cuddapah healthy.

Statement prescribed by the Government of India in letter No. 10—326, dated 8th December 1894, Home Department (Sanitary), communicated with G.O., No. 2654 L., Mis., dated 20th December 1894, Local and Municipal.

Name of Municipality.	Date of completion of works of		Average annual death-rate since the introduction of drainage system or water-supply.*		Average annual death-rate for the five-year period preceding the introduction of drainage system or water-supply.*	
	Drainage.	Water-supply.				
Coonoor	January 1893.	...	1893 ... 31·9 1894 ... 31·9 1895 ... 27·9		1888 ... ... 28·4 1889 ... ... 26·9 1890 ... ... 42·7 1891 ... ... 37·2 1892 ... ... 37·0	
Cuddapah	Do.	July 1893 ...	1893 ... 46·9 1894 ... 33·9 1895 ... 32·9		1888 ... ... 31·7 1889 ... ... 30·5 1890 ... ... 43·0 1891 ... ... 27·0 1892 ... ... 38·3	
Kumbakónam †	October 1894.	Do. ...	1894 ... 37·5 1895 ... 31·2		1889 ... ... 34·8 1890 ... ... 31·6 1891 ... ... 33·1 1892 ... ... 29·1 1893 ... ... 36·2	
Madura	Do.	April 1894 ...	1894 ... 32·6 1895 ... 26·1		1889 ... ... 31·2 1890 ... ... 32·7 1891 ... ... 35·7 1892 ... ... 29·3 1893 ... ... 29·9	
Madras	Do.	1872 ...	1872 ... 35·2 1873 ... 36·7 1874 ... 36·6 1875 ... 35·6 1876 ... 39·6 1877 (Famine year.) 1878 ... 47·5 1879 ... 34·7 1880 ... 37·4 1881 ... 38·9 1882 ... 35·6 1883 ... 39·1 1884 ... 49·5 1885 ... 36·8 1886 ... 36·2 1887 ... 39·8 1888 ... 37·4 1889 ... 42·0 1890 ... 42·4 1891 ... 58·6 1892 ... 46·0 1893 ... 41·1 1894 ... 36·6 1895 ... 37·7		1867 ... ... 27·2 1868 ... ... 23·7 1869 ... ... 17·5 1870 ... ... 26·4 1871 ... ... 28·9	
Ádóni	...	September 1895	1895 ... 23·6		1890 ... ... 19·2 1891 ... ... 44·5 1892 ... ... 34·7 1893 ... ... 22·2 1894 ... ... 24·3	
Tanjore	...	October 1895.	1895 ... 25·		1890 ... ... 28·2 1891 ... ... 29·1 1892 ... ... 29·2 1893 ... ... 35·7 1894 ... ... 26·9	

* The rates appearing in these columns have been calculated on the census population.

† The scheme is for removing storm water.

I.

Statement showing the ratios of Births and Deaths per mille of population in Black Town in quinquennial periods from 1871 to 1895.

—	1871–75.	1876–80.	1881–85.	1886–90.	1891–95.
Births	21·3	29·4	35·9	35·1	35·7
Deaths	37·7	51·5	40·1	36·1	46·2

II.

Statement showing the ratios of Births and Deaths per mille of population in Black Town from 1867 to 1895 with special reference to the introduction of water-supply and sewerage systems.

—	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											Famine year.			
Births ...	...	...	...	10·1	23·6	*18·2*	22·2	23·9	18·6	20·7	27·6	29·4	34·6	34·5
Deaths ...	33·1	33·8	29·2	30·0	38·3	*40·9*	40·6	37·7	31·3	34·3	105·1	44·6	35·8	38·2

—	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Births ...	34·9	**37·9**	34·7	35·0	36·9	35·2	36·1	33·2	34·7	36·5	37·2	32·2	**32·8**	36·3	40·1
Deaths ...	41·2	**35·2**	42·2	47·1	34·9	35·1	37·2	35·3	35·1	37·9	52·6	52·7	**44·9**	40·6	40·8

NOTE.—The figures in italics denote the year in which the Red Hills water was first introduced in Black Town (1872).

The figures in block type denote the years in which the Black Town drainage scheme was commenced and completed respectively (in 1882 and 1893–94).

III.

Statement showing the ratios of Births and Deaths per mille of population in all but the Fourth Division of Madras in quinquennial periods from 1871 to 1895.

—	1871–75.	1876–80.	1881–85.	1886–90.	1891–95.
		Famine period.			
Births	21·5	35·4	39·7	37·6	38·0
Deaths	31·5	53·9	39·2	36·8	41·7

IV.

Statement showing the rates of Births and Deaths per mille of Population in the several divisions of Madras Town from 1867 *to* 1895 *with special reference to the introduction of the public water-supply.*

Divisions.	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											Famine year.			
First Division—														
Birth-rate	...	...	...	...	...	...	...	...	...	...	*57·5*	*61·8*	*55·3*	*49·2*
Death-rate	...	...	...	...	...	...	...	...	...	...	230·2	74·2	44·5	43·8
Second Division—														
Birth-rate	...	...	...	*7·9*	*24·2*	*22·9*	*26·0*	*29·4*	*18·6*	*19·2*	*24·2*	*26·7*	*32·4*	*31·9*
Death-rate	36·9	39·5	36·7	35·3	38·4	43·3	44·2	40·6	30·2	32·7	111·7	47·0	36·7	40·0
Third Division—														
Birth-rate	...	...	...	*13·8*	*22·7*	*10·8*	*16·2*	*15·3*	*18·7*	*23·0*	*32·9*	*33·4*	*37·8*	*38·5*
Death-rate	27·1	24·6	17·0	21·5	37·9	37·1	34·8	33·2	32·8	36·8	94·8	40·8	34·5	35·4
Fifth Division—														
Birth-rate	...	...	...	*27·4*	*39·1*	*44·5*	*44·4*	*51·9*	*46·4*	*53·1*	*54·0*	*47·4*	*53·6*	*53·3*
Death-rate	34·8	36·6	42·0	40·9	41·4	43·9	45·5	44·1	44·2	46·1	112·1	47·7	30·9	29·2
Sixth Division—														
Birth-rate	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Death-rate	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Seventh Division—														
Birth-rate	...	...	...	*10·0*	*16·5*	*19·5*	*20·7*	*28·7*	*28·5*	*28·5*	*25·8*	*29·2*	*34·0*	*33·9*
Death-rate	42·5	40·0	33·4	34·7	36·2	39·2	39·8	41·4	39·0	39·0	91·6	41·3	34·5	38·7
Eighth Division—														
Birth-rate	...	...	...	*15·8*	*16·1*	*18·8*	*22·9*	*34·1*	*30·8*	*35·9*	*36·6*	*33·6*	*40·1*	*40·9*
Death-rate	46·8	43·4	34·0	39·5	33·3	39·0	40·7	50·3	45·7	46·5	111·2	47·2	38·3	39·0
Total. Birth-rate ...	...	...	...	*11·5*	*19·2*	*19·0*	*21·1*	*20·0*	*22·5*	*24·8*	*36·2*	*36·7*	*40·0*	*39·0*
Total. Death-rate ...	29·5	29·3	26·5	27·3	30·1	32·3	32·7	32·7	29·7	31·1	120·8	47·2	34·6	36·7

Divisions.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
First Division—															
Birth-rate ...	*54·6*	*55·8*	*53·9*	*50·6*	*38·6*	*38·9*	*36·2*	*32·7*	*33·4*	*36·1*	*36·3*	*34·3*	*41·3*	*38·0*	*42·6*
Death-rate ...	44·2	43·6	42·8	57·4	42·5	39·1	43·4	40·4	43·0	44·3	72·2	48·7	41·8	36·9	37·6
Second Division—															
Birth-rate ...	*32·1*	*34·7*	*31·7*	*32·2*	*34·0*	*33·1*	*33·2*	*30·2*	*31·4*	*32·0*	*34·0*	*30·1*	*31·0*	*29·7*	*32·4*
Death-rate ...	41·8	36·2	42·2	47·5	34·9	35·9	37·7	35·7	40·0	37·9	50·1	54·2	44·9	38·3	38·0
Third Division—															
Birth-rate ...	*39·2*	*42·8*	*39·3*	*39·1*	*41·2*	*38·3*	*40·3*	*37·6*	*39·5*	*42·9*	*41·7*	*35·0*	*35·2*	*30·6*	*35·6*
Death-rate ...	40·2	33·5	42·0	46·4	35·0	33·8	36·4	35·1	40·4	38·0	50·1	50·7	45·0	39·5	36·1
Fifth Division—															
Birth-rate ...	*43·8*	*45·3*	*46·5*	*42·7*	*40·1*	*39·2*	*47·4*	*46·4*	*40·5*	*40·2*	*43·3*	*40·2*	*44·2*	*42·6*	*43·9*
Death-rate ...	32·7	30·4	33·1	40·8	31·1	29·8	32·3	30·3	34·9	37·8	42·9	41·2	36·1	32·2	34·3
Sixth Division—															
Birth-rate ...	*22·5*	*26·4*	*25·7*	*26·7*	*24·0*	*28·1*	*31·5*	*31·3*	*32·7*	*34·1*	*34·8*	*32·4*	*35·9*	*34·0*	*36·1*
Death-rate ...	19·3	21·7	20·6	30·0	22·4	22·8	29·8	32·9	32·4	31·4	50·3	38·1	31·8	29·4	33·0
Seventh Division—															
Birth-rate ...	*36·7*	*37·0*	*34·6*	*34·1*	40·1	*38·1*	*37·4*	*35·1*	*37·3*	*39·8*	*40·8*	*38·0*	*41·0*	*37·4*	*42·3*
Death-rate ...	37·6	33·7	37·2	50·0	36·4	35·2	39·0	35·7	36·6	36·2	45·4	39·4	37·6	32·2	34·2
Eighth Division—															
Birth-rate ...	*39·4*	*42·5*	*41·5*	*39·1*	*42·2*	*43·2*	*40·7*	*38·9*	*42·7*	*47·1*	*45·6*	*39·5*	*45·5*	*37·9*	*44·1*
Death-rate ...	41·7	36·9	41·7	55·6	37·4	36·9	38·6	35·0	38·9	35·5	49·6	38·0	35·8	32·6	34·5
Total. Birth-rate.	*39·8*	*41·8*	*39·9*	*38·7*	*38·2*	*37·4*	*38·5*	*36·2*	*36·7*	*39·0*	*39·5*	*35·7*	*39·0*	*36·0*	*39·8*
Total. Death-rate.	38·5	35·0	38·7	48·2	35·4	34·4	37·5	35·2	38·5	38·1	52·4	45·5	40·1	35·2	35·7

NOTE.—The figures in block type indicate the years in which the Red Hills water was introduced in the division concerned.

The birth statistics of 1867, 1868 and 1869 are not available.

V.

Statement showing the Quinquennial rate of Mortality from Cholera per 10,000 *of Population in the Madras Municipality from* 1871 *to* 1895 *with special reference to periods of so-called sanitary improvements.*

——	1871–75.	1876–80.	1881–85.	1886–90.	1891–95.
Madras Town	7·7	* 33·0	10·2	9·1	11·8

* Famine period.

VI.

Statement showing the rate of Cholera Mortality per 10,000 *of Population in the several divisions of Madras from* 1867 *to* 1895 *in connection with the introduction of water-supply.*

Divisions.	Cholera death-rate in													
	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.	1878.	1879.	1880.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											Famine year.			
First Division ...	...	...	..	...	...	...	...	...	...	...	289·4	1·3	3·0	...
Second do. ...	8·2	0·3	14·5	19·7	10·9	...	0·3	...	13·6	36·4	146·5	3·0	0·5	0·3
Third do. ...	14·7	1·4	6·2	6·3	75·9	...	...	...	24·6	36·1	96·6	4·0	0·2	...
Fifth do. ...	7·9	...	33·9	4·8	14·7	...	...	...	26·8	57·2	74·0	1·9	0·3	...
Sixth do. ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Seventh do. ...	21·6	0·2	13·7	17·6	20·8	0·3	...	...	10·6	35·4	14·6	0·6	0·4	...
Eighth do. ...	46·0	...	7·8	50·0	10·8	0·3	...	...	21·1	55·0	185·7	40·2	1·1	...

Divisions.	Cholera death-rate in—*cont.*														
	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
First Division ...	12·7	34·9	5·2	35·6	26·8	...	20·8	21·7	10·8	27·2	78·6	13·3	0·6	2·0	3·2
Second do. ...	0·3	7·2	2·0	20·7	3·7	0·4	9·6	14·1	2·0	14·4	28·7	13·3	0·6	1·6	0·9
Third do. ...	...	...	0·4	25·6	7·4	..	21·3	13·9	4·8	16·2	63·5	18·0	0·8	2·4	2·2
Fifth do. ...	0·1	4·7	1·0	32·7	0·8	...	28·8	5·4	1·9	17·8	21·3	19·1	0·5	0·8	1·2
Sixth do. ...	...	4·1	4·6	22·5	2·0	...	3·3	4·3	1·4	10·7	45·9	11·8	...	4·9	17·0
Seventh do. ...	1·8	6·4	11·5	32·6	5·1	...	10·4	10·6	3·2	13·3	28·6	12·1	0·5	1·0	7·9
Eighth do. ...	7·8	6·5	3·6	20·7	10·6	...	13·2	9·2	2·7	10·5	42·8	17·5	1·2	1·7	0·7

NOTE.—The figures underlined indicate the years in which the Red Hills water was introduced in the divisions concerned.

DISTRICT BOARDS.

70. No change in the method of administration of District Boards was effected; their position being regulated by Act No. V of 1884. This Act is practically devoid of any power by which sanitary efforts can be enforced. Hence, although these Boards collect funds and spend a certain amount in the cause of sanitation, they can do but little in enforcing precautions that should form the corollary of their position. The Act has been for some time under the consideration of Government, and now that the revision of the District Municipalities Act is an accomplished fact, it is hoped this will in due order be taken up. Until this be accomplished, very little can really be done in rural areas. Indeed, it may be said that excluding the united population of the 57 municipalities, the remaining population of the Presidency, viz., 33,499,932 is subject to little sanitary control beyond what can be effected by the aid of 'persuasion' exercised by the Revenue authorities. For example, granted a union be duly embodied, and members of the panchayet gravely meet in consultation as to the sanitary reform of a village, one of their first orders would naturally be to give notice to persons having buildings and lands in an unwholesome state to effect cleansing, but experience would show them that an owner may allow insanitary conditions to exist safely for thirty days subsequent to receipt of notice,—when the Taluk Board may cleanse the place for him *at their own expense*. Similarly, as to protection of water-supplies, the position is not much better; as, whilst if a stream is private property the Board can enforce certain attention to the preservation of its purity, this cannot be done where the stream is public. Yet, a very large proportion of the total population looks to streams for their water-supplies, whilst the conveyance of cholera by this means from village to village is open to no doubt.

71. The following table shows the amounts allotted for sanitary purposes by District Boards, and the expenditure incurred up to the end of the first nine months of the year:—

District Boards.	Population as per census of 1891.	Area in square miles.	Number of villages in the circles.	Number of villages conserved.		Estimated income of 1895-96.	Rate per cent. of allotment to estimated income.	Rate per cent. of sanitary expenditure to allotment.	1895-96.			
				Number of unions.	Number of villages.				Sanitary allotment.		Conservancy.	
									Allotment.	Expenditure for 9 months ending December 1895.	Allotment.	Expenditure.
1	2	3	4	5	6	7	8	9	10	11	12	13
						RS.			RS.	RS.	RS.	RS.
Anantapur ...	720,346	5,275	941	11	12	1,25,910	13·6	55·4	17,120	9,490	9,820	6,932
Bellary ...	806,489	6,136	819	20	5	2,31,640	12·1	52·2	28,020	14,640	15,060	10,247
Chingleput ...	1,157,358	2,842	2,134	15	8	2,40,230	9·7	65·8	23,318	15,362	11,736	8,514
Coimbatore ...	1,934,926	7,860	1,478	20	24	3,50,190	7·4	52·3	26,010	13,595	16,002	11,020
Cuddapah ...	1,254,510	8,722	1,276	18	48	2,44,950	7·9	65·8	19,572	12,884	15,276	11,148
Ganjám ...	1,836,324	8,370	6,037	15	21	2,65,660	5·4	58·5	14,350	8,325	10,430	7,428
Gódávari ...	1,980,215	7,857	2,603	26	120	6,85,570	15·3	31·5	1,05,400	33,204	27,030	18,233
Kistna ...	1,772,479	8,397	1,848	27	20	5,69,070	8·1	42·4	46,414	19,682	21,740	16,284
Kurnool ...	793,354	7,514	802	19	13	1,76,980	12·4	53·1	22,060	11,727	12,340	9,277
Madura ...	1,432,779	5,024	1,078	35	20	4,77,370	12·5	47·9	60,100	28,812	28,930	20,433
Malabar ...	2,463,078	5,585	2,245	...	43	4,63,980	2·6	50·2	12,468	6,266	6,576	4,768
Nellore ...	1,423,397	8,765	1,793	14	16	2,91,920	4·8	76·8	14,096	10,827	6,351	4,347
Nilgiris ...	77,188	957	52	...	4	1,49,510	1·9	61·2	2,920	1,782	1,920	1,436
North Arcot ...	2,025,393	7,616	4,328	20	22	4,02,750	9·7	58·3	39,388	22,984	21,730	15,263
Salem ...	1,861,843	7,529	3,811	32	24	3,75,220	13·9	42·5	52,183	22,192	23,653	16,219
South Arcot ...	2,096,677	5,217	2,897	14	15	3,94,620	12·2	61·3	47,923	29,367	19,345	13,138
South Canara ...	1,011,382	3,902	1,277	...	25	2,32,860	3·5	71·3	8,335	5,948	3,630	2,591
Tanjore ...	2,015,850	3,709	3,550	18	21	8,12,230	4·5	59·8	37,092	22,185	27,075	18,220
Tinnevelly ...	1,817,829	5,387	1,538	29	66	4,59,740	15·3	54·8	70,365	38,622	33,532	23,024
Trichinopoly ...	1,260,428	3,631	1,502	13	28	2,48,040	11·0	56·1	27,383	15,365	12,489	8,596
Vizagapatam ...	1,850,802	4·619	2,668	15	15	3,48,980	6·3	66·0	21,981	14,516	12,080	9,458
Total for 1895 ...	31,592,647	1,24,914	44,678	361	570	75,47,420	9·2	51·4	6,96,498	3,57,775	3,36,745	2,36,576
Total for 1894 ...	31,622,188	1,24,914	44,678	349	571	75,83,700	8·6	54·2	6,55,405	3,55,517	3,19,945	2,29,804

District Boards.	1895-96—*cont.*									
	Improvement of village sites.		Improvement of water-supply, including cleansing, repairing, and construction of tanks and wells.		Sanitary arrangements at fairs and festivals.		Construction and repair of markets and slaughter-houses.		Other sanitary objects, including construction and repair of latrines, dust-bins, drains, &c.	
	Allotment.	Expenditure.	Allotment.	Expenditure.	Allotment.	Expenditure.	Allotment.	Expenditure.	Allotment.	Expenditure.
	14	15	16	17	18	19	20	21	22	23
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Anantapur	1,270	637	1,710	707	320	131	2,410	410	1,590	673
Bellary	1,780	55	3,160	1,916	1,310	51	4,600	1,891	2,110	480
Chingleput	4,550	3,490	4,009	1,830	1,124	682	85	85	1,814	761
Coimbatore	1,275	395	5,648	782	802	213	1,341	756	942	429
Cuddapah	1,041	363	1,175	671	365	165	740	82	975	455
Ganjám	1,530	299	1,140	566	220	1	...	...	1,030	31
Gódávari	9,690	2,499	40,090	9,586	1,310	565	23,500	1,250	3,780	1,071
Kistna	4,658	1,482	16,241	1,459	1,250	156	...	...	2,525	301
Kurnool	4,000	179	3,740	1,031	660	...	...	686	1,320	554
Madura	5,390	1,541	3,240	2,117	430	191	20,590	4,367	1,520	163
Malabar	417	65	1,550	268	320	189	3,102	838	503	138
Nellore	2,350	2,390	4,613	3,430	478	451	...	...	304	209
Nilgiris	500	25	300	295	...	...	...	...	200	26
North Arcot	1,999	2,678	5,904	3,510	1,644	1,264	7,308	235	803	34
Salem	2,747	1,838	4,514	1,610	518	168	18,590	1,767	2,161	590
South Arcot	2,284	506	20,765	11,333	4,064	3,542	...	...	1,465	848
South Canara	...	...	1,944	1,376	1,155	815	671	395	935	771
Tanjore	2,160	571	5,808	1,858	1,472	1,175	...	...	577	361
Tinnevelly	8,123	3,839	16,408	7,681	1,236	793	4,764	110	6,302	3,175
Trichinopoly	2,102	1,203	3,709	901	110	69	7,585	4,237	1,388	359
Vizagapatam	3,590	2,411	2,650	2,013	510	15	2,361	191	790	428
Total for 1895 ...	61,456	26,466	1,48,318	54,940	19,298	10,636	97,647	17,300	33,034	11,857
Total for 1894 ...	54,807	28,469	1,26,393	47,868	14,428	6,666	1,07,863	33,328	31,969	9,382

—	1894-95. For the full year.			1895-96.		
	Amount sanctioned.	Amount expended.	Rate per cent. of expenditure to allotment.	Amount sanctioned.	Amount spent in 9 months ending with December 1895.	Rate per cent. of expenditure to allotment.
	RS.	RS.		RS.	RS.	
For conservancy	3,19,712	2,95,994	92·5	3,36,745	2,36,576	70·2
For improvement of village or town sites ...	54,249	40,580	74·8	61,456	26,466	43 0
For improvement of water-supply, cleansing, repairing and construction of tanks and wells.	1,29,353	96,122	74·3	1,48,318	54,940	37·0
For sanitary arrangements during fairs and festivals.	15,052	13,448	89·3	19,298	10,636	55·1
For construction and repair of markets and slaughter-houses.	1,28,657	1,00,281	78·5	97,647	17,300	17·7
For other sanitary objects	31,078	24,097	77·5	33,034	11,857	35·9
Total ...	6,78,101	5,71,222	84·2	6,96,498	3,57,775	51·4

72. The total sum devoted to sanitary purposes exceeded that of the previous year by Rs. 41,093. As usual, the proportion to their incomes given by District Boards varied within considerable limits; for example, whilst Gódávari and Tinnevelly gave 15·3 per cent. of their incomes, South Canara, Malabar and Nilgiris afforded but 3·5, 2·6 and 1·9 per cent., respectively. Again, expenditure was subject to equally varying results. Thus, the districts of Gódávari, Kistna, Salem and Madura expended but 31·5, 42·4, 42·5 and 47·9 per cent., respectively, of the allotment, and although I somewhat encroach upon history, I have ascertained that by the end of the official year 1895-96 the district of Tanjore had spent but 52 per cent., Kistna 48, and Coimbatore but 47 per cent. under the very important item of improvement of water-supply. Nevertheless, as far as my information goes at date of writing this report, there has been, on the whole, a slight improvement in attention on the part of District Boards to the necessity of spending the allotments made.

73. In the case of water-supply it will be observed that the total allotment amounted to Rs. 1,48,318. Very little of this sum however represents new works of a permanent nature. A large portion of it disappears under 'staff' maintained for guarding the purity of tanks. Such works as were fulfilled at District Board's expense were essentially petty—consisting of repairs to wells, deepening tanks and the like. No District Board in this Presidency has yet determined upon any scheme of water-supply that would secure pure water for a whole town, although the average total income, excluding the Nilgiris, amounts to Rs. 3,69,895 per district. Yet, it seems to me that only by undertaking in town after town comprehensive radical sanitary improvements, it can be hoped real progress in the rural towns can be effected. If District Boards would systematically improve the large towns under their charge and subsequently hand them over to unions —furnished with more sanitary and financial powers than at present—much more evident results would follow than can be expected by dividing the total available funds into petty allotments of Rs. 150 for this village and Rs. 30 for that, and so on. If permanent improvement were made, the result would be that in lieu of the sanitary safety of water sources being in the hands of human beings having varying standards of conscience, it would be in the safe-keeping of mechanical means. Thus, taking the ordinary case of two watchmen in charge of a village tank at Rs. 6 each, there is expended the equivalent of interest on Rs. 3,200 at 4½ per cent. Mechanical improvements would in many cases relieve local authorities of the perennial charge for watchmen. If they cannot meet the cost of special works at once, it would seem but reasonable that instead of indefinitely postponing efforts, they should seek the sanction of Government to borrow funds.

74. The number of unions and villages conserved increased by 11 during the year. Government has in various orders to Local Boards impressed upon them the necessity of seeing that the question of disposal of excreta takes precedence of mere rubbish disposal. Unfortunately, sweepers—persons who will collect rubbish—are obtainable at far cheaper rates than scavengers—those who will collect night-soil. Indeed, in some districts, the prime difficulty as to night-soil disposal is the obtaining of this class of labour. It is time, therefore, that where this is the case organized efforts should be made to attain this end. This can readily be accomplished by local authorities importing these people from more favoured localities, and guaranteeing them certain privileges as to huts and lands. In short, efforts should be directed towards founding colonies of these people. This seems a small matter to dilate upon; but the gradual extinction of the scavenger before the advance of education in this country threatens to be a matter quicker of accomplishment than the abolition of caste, whilst, with every attempt at sanitary advance, increased demands upon the manual labour available will present difficulties that could eventually only be overcome by the application of expensive mechanical measures. Of course, the founding of colonies cannot stay the influences of the advance of education in lifting the 'toty' beyond the sphere of his present conception of a suitable professional career; but there would result a better distribution of available labour, and numerous low-caste families, that would not in the immediate vicinity of their native places undertake this menial work, would not hesitate to do so when settled elsewhere.

75. Arrangements as to fairs and festivals, I consider, have, during the year, undergone improvement. There is more tendency by local authorities to work out what is required in each case with the aid of the District Sanitary officer, who is now, as well as this office, supplied with an intimation a fortnight before the occurrence of each festival. It is premature till experience in future years is obtained to draw definite conclusions, but, so far, it would appear that the timely taking of special precautions at both Tirupati and Tiruvannámalai (the two great festivals that have hitherto contributed to cholera spread in this Presidency) was of considerable utility. Cholera had occurred at Tiruvannámalai in the month preceding the festival, and one imported case occurred there on the last day. In Tirupati, on the opening of the festival, cholera appeared at one of the pilgrim halting places within three miles of the town, and, again, a further imported case took place during the festival. No spread from these centres occurred, owing to the sanitary staff being sufficiently strong and intelligently alert to secure quick

and efficient segregation of the affected persons and correct disposal of infective matter. Exceptionally large amounts were spent at these festivals; the new class of certificated sanitary inspectors were employed for supervision of fairly complete menial staffs, and water-supplies were protected from defilement by mechanical means as far as possible—doubtful sources other than sacred tanks being closed. In both localities, the district authorities threw themselves into the work involved by a heavy list of recommendations by me with the greatest cordiality. Water drunk hot is a diffusible stimulant of the advantages of which the native is well aware. Hence, there was found no difficulty in getting pilgrims to avail themselves of the free distribution of water that had been boiled by caste natives and was still hot, during the seven miles trudge up the hill at Tirupati. But the festivals at these places were, I think, worthy of special notice in recognition of the accomplishment of what has hitherto been regarded as an impossibility. No direct washing of clothing in any tank was permitted. Kerosine-oil tins were provided for drawing water, which was then used on a specially-prepared drained spot where were placed the usual dhobie stones. In the case of the holy tanks, where bathing is requisite as a part of the religious ceremonies, it was held that washing of the clothing was no part of the ceremony, and that it was but in accordance with the tenets of Hinduism and common cleanliness that before descending into a holy tank the pilgrim should be able to prove that he had already undergone a grade of *bodily* purification. Hence, it was insisted that no pilgrim should descend into a tank for the ceremony of bathing, until he had washed himself and clothing outside the tank. At Tiruvannámalai special barricades were made for this purpose, and by carefully controlling traffic the desired end was accomplished. In Tirupati, this arrangement was not effected with the full completeness desirable; but at Tiruvannámalai it was carried out sufficiently well to ensure that on the last day of the festival the Ayarkolam, which in former years was a filthy mass of water, was perfectly clear. Of course, this arrangement did not prevent danger, but it at least minimized the chances.

76. In connection with the conduct of the Tiruvannámalai festival during 1894, I had occasion to invite the attention of Government by a special report to the very indifferent measures taken for the comfort and sanitary safety of pilgrims during transport by rail. In G.O., No. 590-R, dated 20th September 1895, certain regulations were thereupon required of the Railway Company by Government, and I am glad to be able to state from personal inspection that much improvement upon the former condition of affairs was effected.

77. In 1890, when Acting Sanitary Commissioner, I drew attention to the fitness of the Jewish method of conservancy described in Deuteronomy, Chapter XXIII, verses 12 and 13, for use at festivals. It was not, however, until the Tiruvannámalai festival of 1895 that I had personally an opportunity of seeing it worked on a large scale. It is certainly the most expeditious, cleanly, economical and sanitarily sound method yet used, and is much appreciated by natives. It being hopeless to expect the pilgrim to take the initiative in this matter—as was expected of the Jew—it was arranged that places at the outskirts likely to be resorted to were guarded by policemen. These restricted the pilgrims to a certain portion of a field marked off with flags. Within this area were the requisite holes scooped at regular intervals, each marked by a small piece of up-right bamboo, and strip of coloured rag. A scavenger was kept in constant attendance, and the moment a hole was utilized this man proceeded to the spot, removed the bamboo which marked the site, and by a motion of his foot filled in the hole with the dry earth which had been excavated and placed at the side. I describe this simple mode in detail not only because of its special suitability for natives, but because it is possible to get men to cover the holes who are not scavengers, as nothing defiling is touched; and where every one of this class at a festival is of the greatest value on account of the difficulty of obtaining them, any method that can be worked without their aid is of a practical utility.

78. It having been found that where local authorities employ conservancy staffs, no account was forthcoming as to the manner of *ultimate* disposal of night-soil and rubbish, a special circular was issued to District Medical and Sanitary officers, inviting them to note in each report not only as to the mode of temporary deposit,

but as to what uses, if any, the materials were placed to. The result has been to show that in many unions these are simply thrown on waste places pell-mell, and that in others no fixed depôts exist. These are points that have been referred to local authorities as cases were brought to light, with the result of securing promises of improved methods more especially directed to ultimate economical disposal as manure. Reports received from Collectors of districts in the matter of attempting to secure the use of night-soil as manure by the influence of tahsildars upon villagers, go to show that very little actual progress has been effected; all that can be done is to keep the matter constantly in view and to preach its advantages in and out of season.

THE MECCA PILGRIMAGE.

79. In reply to queries circulated to all Collectors in whose districts there are ports, only two instances of pilgrims having left the Madras Presidency direct for Mecca were ascertained. Extracts from evidence given on examination before Revenue officers are subjoined:—

Extract from Statement of Moulvi Aji Mohamed Abdul Rahiman Sahib of Natham, Chingleput Taluk, before the Tahsildar of Chingleput.

Queries.	*Replies.*
Name and tonnage of each pilgrim vessel, with date of departure and number of pilgrims on board.	Name of the steamer that I travelled by was 'Sultan' on the 24th of Shaval (Saturday) by 5 P.M.
* * *	
The experience of the pilgrim at Camaran.	. . . In each shed 40 to 60 pilgrims were allowed to remain. A great deal of hardship was experienced in travelling this short distance in sun and sand with samans (luggage) on our shoulders, so much so, a man died in the way. There was good deal of restriction by Turkish Police in pilgrims going from one shed to another. The sheds were so very inconvenient that in case there was heavy wind, sand was blown into them. Firewood and water were supplied by Government. Firewood was bad and water brackish. The latrines were very foul. At a distance of 200 yards, there were latrines. Temporary tatty latrines were erected by the shore. The place was very filthy on account of this. We were not allowed by the Turkish Police to ease ourselves in any other place but these latrines. We stayed 10 days like this in these sheds and we paid Rs. 12-9-0 per soul before departure from Camaran. During our stay in these sheds, Turkish Police and doctors used to go round twice a day and examine each and every pilgrim. These paid no attention to our complaints regarding bad smell and bad water. But they said that every attention is being paid to the water and the latrines complained about. At a distance of a mile the pilgrims that came by the steamer 'Thayiff' were halted. About 90 pilgrims, I hear, died of cholera after arrival there. This information I heard from the pilgrims of that steamer that met me at Jedda. At a distance of three miles there were the pilgrims that came by the steamer 'Hussain.' All these pilgrims were ordered back to Bombay on account of cholera and this I was informed on my return voyage at Bombay. While at Camaran, we did not get eatables and hence those that did not carry provisions with them suffered much.
* * *	* * *

State cubic and superficial space allowed for each pilgrim.	3 × 1½ yards space was allowed for each pilgrim.
* * *	* * *
Did any epidemic prevail at the port of (1) embarkation, (2) debarkation or (3) on the route to Mecca? If so, state what disease.	There was dysentery and fever in Mecca and there were deaths by these causes. There was no cholera whatever in Mecca to my knowledge.

Information gathered by the Collector of Malabar from a pilgrim who proceeded to Mecca from the Wynaad Taluk.

Queries.	*Replies.*
* * *	* * *
The exact manner in which the medical inspection of the pilgrims was conducted before they embarked.	No medical inspection was made before going on board. On embarkation the apothecary belonging to the vessel felt the pulse of each passenger.
* * *	* * *
The number and causes of deaths after departure, with exact dates, especially regarding any cases that appear to have been of a choleraic nature.	Of those who sailed in the 'Hussain' 22 died of cholera within a period of 44 days in the island of Camaran. There were no cases of cholera among those who went by the other ship, but two deaths occurred from small-pox and one from fever within 10 days of the attack.
* * *	* * *
The experience of the pilgrim at Camaran.	Only brackish water is available for drinking purposes . . .
* * *	* * *
Number of pilgrims of the year who returned indicating the proportion missing.	Seven men proceeded from Wynaad, of whom three died and the remaining four returned. Three out of the latter did not get to Mecca, but returned back from Camaran.
* * *	* * *

Information gathered by the Collector of Malabar from a pilgrim belonging to the Walluvanad Taluk who returned from Mecca.

Queries.	*Replies.*
* * *	* * *
The exact manner in which the medical inspection of the pilgrims was conducted before they embarked.	At the port of Bombay the passengers on board were asked by doctor whether they had any disease, and on their answering in the negative they were allowed to remain in the ship. No other examination was made.
* * *	* * *
The experience of the pilgrims at Camaran.	At Camaran a native of Tanur got small-pox, and he was detained there and treated by the Turks until he got better. The Turks at Camaran demanded money from the passengers who had to stay there ten days. The drinking water given to the passengers by the Turks tasted of chunam (lime). They took their bath in the sea. Many of the passengers suffered from diarrhœa, and a native of Malabar died there of that disease.
* * *	* * *
Number and causes of deaths on the return voyage.	On the return voyage two of the male passengers in the ship 'Hussain' died of diarrhœa and one female of dysentery.
* * *	* * *
State generally the nature of the diseases from which the pilgrims were found to suffer.	Small-pox and diarrhœa were the only diseases from which the pilgrims suffered.

80. The above statements were made by incompletely educated men, and are therefore not likely to be reliable when treating of numbers. Still, it may be taken as a fact that cholera appeared amongst the pilgrims at Camaran and caused mortality, that the water-supply of the place is bad, and that the house accommodation, latrine arrangements, and means for the pilgrims getting food, leave much to be desired. Further, no ruling exists for insisting upon the vaccination or re-vaccination of all that may embark. The want of this protection was illustrated in the appearance of small-pox on board the 'Hussain.' It seems very unlikely that any serious objection would be raised against vaccination being carried out, if the operator explained the probable protection from small-pox. If it be considered inadvisable to require compulsion in this matter, there certainly ought to be no doubt about the desirability of providing that a vaccinator should be present previous to embarkation of the pilgrims, who should offer to perform the operation gratis upon all willing to undergo it.

SECTION X.

GENERAL REMARKS AND PERSONAL PROCEEDINGS.

81. During the year, a total of 9,125 miles by rail and road was travelled by myself and 5,561 by the Acting Inspector of Vaccination and Deputy Sanitary Commissioner, Surgeon-Major C. Mallins, D.P.H. The following municipalities were inspected and full reports on the sanitary condition of each were submitted to Government by—

The Sanitary Commissioner.	*The Deputy Sanitary Commissioner.*
Coimbatore.	Anantapur.
Erode.	Cuddapah.
Bezwada.	Palni.
Guntúr.	Periyakulam.
Nellore.	Dindigul.
Salem.	Madura.
Kumbakónam.	Tirupati.
Negapatam.	Vellore.
Tanjore.	Walajapet.
Palamcottah.	Srírangam.
Tinnevelly.	Trichinopoly.
Tuticorin.	Cuddalore.
Vizagapatam.	Bimlipatam.
Vizianagram.	Anakapalle.

82. The following unions were inspected by—

The Sanitary Commissioner.	*The Deputy Sanitary Commissioner.*
Tadpatri.	Uravakonda.
Chingleput.	Kuditani.
Chendragiri.	Kampli.
Méttupálaiyam.	Hospet.
Tiruvannámalai.	Uttamapálaiyam.
Virudupatti.	Periyár.
Veleppanur.	Cumbum.
Párvatipuram.	Chinnamanúr.
	Butlagundu.
	Nellakottai.
	Ayakudi.
	Ránipéttai.
	Nellikuppam.
	Panruti.
	Villupuram.
	Tiruvannámalai.
	Tindivanam.

83. The following villages were inspected by—

The Sanitary Commissioner.	*The Deputy Sanitary Commissioner.*
Tirukalikundram.	Kudair.
Tirukachur.	Allinagaram.
Mittapalem.	Bodikavandampatti.
Tiruchanur.	Tani.
Velanganni.	Kurvanuti.
Korampaliem.	Gudalur.
Dhone.	Uttampuram.
Kullur.	Devadanapatti.
Panthipaud.	Mutulagapatti.
Lunjapolur.	Meenatchinaikenpatti.
Pudur.	Palkanut.
Ullur.	Saterapatti.
	Virupakshi.

The Sanitary Commissioner—cont.	*The Deputy Sanitary Commissioner*—cont.
Malyala.	Samayagudur.
Nagatur.	Nallur.
Pagidala.	Kandotti.
Jupaud.	Malapuram.
Bunnur.	Manjéri.
Tharigopa.	Edavanna.
Pamalpaud.	Nilambur.
Kambalapalli.	Vandur.
Bhojanam.	Pantikad.
Santajutur.	Angadipuram.
Perumatur.	Cherpalcheri.
	Vaniamkolam.
	Peramanaottapaliem.
	Shoranur.
	Pattambi.
	Tirutala.
	Chavakkat.
	Chitwai.
	Ayrur.
	Ponnáni.
	Kutiparamba.
	Manantoddy.
	Kanotti.
	Kuttiyadi.
	Kuttipuram.
	Badagara.

84. It will be seen from the above that, whilst the number of municipalities inspected during the year is less than formerly, the attention given to festival resorts and rural tracts has been greater. This is due to my representation to Government that the system by which, in the course of the year, each municipality had to be inspected by either myself or deputy was of much less utility than might be anticipated. A calculation of the time at disposal when allowing for a reasonable rate of travelling and for fulfilment of other special inspections required by Government, showed that such inspections could not be otherwise than superficial, and left no time for entering into the numerous details involved in the sanitation of the larger towns with the attention requisite. Regarded even from the light of physical endurance, the task of inspecting on foot all parts of towns having the large areas found in this presidency could not be regarded as otherwise than demanding considerable time. Further, whilst more time and attention were requisite from me in the matter of repression of epidemics and the inspection of, and suggestions for, the safe conduct of festivals, the state of the organization of the vaccination department demanded that more time should be devoted by the Inspector of Vaccination to verification of results, which experience daily taught was very requisite. Had it been found that the advance made in municipalities was in any way proportionate to the rapidity and multitude of the inspections made of them, this consumption of time would have been justified; but I found that what with the period required for submission of the report, its discussion by the Municipal Council and orders thereon by Government, and consideration of plans and estimates by the Sanitary Board, there remained but little time before the termination of a year for improvements to be really effected. Hence to visit a municipality two years in succession, was to find that practically nothing had been done in the interval since last report. Government agreed with this view of matters, and directed inspection of municipalities to be, as a rule, conducted every second year, leaving it to my discretion to visit others oftener where this course would seem requisite (G.O., No. 1280 M., dated 6th August 1895).

85. To secure that there should be no forgetfulness of the fact that certain recommendations had been made and that the Councils had duly pledged themselves to make reforms, I suggested that District Medical and Sanitary Officers should be desired, on receipt of copies of the inspection notes of this office, to take cognizance of the improvements that had been agreed to by the Municipal Council concerned and report the fact to me, should there seem to be unreasonable delay in effecting these. (G.O., No. 1618 M, Mis., dated 9th October 1895, Local and Municipal).

86. It having been found by me that recommendations made to municipalities frequently were not fully understood, it was suggested that they should be required to hold meetings before my departure after fulfilment of inspection duty, with the object of enabling all recommendations to be discussed fully. This view was accepted by Government in G.O., No. 1280 M., dated 6th August 1895. The result of this interchange of views has, I think, during the year, been advantageous both in the case of the municipalities concerned and myself, in that I can explain fully what is aimed at and am able to judge as to difficulties that may have to be overcome.

87. I was required by Government to investigate the connection between the burial of Moplahs dead of cholera and an outbreak of that disease that had occurred in Palghat, and to select new burial-grounds. In Calicut, the Moplahs had for many years effected burials under highly insanitary conditions, the sites being close to houses, the inhabitants of which derived their supply from shallow well water. In 1890 the Moplahs living under these conditions died of cholera to the extent of 3·5 per cent., whilst Hindus living in the same town died to the extent of ·3 per cent. of their respective populations. The then District Sanitary Officer, Surgeon-Lieutenant-Colonel Beech, made strong representations on the point, with the result that the often-agitated question of Moplah burial was revived. The municipality was then directed by Government to select sites for new burial-grounds, in consultation with the leading Moplahs. On these sites so chosen, I duly reported. Special reports were also required by Government as to the conditions of burial and cremation near the river at Nellore and at Salem, respectively. Orders were also received for the inspection of 29 Muhammadan burial-grounds within the town of Madras. The latter work occupied a considerable time.

88. In accordance with G.O., No. 1551 W., dated 10th June 1893, Public Works, requiring the Sanitary Commissioner of a Province to sit on committees determining the boundaries of Cantonments, I inspected and reported to the Military authorities on the proposed boundaries of the Wellington Cantonment.

89. In the beginning of the year, a severe epidemic occurred within the Lunatic Asylum in Madras. With the Surgeon-General with the Government of Madras, I made an inspection of the asylum, when evidence was forthcoming which seemed to show us that a latrine had been contaminated by a case that was not recognized at first as cholera by the then medical officer in charge; that the brooms used for this latrine and for the washing of floors in sleeping cells were not readily distinguishable, and that this labour was conducted by the same men; that the pails used for drinking water and for flushing the floors were not readily distinguishable, and may therefore have been used indiscriminately, and consequently may, and probably were, plunged into a bathing cistern; that this bathing cistern being open, it could not be said that lunatics did not have access to it as drinking water —the probability being that this was the case. Indirect contamination of this water with cholera excreta conveyed by brooms, hands, and pails seemed therefore probable, and it was accordingly suspected by us that the open cistern had been the medium of spread in the first cases. The suspected water was sent to Mr. Hankin for examination, who stated that it contained bacilli "indistinguishable from cholera." In the epidemic of cholera in the Trichinopoly Jail in 1893, the conditions similarly pointed to contamination of water kept in open cisterns for bathing purposes. In view of the strong opinions held by Indians as to the self-purification of water, it is obviously an error to maintain these in any public institution.

90. 2 Central and 6 District Jails were inspected by myself and 2 Central and 3 District Jails by my deputy. Several sub-jails were also inspected. The results of inspection were forwarded to the Inspector-General of Prisons.

91. Under orders from Government the Hill Jail of Párvatípuram was inspected, with reference to the continued prevalence there of dysentery. A lengthy report on the subject was submitted to Government.

92. The question of effecting radical improvement of the arrangements for water-supply in jails, which was pressed upon Government by me in November 1894, was

The Sanitary Commissioner—cont.	*The Deputy Sanitary Commissioner*—cont.
Malyala.	Samayagudur.
Nagatur.	Nallur.
Pagidala.	Kandotti.
Jupaud.	Malapuram.
Bunnur.	Manjéri.
Tharigopa.	Edavanna.
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89. In the beginning of the year, a severe epidemic occurred within the Lunatic Asylum in Madras. With the Surgeon-General with the Government of Madras, I made an inspection of the asylum, when evidence was forthcoming which seemed to show us that a latrine had been contaminated by a case that was not recognized at first as cholera by the then medical officer in charge; that the brooms used for this latrine and for the washing of floors in sleeping cells were not readily distinguishable, and that this labour was conducted by the same men; that the pails used for drinking water and for flushing the floors were not readily distinguishable, and may therefore have been used indiscriminately, and consequently may, and probably were, plunged into a bathing cistern; that this bathing cistern being open, it could not be said that lunatics did not have access to it as drinking water —the probability being that this was the case. Indirect contamination of this water with cholera excreta conveyed by brooms, hands, and pails seemed therefore probable, and it was accordingly suspected by us that the open cistern had been the medium of spread in the first cases. The suspected water was sent to Mr. Hankin for examination, who stated that it contained bacilli "indistinguishable from cholera." In the epidemic of cholera in the Trichinopoly Jail in 1893, the conditions similarly pointed to contamination of water kept in open cisterns for bathing purposes. In view of the strong opinions held by Indians as to the self-purification of water, it is obviously an error to maintain these in any public institution.

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Bunnur.	Manjéri.
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	Kuttiyadi.
	Kuttipuram.
	Badagara.

84. It will be seen from the above that, whilst the number of municipalities inspected during the year is less than formerly, the attention given to festival resorts and rural tracts has been greater. This is due to my representation to Government that the system by which, in the course of the year, each municipality had to be inspected by either myself or deputy was of much less utility than might be anticipated. A calculation of the time at disposal when allowing for a reasonable rate of travelling and for fulfilment of other special inspections required by Government, showed that such inspections could not be otherwise than superficial, and left no time for entering into the numerous details involved in the sanitation of the larger towns with the attention requisite. Regarded even from the light of physical endurance, the task of inspecting on foot all parts of towns having the large areas found in this presidency could not be regarded as otherwise than demanding considerable time. Further, whilst more time and attention were requisite from me in the matter of repression of epidemics and the inspection of, and suggestions for, the safe conduct of festivals, the state of the organization of the vaccination department demanded that more time should be devoted by the Inspector of Vaccination to verification of results, which experience daily taught was very requisite. Had it been found that the advance made in municipalities was in any way proportionate to the rapidity and multitude of the inspections made of them, this consumption of time would have been justified; but I found that what with the period required for submission of the report, its discussion by the Municipal Council and orders thereon by Government, and consideration of plans and estimates by the Sanitary Board, there remained but little time before the termination of a year for improvements to be really effected. Hence to visit a municipality two years in succession, was to find that practically nothing had been done in the interval since last report. Government agreed with this view of matters, and directed inspection of municipalities to be, as a rule, conducted every second year, leaving it to my discretion to visit others oftener where this course would seem requisite (G.O., No. 1280 M., dated 6th August 1895).

85. To secure that there should be no forgetfulness of the fact that certain recommendations had been made and that the Councils had duly pledged themselves to make reforms, I suggested that District Medical and Sanitary Officers should be desired, on receipt of copies of the inspection notes of this office, to take cognizance of the improvements that had been agreed to by the Municipal Council concerned and report the fact to me, should there seem to be unreasonable delay in effecting these. (G.O., No. 1618 M, Mis., dated 9th October 1895, Local and Municipal).

86. It having been found by me that recommendations made to municipalities frequently were not fully understood, it was suggested that they should be required to hold meetings before my departure after fulfilment of inspection duty, with the object of enabling all recommendations to be discussed fully. This view was accepted by Government in G.O., No. 1280 M., dated 6th August 1895. The result of this interchange of views has, I think, during the year, been advantageous both in the case of the municipalities concerned and myself, in that I can explain fully what is aimed at and am able to judge as to difficulties that may have to be overcome.

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again brought to its notice in 1895, with the result that orders were issued requiring the Inspector-General of Prisons to forward a list of supplies that demanded attention.

93. With the Surgeon-General with the Government of Madras certain aspects of the food-supply of sub-jails were considered; with the Inspector-General of Prisons the matter of treatment of water in sub-jails, and the provision of cheap yet not easily contaminated surfaces for receipt of cooked food supplies was discussed; special measures were advised as to the too prolonged use of earthen lotahs for drinking purposes.

94. Tirupati was visited twice during the year; once with reference to a special request of the municipality inviting my opinion regarding a proposed tank for religious ceremonies and, secondly, for inspection during the festival. A careful inspection of both Upper and Lower Tirupati in the previous year enabled me to detail the measures I considered requisite. In the case of Tiruvannámalai, a full report founded on personal inspection of the locality was drawn up previous to the festival, for guidance of the local authorities concerned. I also inspected this place during actual progress of the festival. Vélánganni and Little Mount were also specially visited during progress of the respective festivals. Tirukkazhikkunrum and Tirukachur (both places where festivals take place) were inspected.

95. Having regard to the orders issued by Government as to improved arrangements for pilgrim traffic by rail (G.O., No. 590 R., dated 20th September 1895) in connection with my representations as to the Tiruvannámalai festival, the Agent of the South Indian Railway, Captain Shelley, R.E., suggested a conference with me, accompanied by the officers responsible for traffic and medical arrangements on the South Indian Railway. It was agreed to invite Mr. Castle-Stuart Stuart, Collector of South Arcot, as a representative Revenue officer known to take an interest in sanitary advance, to aid the committee with his advice as to district organization. It was resolved to forward recommendations to Government; but, when finally circulating the Proceedings of the Committee, it was found that the concessions made by the railway authorities beyond what was required by the Government order were so trivial, that the whole subject required reconsideration. A further conference has been consequently suggested. In the meantime, the display of willingness on the part of the Agent to meet the sanitary requirements and the discussion of the various points involved in their various financial, administrative, and sanitary aspects cannot fail to secure increased attention to this important subject.

96. Mr. Hankin's suggestion to undertake disinfection of wells with permanganate of potash was pressed upon the notice of all District Medical and Sanitary officers and all local authorities, by means of circulars. Special tables showing weights of permanganate required for different sizes and shapes of wells under ordinary conditions of organic purity were also circulated for the guidance of medical subordinates. The method has been freely practised. On the whole, the opinion of District Medical and Sanitary officers is that this mode is of efficacy; but this cannot be confirmed without prolonged experience, as indeed contended by Mr. Hankin.

97. Disinfection of wells by alum and lime was practised by me at the festival of Tirupati in 1893, with apparently good results. In view, however, of Mr. Hankin's advocacy of permanganate, I now confine the use of this method to unmanageably large water-supplies, and especially to use in bathing and washing tanks. Failing its being possible to use even this method, on account of the bulk of water in certain tanks in the Tiruvannámalai festival, I directed precipitation to be effected at nights, after withdrawal of the pilgrims within 25 feet, of the edges, a method better than none—having regard to the known slowness of diffusion of impurities in quiet masses of water.

98. Circulars, giving hints to non-professional persons as to investigation of outbreaks of cholera, describing "make-shifts for sewage disposal in the absence of sewerage systems," in which the various temporary expedients applicable were discussed, and calling attention to the desirability of registration of births and deaths, and affording reasons why members of Municipal Councils should not treat

with the leniency hitherto exhibited delinquents under the compulsory clauses, were circulated to local authorities. A translation of Koch's paper, advocating sub-soil water for sources of supply, provided the area drained is cleanly, with special reference to his suggestion for protection of wells that seems peculiarly applicable to so-called 'step-wells' in this Presidency, was also circulated for general information.

99. As Government has required that I shall not enter into dissertations in the annual report as to cholera causation, I have purposely avoided any theoretical discussion as to the marked decrease of cholera prevalence in this presidency—a decrease not equalled through eight years. Holding in view, therefore, the fact brought to notice in the annual report of the Sanitary Commissioner with the Government of India for 1894 that, with the proof of connection of the cholera bacillus with cholera causation, the subject of fluctuations of epidemic prevalence cannot be considered closed, and remembering ~~the fact~~ that at long intervals great depressions of cholera prevalence have occurred in the history of this presidency, it would be unsafe to draw a deduction that might by next year be shown to be false, by an exacerbation. Still, I think, it would be illogical not to ascribe this decrease *to some extent* to the better activity on the part of all local authorities in connection with prompt repression of epidemics. In each instance of an outbreak, enquiry is at once made by this office as to measures being taken, and where action on the part of local authorities seems dilatory, special representations are made. This continued 'worrying' of local authorities, as this system has been graciously described to me by certain of those concerned, has, I believe, not been without its influence, in that the process having been impartially applied to every part of the presidency has secured what was aimed at—the taking of prompt and effective measures at the outset of the disease, instead of waiting till the panic of heavy mortality compelled action.

100. The proposals made by me to Government last year for arranging as to prompt and correct action by all municipalities for the prevention and repression of epidemics, were referred to a committee for discussion, consisting of Mr. Crole, First Member, Board of Revenue, Surgeon-Major-General Sibthorpe, Surgeon-General with the Government of Madras, Mr. Francis, I.C.S., Acting Under-Secretary to Government and myself. The recommendations of the committee entered fully into the question of finance, sanitary organization and administration, and the outline of sanitary measures to be adopted. The various proposals were then placed before the Municipal Councils by Government for discussion. Final orders have not yet been received.

101. Government was advised that when an outbreak of cholera occurred at a festival, a special report should be sent to this office as to measures undertaken, irrespective of the ordinary festival report (G.O., No. 296 L., dated 15th February 1895).

102. The evidence before the "Royal Commission on the water-supply of London" showed that whilst the transmission of cholera by rivers was credited, it was believed that but little evidence was actually on record. I have consequently thought it worth while working out evidence on the point. I have thus been able to show in an irrefutable manner from official records that cholera affected villages in the course of three streams for long distances. An enquiry as to the influence in this respect of the Cauvery (which passes through five districts) has demanded much time in working out, but, so far as I have yet been able to gauge the results, this river must be regarded as an important factor in the spread of cholera in this Presidency.

103. The impression gained during medical practice, judging by frequency of attention demanded by the two classes, is that on the whole cholera attacks adults more than children. This is a point that can only be settled by large statistics. An investigation of the ages of 1,000 deaths from cholera was accordingly made, with the result of showing that, with the exception of the first year of life, where in this country nourishment is chiefly derived from breast milk, the incidence is fairly uniform:—

	Rate per mille of the population of that age.
Under 1 year of age	0·3
1—5	0·6
5—10	0·6
10—15	0·5
15—20	0·6
20—30	0·6
30—40	0·6
40—50	0·7
50—60	0·8
60 and over	0·5

104. The gradual increase of small-pox in other parts of India, caused me to send a special warning in May 1895 to all local authorities, pointing out that an invasion of the Presidency might later on be reasonably expected, and advising them to maintain special vigilance as to the appearance of the disease, to attempt segregation wherever possible, and push forward not only vaccination of infants and children, but to impress upon the adolescent population the desirability of practising re-vaccination.

105. With the object of ascertaining whether I was warranted in pushing re-vaccination, enquiry was made as to the ages of a thousand deaths from small-pox gathered from the latest and contrasted with the oldest records available, in the hope that it would be possible to determine how far the absence of re-vaccination had in a partly vaccinated population affected the age of death by small-pox. The result is to show that this influence is already at work though not so demonstrable as in Great Britain, in that the protection of the infantile vaccination although shown up to 20 years rapidly declines :—

	Per mille of deaths.	
	Oldest records.	Latest records.
Under 1 year of age	3·1	2·7
1—5	1·3	1·2
5—10	0·3	0·4
10—15	0·3	0·1
15—20	0·1	0·09
20—30	0·07	0·08
30—40	0·08	0·08
40—50	0·04	0·06
50—60	0 04	0·04
60 & over	0·01	0·04

106. An investigation as to the decline of small-pox in municipal towns in this Presidency gave the following statistics, showing marked improvement as time advances :—

Years.	Deaths from small-pox per mille of the united populations of municipalities.	
1876	1·2	
1877	...	(Famine year).
1878	1·6	
1879	1·1	
1880	1·2	
1881	1·2	
1882	1·3	
1883	2·4	
1884	3·9	
1885	0·9	
1886	0·7	
1887	0·9	
1888	0·6	
1889	0·8	
1890	1·1	
1891	1·5	
1892	1·2	
1893	0·5	Vaccination compulsory in all Municipalities.
1894	0·1	
1895	0·1	

107. With the prospect of special increase of small-pox following introduction from other Presidencies, it remains to be seen during 1896 how far Madras has been capable of resisting the invasion.

108. The overgrowth of prickly-pear in the neighbourhood of villages is a matter of considerable economical and sanitary importance in this Presidency. I therefore suggested to one of the municipalities the introduction of the cochineal insect for its destruction. In the course of a search for this insect, I was informed of the destruction of prickly-pear said to have occurred in the Ponnéri Taluk. Specimens were obtained through Mr. Sirajudin, Tahsildar of Chingleput. The leaves were found covered with a growth that was pronounced by a local expert consulted to be mycelial. I informed Government of the occurrence and pointed out that as I had no time to make a special investigation on this point, it would be advisable to ask Collectors and others to make enquiries in districts as to any parasite likely to be capable of being artificially propagated and applied for the destruction of prickly-pear. Subsequently, on the leaves from the Ponnéri Taluk being forwarded to Dr. Watt, Economic Reporter to the Government of India, he declared that an insect (belonging to the genus diaspis) was the destructive agent and proved this by actual experiment. He describes the insect as "voracious," and anticipates it could be propagated at central points and be distributed for the work of destruction over various parts of the Presidency. If Dr. Watt's discovery ~~prove correct~~, it will prove of vast sanitary utility.

109. In paragraph 65 of my annual report for 1894, I placed on record the first efforts in this Presidency towards the education of Sanitary Inspectors. The Acting Professor of Hygiene, Surgeon-Captain Robertson, undertook the task of delivering the theoretical course of lectures. As the Professor of Hygiene is employed during the mornings as Assistant Physician at the General Hospital, Madras, I was confronted with the difficulty of securing for the candidates a practical course. Finding this otherwise impossible, I undertook it myself. The President of the Municipality of Madras kindly permitted the class every facility for examining works and apparatus. I was thus able to give aid by taking the students from place to place, and making demonstration as fully practicable as possible.

110. Since this period, the syllabus which was that of the Intermediate test in Hygiene of the Government Technical Examinations has been revised, in consultation with the Director of Public Instruction, so as to secure a grade of study specially suited for Sanitary Inspectors. Holding in mind the indifferent general education in English of some of the Sanitary Inspectors employed, in placing the proposal for the teaching of Sanitary Inspectors originally before Government, I asked that I might be permitted to nominate those who had not passed sufficiently good general educational tests, in cases where I considered sound practical knowledge existed. As, however, I found the applications (as I had anticipated) for entrance to the class to assemble in January 1896 were very numerous, I had no difficulty in declining to exercise the power of nomination, and was thus able to at once raise the standard of general education. I therefore required that, except in the case of Sanitary Inspectors nominated by municipalities that had been engaged in this work prior to December 1894, none would be received, unless they had passed an examination in general knowledge not lower than the Matriculation of the Madras University, were medical subordinates of not lower rank than Hospital Assistants, or were passed Engineering Subordinates of not lower grade than sub-overseers. Ninety-six candidates registered their names under these conditions, of whom 61 paid the requisite fees for the theoretical course and examination.

111. A register has been opened in my office for certificated Sanitary Inspectors, so that local authorities can apply for their services; 23 municipalities have now certificated Sanitary Inspectors in their employ. The District Board of Trichinopoly has also, as an experimental measure, employed two as Taluk Sanitary Inspectors for rural sanitation. To ensure that their educational standard should be maintained, I have asked District Medical and Sanitary Officers to kindly undertake the oral examination of these men once yearly. Most of the municipalities have also agreed to my proposal to provide them with the College text-books of

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Years.	Deaths from small-pox per mille of the united populations of municipalities.	
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1877	...	(Famine year).
1878	1·6	
1879	1·1	
1880	1·2	
1881	1·2	
1882	1·3	
1883	2·4	
1884	3·9	
1885	0·9	
1886	0·7	
1887	0·9	
1888	0·6	
1889	0·8	
1890	1·1	
1891	1·5	
1892	1·2	
1893	0·5	Vaccination compulsory in all Municipalities.
1894	0·1	
1895	0·1	

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110. Since this period, the syllabus which was that of the Intermediate test in Hygiene of the Government Technical Examinations has been revised, in consultation with the Director of Public Instruction, so as to secure a grade of study specially suited for Sanitary Inspectors. Holding in mind the indifferent general education in English of some of the Sanitary Inspectors employed, in placing the proposal for the teaching of Sanitary Inspectors originally before Government, I asked that I might be permitted to nominate those who had not passed sufficiently good general educational tests, in cases where I considered sound practical knowledge existed. As, however, I found the applications (as I had anticipated) for entrance to the class to assemble in January 1896 were very numerous, I had no difficulty in declining to exercise the power of nomination, and was thus able to at once raise the standard of general education. I therefore required that, except in the case of Sanitary Inspectors nominated by municipalities that had been engaged in this work prior to December 1894, none would be received, unless they had passed an examination in general knowledge not lower than the Matriculation of the Madras University, were medical subordinates of not lower rank than Hospital Assistants, or were passed Engineering Subordinates of not lower grade than sub-overseers. Ninety-six candidates registered their names under these conditions, of whom 61 paid the requisite fees for the theoretical course and examination.

111. A register has been opened in my office for certificated Sanitary Inspectors, so that local authorities can apply for their services; 23 municipalities have now certificated Sanitary Inspectors in their employ. The District Board of Trichinopoly has also, as an experimental measure, employed two as Taluk Sanitary Inspectors for rural sanitation. To ensure that their educational standard should be maintained, I have asked District Medical and Sanitary Officers to kindly undertake the oral examination of these men once yearly. Most of the municipalities have also agreed to my proposal to provide them with the College text-books of

	Rate per mille of the population of that age.
Under 1 year of age	0·3
1—5	0·6
5—10	0·6
10—15	0·5
15—20	0·6
20—30	0·6
30—40	0·6
40—50	0·7
50—60	0·8
60 and over	0·5

104. The gradual increase of small-pox in other parts of India, caused me to send a special warning in May 1895 to all local authorities, pointing out that an invasion of the Presidency might later on be reasonably expected, and advising them to maintain special vigilance as to the appearance of the disease, to attempt segregation wherever possible, and push forward not only vaccination of infants and children, but to impress upon the adolescent population the desirability of practising re-vaccination.

105. With the object of ascertaining whether I was warranted in pushing re-vaccination, enquiry was made as to the ages of a thousand deaths from small-pox gathered from the latest and contrasted with the oldest records available, in the hope that it would be possible to determine how far the absence of re-vaccination had in a partly vaccinated population affected the age of death by small-pox. The result is to show that this influence is already at work though not so demonstrable as in Great Britain, in that the protection of the infantile vaccination although shown up to 20 years rapidly declines:—

	Per mille of deaths.	
	Oldest records.	Latest records.
Under 1 year of age	3·1	2·7
1—5	1·3	1·2
5—10	0·3	0·4
10—15	0·3	0·1
15—20	0·1	0·09
20—30	0·07	0·08
30—40	0·08	0·08
40—50	0·04	0·06
50—60	0·04	0·04
60 & over	0·01	0·04

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Hygiene, and the weekly periodical, the "Sanitary Record." By these means, it is hoped they will be kept in touch with advancing hygiene.

112. The question of re-organization of the Sanitary and Vaccination Department on the lines proposed by the Government of India was referred to me for report at the close of the year. This has been since duly attended to.

113. In response to my request, Government has been pleased to make a grant of Rs. 2,000 for supply of bacteriological and other scientific apparatus for this office. As the Deputy Sanitary Commissioner, Surgeon-Major Bannerman, has taken leave with the special object of revivifying his bacteriological knowledge in the British schools, it is hoped it will be possible to conduct investigations of the ordinary type in connection with sanitary investigation during 1896.

114. The work fulfilled by District Medical and Sanitary Officers will be found in the appendix. The amount of inspection fulfilled has decreased more than one-half, in consequence of Government directing that inspections by these officers should be confined to unions, and that this work should be delegated to their assistants more frequently than hitherto. All reports made by District Sanitary Officers are in duplicate, one report going to the local authority concerned, the other to this office. A reasonable time having been allowed to elapse after receipt of their reports, within which it might be hoped local authorities would have attended to their suggestions, abstracts or extracts as to important items were, during the year, systematically forwarded to the local authorities with the request they would kindly note against each what had been done in the matter.

115. A valuable part of the work fulfilled by the District Medical and Sanitary Officers consists in the examination of the sanitary conditions of schools, as originally suggested by Surgeon-General Bidie when Sanitary Commissioner. This work fell for some years in abeyance, but on my reminding the officers concerned by a special circular of the Government Order on the subject, considerable good work has been the result. Recommendations of this class are usually attended to without demur by local authorities, and will doubtless be productive of considerable good. A little money spent in schools for the provision of object lessons in the form of correctly worked latrines, properly protected water-supplies, and the maintenance of due ventilation and cleanliness, would do a great deal more good than any amount of theoretical teaching of hygiene in schools, although this also has its sphere of utility.

116. On taking over acting charge in 1893, I invited the attention of Government to the anomalous position occupied by the Sanitary Commissioner of this Presidency, in that schemes were prepared for sanitary works by the Sanitary Engineer without his consulting the Sanitary Commissioner. Government thereupon modified the rules of the Sanitary Board, so as to enable this to be effected. In their order No. 2380 L., dated 16th November 1894, certain principles were laid down which the Board was directed to follow, and after a short experience definite rules were to be drawn up. These were discussed at special meetings of the Board in June 1895 and received, ~~before the end of the year,~~ the approval of Government. The constitution of the Sanitary Board is such that the Sanitary Commissioner may be readily out-voted by the engineering profession, the President being the Chief Engineer to Government and the only other member being the Sanitary Engineer. There is thus placed a considerable responsibility upon the President of the Board in holding the balance. The rules however ensure that the Sanitary Commissioner shall at least have the right to be heard, which is a vast improvement upon the formerly existing condition of affairs. Moreover, as all proposals for sanitary works now pass through the Sanitary Commissioner (as Secretary/General/ Sanitation Branch, Sanitary Board) to the Sanitary Engineer (as Secretary, Engineering Branch, Sanitary Board), it is now possible to exert a certain amount of influence as to their character.

117. The ruling as to sanitary works being drawn up in consultation with the Sanitary Commissioner was not correctly given effect to until subsequent to the meeting of the Board in June 1895; so that works were sanctioned previous to this date for future execution, or are now in progress, which have not been subjected to scrutiny by this office. Since then 117 notes—many being of a lengthy

character—dealing with the sanitary aspects of proposed works have been forwarded either to the Sanitary Engineer or the President, Sanitary Board. This work, of course, represents a new tax upon the total time at disposal of this office; but, provided sanitary demands are really met in the works projected in consultation by the Sanitary Board, it could hardly be more usefully consumed.

118. Surgeon-Major C. Mallins, D.P.H., acted for Surgeon-Major Bannerman, B.Sc., as Inspector of Vaccination and Deputy Sanitary Commissioner throughout the year. He accomplished much useful duty in making "surprise" inspections of the work of Deputy Inspectors of Vaccination, and thus exposed many irregularities. Several of these journeys involved much physical labour and exposure, which were undergone with willingness and zeal.

119. My Manager and Assistant M.R.Ry. S. Balasundra Moodaliar and office staff worked with their usual assiduity.

120. Surgeon-Lieutenant-Colonel Laing, the permanent incumbent of the office, having retired from the service, my appointment as Sanitary Commissioner was confirmed in May 1895.

121. The service books of my office establishment have been maintained up to date. With reference to G.O., No. 920, Financial, dated 18th September 1893, the stock of articles in my possession has been checked.

W. G. KING, M.B., C.M., D.P.H., Surgeon-Lt.-Col.,
Sanitary Commissioner for Madras.

FORT ST. GEORGE,
7th May 1896.

APPENDICES

TO

GENERAL SANITATION REPORT.

APPENDIX A.

Tables showing places visited by Sanitary Commissioner and Deputy Sanitary Commissioner during 1895.

MUNICIPAL TOWNS INSPECTED BY

Sanitary Commissioner.					Deputy Sanitary Commissioner.				
District.	Municipalities.	Date of inspection.	Date of report.	G.O. on report.	District.	Municipalities.	Date of inspection.	Date of report.	G.O. on report.
Coimbatore ...	Coimbatore ...	23rd to 26th Aug. 1895.	8th Nov. 1895.	.....	Anantapur ...	Anantapur ...	7th and 9th Dec. 1895.	18th Jan. 1896.	No. 643-M., dated 8th April 1896.
	Erode	28th Aug. to 1st Sept. 1895.	10th Oct. 1895.	No. 319-M., dated 24th Feb. 1896.	Cuddapah ...	Cuddapah ...	8th to 10th July 1895.	29th July 1895.	No. 1778-M., dated 28th Oct. 1895.
Kistna ...	Bezwada ...	5th and 6th Aug. 1895.	19th Oct. 1895.	No. 30-M., dated 7th Jan. 1896.	Madura ...	Palni	6th to 8th Sept. 1895.	23rd Sept. 1895.	No. 1998-M., dated 28th Nov. 1895.
	Guntur	6th and 7th Aug. 1895.	24th Oct. 1895.	No. 56-M., dated 11th Jan. 1896.		Periyakulam ...	21st Aug. 1895 ...	10th Oct. 1895.	No. 2125-M., dated 25th Dec. 1895.
Nellore ...	Nellore	12th to 14th Nov. 1895.	14th Feb.. 1896	.....		Dindigul	31st Aug. and 1st Sept. 1895.	10th Oct. 1895.	No. 245-M., dated 12th Feb. 1896.
Salem	Salem	20th to 22nd Nov. 1895.	13th April 1896.	.....		Madura ...	14th to 19th Aug. 1895.	10th Oct. 1895.	No. 261-M., dated 12th Feb. 1896.
Tanjore ...	Kumbakónam ...	7th to 10th Dec. 1895.	22nd April 1896.	.....	North Arcot...	Tirupati ...	20th and 21st June 1895.	4th July 1895.	No. 1813-M., dated 1st Nov. 1895.
	Negapatam ...	14th to 22nd Oct. 1895.	10th Dec. 1895.	.....		Vellore	18th to 20th June 1895.	29th July 1895.	No. 1707-M., dated 22nd Oct. 1895.
	Tanjore	1st to 5th Dec. 1895 ..	24th March 1896.	.....		Walajapet ...	17th June 1895 ...	4th July 1895.	No. 1932-M., dated 22nd Nov. 1895.
Tinnevelly ...	Palamcottah ...	24th to 26th Oct. 1895.	14th Feb. 1896.	.....	Trichinopoly.	Srírangam ...	25th to 27th July 1895.	8th Aug. 1895.	No. 1997-M., dated 28th Nov. 1895.
	Tinnevelly ...	27th to 30th Oct. 1895.	29th Jan. 1896.	.....		Trichinopoly ...	19th to 24th July 1895.	4th Sept. 1895.	No. 608-M., dated 1st April 1896.
	Tuticorin ...	2nd to 4th Nov. 1895.	10th Feb. 1896.	.....	South Arcot ...	Cuddalore ...	22nd to 26th Oct. 1895.	14th Nov. 1895.	.....
Vizagapatam.	Vizagapatam ...	2nd to 5th Aug. 1895.	29th Nov. 1895.	No. 479-M., dated 20th Mar. 1896.	Vizagapatam.	Bimlipatam ...	7th April 1895 ...	25th April 1895.	No. 1279-M., dated 26th Aug. 1895.
	Vizianagram ...	29th to 31st July 1895.	4th Nov. 1895.	.....		Anakapalle ...	9th and 10th April 1895.	26th April 1895.	No. 1410-M., dated 30th Aug. 1895.
Special tours.	Coonoor	12th to 17th Apl. 1895.	.....	.....					
	Ootacamund ...	10th to 28th June 1895.	.....	.....					
	Calicut	29th & 30th May 1895.	8th June 1895.	No. 1214-M., Mis., dated 29th July 1895.					
	Palghat	31st May 1895 and 1st June 1895.	8th and 26th June 1895.	No. 1034-M., Mis., dated 28th June 1895, and No. 1176-M., Mis., dated 24th July 1895.					
	Salem	2nd and 3rd June 1895 and 17th July 1895.	17th June 1895.	No. 1108-M., Mis., dated 13th July 1895.					
	Tirupati	30th Sept. 1895 and 15th Nov. 1895.	16th Jan. 1896.	No. 333-L., dated 18th Feb. 1896.					

Places visited (not Municipalities).

By Sanitary Commissioner.					By Deputy Sanitary Commissioner.				
District.	Names of places.	Date of inspection.	Date of report.	G.O. on report.	District.	Names of places.	Date of inspection.	Date of report.	G.O. on report.
Anantapur ...	Tadpatri	1st Oct. 1895 ...	.....	.....	Anantapur ...	Kudair	10th and 14th Dec. 1895.	16th Jan. 1896.	No. 303-L., dated 14th Feb. 1896.
Chingleput ...	Chingleput	12th March 1895.	25th May 1895.	No. 1050-L., dated 17th June 1895.		Uravakonda ...			
	Tirukachur	14th March 1895.			Bellary ...	Kuditani	21st Dec. 1895 ...	7th March 1896.	No. 675-L., dated 7th April 1896.
	Tirukalikundram ...	13th March 1895.				Kampli	24th Dec. 1895 ...		
North Arcot ...	Chendragiri	5th and 6th Mar. 1895.	23rd March 1895.	No. 725-L., dated 26th April 1895.		Hospet	26th Dec. 1895 ...		
	Mittapalam	7th March 1895.		.....	Madura ...	Allinagaram	23rd Aug. 1895.		
	Tiruchanur	9th March 1895.	.....	.....		Bodikavandampatti ...			
Coimbatore ...	Méttupálaiyam ...	27th Aug. 1895 ...	3rd Oct. 1895.	No. 2040-L., dated 25th Oct. 1895.		Tani			
South Arcot ...	Tiruvannámalai ...	5th and 6th Sept. 1895 and 27th to 29th Nov. 1895.	24th Feb. 1896.	No. 700-L., dated 9th April 1896.		Uttamapálaiyam ...	24th Aug. 1895.		
Tanjore ...	Velánganni	8th Sept. 1895 ...	17th Dec. 1895.	No. 267-L., dated 10th Feb. 1896.		Kurvanuti			
Tinnevelly ...	Korampaliem... ...	2nd Nov. 1895 ...	.....	.....		Periyár	25th and 26th Aug. 1895.		
	Virudupatti	6th Nov. 1895 ...				Gúdalúr	27th Aug. 1895.		
	Dhone	16th Dec. 1895 ...				Cumbum			
	Kullur	18th Dec. 1895 ...				Uttampuram		18th Oct. 1895.	No. 2225-L., dated 21st Nov. 1895.
	Panthipaud	19th Dec. 1895.				Chinnamanur ...	28th Aug. 1895 ...		
	Lunjapalur					Devadanapatti ...	29th Aug. 1895.		
	Pudur	21st Dec. 1895.				Butlagundu			
	Ullur					Nelakottai	30th Aug. 1895 ...		
	Malyala	23rd Dec. 1895.				Mutulagapatti ...	2nd Sept. 1895.		
	Nagatur		15th May 1895.	.....		Meenatchinaikenpatti.			
	Pagidala					Palkanut	3rd Sept. 1895 ...		
Kurnool ...	Jupaud	24th Dec. 1895 ...				Saterapatti	5th Sept. 1895 ...		
	Bunnur	26th Dec. 1895 ...				Ayakudi	8th Sept. 1895 ...		
	Tharigopa	27t Dec. 1895.				Virupakshi ...	9th Sept. 1895.		
	Pamulpaud					Samayagudur ...			
	Kambalapalli				Malabar ...	Nallur	18th Jan. 1895 ...	1st May 1895.	No. 990-L., dated 8th June 1895.
	Veleppanur	28th Dec. 1895.				Kandotti	19th Jan. 1895 ...		
	Bhojanum					Malappuram	20th and 21st Jan. 1895.		
	Santajutur	29th Dec. 1895 ...				Manjéri	22nd Jan. 1895 ...		
	Permatur	30th Dec. 1895 ...				Edavanna	23rd Jan. 1895 ...		
Vizagapatam ...	Párvatípuram ...	25th and 26th July 1895.	7th Oct. 1895.	No. 2334, Judicial, dated 14th Nov. 1895.		Nilambúr	24th Jan. 1895 ...		
						Vandur	25th Jan. 1895 ...		
						Pantikad	26th Jan. 1895 ...		
						Angadipuram... ...	27th Jan. 1895 ...		
						Cherpalcheri	29th Jan. 1895 ...		
						Vaniamkolam ...	30th Jan. 1895 ...		

Places visited (not Municipalities)—cont.

By Deputy Sanitary Commissioner.

District.	Names of places.	Date of inspection.	Date of report.	G.O. on report.
Malabar—*cont.*	Peramanottapaliem.	31st Jan. 1895.	1st May 1895.	No. 990-L., dated 8th June 1895.
	Shoranur	1st Feb. 1895		
	Pattambi	3rd Feb. 1895		
	Tirutala	4th Feb. 1895		
	Chavakkat	7th Feb. 1895		
	Chitwai	8th Feb. 1895		
	Ayrur	9th Feb. 1895		
	Ponáni	15th Feb. 1895		
	Kuttiparamba	19th Feb. 1895		
	Manantoddy	21st Feb. 1895		
	Kanotti	22nd Feb. 1895		
	Kuttiyadi	23rd and 24th Feb. 1895.		
	Kuttipuram	25th and 26th Feb. 1895.		
	Badagara			
North Arcot	Ránipéttai	16th June 1895	5th July 1895.	No. 1278-L., dated 20th July 1895.
South Arcot	Nellikuppam	26th Oct. 1895	26th Jan. 1896.	No. 398-L., dated 28th Feb. 1896.
	Panruti	29th Oct. 1895		
	Villupuram	1st Nov. 1895		
	Tiruvannámalai	6th Nov. 1895		
	Tindivanam	10th Nov. 1895		

By Sanitary Commissioner.

District.	Names of places.	Date of inspection.	Date of report.	G.O. on report.

APPENDIX B.

Statement showing the Number of Towns and Villages inspected by the District Medical and Sanitary Officers during the year 1895.

Towns.	Number of towns and villages inspected and reports received.	Number of towns and villages inspected, but no reports received.	Total number of towns and villages inspected.	Remarks.
Anantapur	17	...	17	
Bellary	21	1	22	2 places were twice inspected.
Chingleput	3	11	14	1 place twice inspected and 1 place thrice inspected.
Coimbatore	14	...	14	
Cuddapah	18	11	29	3 places twice inspected.
Ganjám	14	4	18	
Gódávari	14	9	23	
Kistna	17	19	36	
Kurnool	59	7	66	19 places twice inspected.
Madura	34	1	35	
Malabar	12	12	24	
Nellore	26	5	31	
Nílgiris	2	4	6	
North Arcot	21	...	21	
Salem	29	5	34	5 places twice inspected.
South Arcot	13	7	20	2 places twice inspected.
South Canara	7	...	7	
Tanjore	29	1	30	
Tinnevelly	26	...	26	
Trichinopoly	7	7	14	
Vizagapatam	6	4	10	
Total ...	389	108	497	

APPENDIX C.

Statement showing Statistics of Sickness and Mortality in the Lawrence Asylum, Ootacamund, during the year 1895–96, *as required in G.O., No.* 2100 *L., dated 4th November* 1895.

Lawrence Asylum.	Average strength.		Total number of admissions to hospital.		Number of deaths.		Rate of sickness (per 100 of population).		Death-rate (per 100).	
	1894-95.	1895-96.	1894-95.	1895-96.	1894-95.	1895-96.	1894-95.	1895-96.	1894-95.	1895-96.
Boys' school	321	321	193	290	1	1	60·1	90·3	0·31	0·31
Girls' school	64	64	22	15	...	...	34·4	23·4	...	...
Total ...	385	385	215	305	1	1	55·8	79·2	0·26	0·26

APPENDIX D.

VITAL STATISTICS OF THE GENERAL POPULATION.

No. 1.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895.

1	2			3		4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.		Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				ANANTAPUR.																
1	3,473	3,500	6,973	Anantapur	M.T.C.	3,473	3,500	6,973	147	133	280	21·1	19·0	40·1	110·5	23·7	...	16·0	13·7	29·7
2	5,125	5,150	10,275	Tadpatri	T.C.	5,125	5,150	10,275	132	103	235	12·8	10·0	22·8	128·2	11·5	...	7·7	7·7	15·4
3	51,030	46,451	97,481	Anantapur	R.C.	51,030	46,451	97,481	1,500	1,583	3,083	15·4	16·2	31·6	94·7	15·6	...	13·6	12·8	26·4
4	72,693	69,884	142,577	Gooty	R.C.	72,693	69,884	142,577	2,436	2,309	4,745	17·1	16·2	33·3	105·5	14·6	...	15·2	14·8	30·0
5	51,976	50,397	102,373	Tadpatri	R.C.	51,976	50,397	102,373	1,507	1,470	2,977	14·7	14·4	29·1	102·7	9·7	...	14·3	13·7	28·0
6	41,447	39,653	81,100	Penukonda	R.C.	41,447	39,653	81,100	1,209	1,141	2,350	14·9	14·0	28·9	106·0	12·7	...	15·5	15·2	30·7
7	34,204	31,909	66,113	Dharmavaram	R.C.	34,204	31,909	66,113	988	996	1,984	14·9	15·1	30·0	99·2	16·1	...	14·3	14·3	28·6
8	40,903	39,940	80,843	Hindúpur	R.C.	40,903	39,940	80,843	1,160	1,050	2,210	14·3	13·0	27·3	110·5	11·9	...	13·9	13·5	27·4
9	34,231	33,761	67,992	Madakasíra	R.C.	34,231	33,761	67,992	909	888	1,797	13·4	13·1	26·5	102·4	13·4	...	13·6	12·9	26·5
10	36,952	34,640	71,592	Kalyandrug	R.C.	36,952	34,640	71,592	1,034	1,066	2,100	14·4	14·9	29·3	97·0	18·4	...	...	...	...
10	372,034	355,285	727,319	Total District ...		372,034	355,285	* 727,319	11,022	10,739	21,761	15·1	14·8	29·9	102·6	13·9	...	14·3	13·9	28·2
				BELLARY.																
11	29,130	28,650	57,780	Bellary	M.T.C.	29,130	28,650	57,780	924	966	1,890	16·0	16·7	32·7	95·7	6·7	...	16·2	15·6	31·8
12	13,231	12,985	26,216	Ádóni	M.T.C.	13,231	12,985	26,216	591	581	1,172	22·5	22·2	44·7	101·7	21·0	...	17·0	15·3	32·3
13	6,263	6,606	12,869	Hospet	T.C.	6,263	6,606	12,869	216	183	399	16·8	14·2	31·0	118·0	19·5	...	13·0	11·0	24·0
14	5,406	5,122	10,528	Kampli	T.C.	5,406	5,122	10,528	187	217	404	17·8	20·6	38·4	86·1	12·1	...	14·2	14·8	29·0
15	5,209	5,169	10,378	Rayadrug	T.C.	5,209	5,169	10,378	171	199	370	16·5	19·2	35·7	85·9	23·5	...	16·8	15·8	32·6
16	61,444	59,356	120,800	Bellary	R.C.	61,444	59,356	120,800	2,428	2,398	4,826	20·1	19·8	39·9	101·0	16·4	...	19·5	18·9	38·4
17	35,231	33,872	69,103	Hospet	R.C.	35,231	33,872	69,103	1,122	1,146	2,268	16·2	16·6	32·8	97·9	6·8	...	17·4	16·5	33·9
18	47,281	47,014	94,295	Kúdligi	R.C.	47,281	47,014	94,295	1,378	1,264	2,642	14·6	13·4	28·0	109·0	9·5	...	15·2	14·8	30·0
19	54,811	49,224	104,035	Hadagalli	R.C.	54,811	49,224	104,035	1,518	1,543	3,061	14·6	14·8	29·4	98·4	10·7	...	14·3	13·8	28·1
20	41,370	40,870	82,240	Harpanaballi	R.C.	41,370	40,870	82,240	1,540	1,443	2,983	18·7	17·5	36·2	106·7	16·3	...	17·3	16·6	33·9
21	44,685	43,391	88,076	Alúr	R.C.	44,685	43,391	88,076	1,808	1,775	3,583	20·5	20·2	40·7	101·8	21·8	...	19·6	19·1	38·7
22	68,982	65,569	134,551	Ádóni	R.C.	68,982	65,569	134,551	2,771	2,550	5,321	20·6	18·9	39·5	108·7	19·5	...	18·3	17·9	36·2
23	34,782	33,461	68,243	Rayadrug	R.C.	34,782	33,461	† 68,245	1,255	1,190	2,445	18·4	17·4	35·8	105·5	15·4	...	16·9	16·7	33·6
24	5,712	5,659	11,371	Zemindari	...	5,712	5,659	11,371	247	230	477	21·7	20·2	41·9	107·4	5·4	...	14·6	13·5	28·1
14	453,537	436,948	890,485	Total District ...		453,537	436,948	890,485	16,156	15,685	31,841	18·1	17·6	35·7	103·0	14·6	...	17·0	16·5	33·5
				CHINGLEPUT.																
25	20,611	21,932	42,543	Conjeeveram	M.T.C.	20,611	21,932	42,543	809	823	1,632	19·0	19·3	38·3	98·3	4·8	...	18·7	17·8	36·5
26	5,781	6,359	12,140	St. Thomas' Mount ...	T.C.	5,781	6,359	12,140	172	168	340	14·2	13·8	28·0	102·4	4·1	...	1·2	1·3	2·5
27	105,580	103,897	209,477	Saidapet	R.C.	105,580	103,897	209,477	3,840	3,727	7,567	18·3	17·8	36·1	103·0	12·5	...	14·8	14·4	29·2
28	69,175	68,001	137,176	Chingleput	R.C.	69,175	68,001	137,176	3,035	2,879	5,914	22·1	21·0	43·1	105·4	20·8	...	18·2	17·9	36·1
29	132,734	130,396	263,130	Madurántakam ...	R.C.	132,734	130,396	263,130	5,250	5,161	10,411	19·9	19·6	39·5	101·7	18·9	...	17·1	16·3	33·4
30	87,931	88,190	176,121	Conjeeveram	R.C.	87,931	88,190	176,121	3,495	3,339	6,834	19·8	19·0	38·8	104·7	17·0	...	18·1	17·1	35·2
31	120,783	116,133	236,916	Tiruvallúr	R.C.	120,783	116,133	236,916	4,551	4,381	8,932	19·2	18·5	37·7	103·9	15·7	...	13·3	12·7	26·0
32	62,221	60,177	122,398	Ponnéri	R.C.	62,221	60,177	122,398	2,258	2,208	4,466	18·4	18·0	36·4	102·3	14·1	...	15·8	15·0	30·8
8	604,816	595,085	1,199,901	Total District ...		604,816	595,085	1,199,901	23,410	22,686	46,096	19·5	18·9	38·4	103·2	16·0	...	16·0	15·3	31·3
				COIMBATORE.																
33	22,079	23,928	46,007	Coimbatore	M.T.C.	22,079	23,928	46,007	945	919	1,864	20·5	20·0	40·5	102·8	12·5	...	18·3	18·1	36·4
34	6,074	6,164	12,238	Erode	M.T.C.	6,074	6,164	12,238	216	216	432	17·7	17·6	35·3	100·0	10·8	...	15·2	15·2	30·4
35	5,157	5,583	10,740	Karúr	M.T.C.	5,157	5,583	10,740	212	191	403	19·7	17·8	37·5	111·0	9·0	...	19·8	18·1	37·9
36	127,828	132,593	260,421	Coimbatore	R.C.	127,828	132,593	260,421	4,127	3,920	8,047	15·8	15·0	30·8	105·2	12·8	...	14·7	13·8	28·5
37	116,150	118,527	234,677	Erode	R.C.	116,150	118,527	234,677	3,281	3,145	6,426	13·9	13·4	27·3	104·3	8·9	...	14·6	13·4	28·0
38	90,279	93,809	184,088	Satyamangalam ...	R.C.	90,279	93,809	184,088	2,784	2,638	5,422	15·1	14·3	29·4	105·5	13·2	...	15·2	14·6	29·8
39	89,249	94,401	183,650	Pollachi	R.C.	89,249	94,401	183,650	2,842	2,709	5,551	15·4	14·8	30·2	104·9	10·4	...	13·9	13·5	27·4
40	132,332	138,052	270,384	Palladam	R.C.	132,332	138,052	270,384	4,094	4,023	8,117	15·2	14·8	30·0	101·8	12·4	...	15·3	14·7	30·0
41	59,032	60,835	119,867	Bhavání	R.C.	59,032	60,835	119,867	1,641	1,502	3,143	13·6	12·6	26·2	109·2	11·2	...	13·0	12·3	25·3
42	43,575	44,949	88,524	Kollegal	R.C.	43,575	44,949	88,524	1,253	1,274	2,527	14·2	14·3	28·5	98·4	11·9	...	14·3	13·9	28·2
43	69,346	73,710	143,056	Udamalpet	R.C.	69,346	73,710	143,056	2,141	2,059	4,200	14·9	14·4	29·3	104·0	11·3	...	14·4	14·1	28·5
44	97,405	103,638	201,043	Karúr	R.C.	97,405	103,638	201,043	2,711	2,680	5,391	13·4	13·4	26·8	101·2	11·6	...	12·2	12·0	24·2
45	122,727	126,489	249,216	Dhárápuram	R.C.	122,727	126,489	249,216	3,396	3,384	6,780	13·7	13·5	27·2	100·3	9·2	...	13·9	13·5	27·4
13	981,233	1,022,678	2,003,911	Total District ...		981,233	1,022,678	2,003,911	29,643	28,660	58,303	14·8	14·3	29·1	103·4	11·3	...	14·3	13·7	28·0
				CUDDAPAH.																
46	8,597	8,614	17,211	Cuddapah	M.T.C.	8,597	8,614	17,211	216	176	392	12·5	10·2	22·7	122·7	...	10·4	10·8	10·0	20·8
47	46,792	46,358	93,150	Badvel	R.C.	46,792	46,358	93,150	1,429	1,401	2,830	15·3	15·4	30·7	102·0	12·6	...	14·1	14·4	28·5
48	49,572	48,845	98,417	Proddatur	R.C.	49,572	48,845	98,417	1,618	1,493	3,111	16·5	15·1	31·6	108·4	10·6	...	12·9	12·8	25·7
49	33,680	33,129	66,809	Siddhavattam	R.C.	33,680	33,129	66,809	898	922	1,820	13·4	13·8	27·2	97·4	6·6	...	13·6	12·7	26·3
50	75,597	73,496	149,093	Pullampet	R.C.	75,597	73,496	149,093	1,907	1,795	3,702	12·8	12·0	24·8	106·2	5·0	...	11·2	11·1	22·3
51	69,744	67,711	137,455	Cuddapah	R.C.	69,744	67,711	137,455	1,854	1,682	3,536	13·4	12·3	25·7	110·2	5·6	...	12·1	11·5	23·6
52	51,393	49,880	101,273	Jammalamadugu ...	R.C.	51,393	49,880	101,273	1,771	1,775	3,546	17·5	17·5	35·0	99·8	11·9	...	15·6	14·7	30·3
53	53,808	52,034	105,842	Pulivendla	R.C.	53,808	52,034	105,842	1,532	1,507	3,039	14·4	14·3	28·7	101·6	3·9	...	14·6	13·8	28·4
54	57,770	55,464	113,234	Rayachóti	R.C.	57,770	55,464	113,234	1,347	1,290	2,637	11·8	11·4	23·2	104·4	2·2	...	10·9	10·6	21·5
55	69,718	65,174	134,892	Kadiri	R.C.	69,718	65,174	134,892	2,039	1,972	4,011	15·1	14·6	29·7	103·4	7·0	...	13·6	13·1	26·7
56	64,247	62,788	127,035	Vayalpad	R.C.	64,247	62,788	127,035	1,620	1,617	3,237	12·7	12·7	25·4	100·2	6·9	...	10·0	10·2	20·2
57	65,214	62,096	127,310	Madanapalle	R.C.	65,214	62,096	127,310	2,331	2,314	4,645	18·3	18·2	36·5	100·7	16·9	...	13·3	13·1	26·4
12	646,132	625,589	1,271,721	Total District ...		646,132	625,589	1,271,721	18,562	17,944	36,506	14·6	14·1	28·7	103·4	7·7	...	12·7	12·4	25·1
				GANJÁM.																
58	8,451	9,753	18,204	Chicacole	M.T.C.	8,451	9,753	18,204	203	192	395	11·1	10·5	21·6	105·7	...	4·1	12·8	11·7	24·5
59	12,292	13,201	25,493	Berhampur	M.T.C.	12,292	13,201	25,493	308	311	619	12·1	12·1	24·2	99·0	0·1	...	14·5	14·3	28·8

* Includes 19,176, the population of certain villages of Rayadrug taluk transferred from the Bellary District.
† Excludes 19,176, the population of certain villages transferred to the Anantapur District.

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				GANJÁM—*cont.*															
60	7,717	8,662	16,379	Parlákimedi ... ... M.T.C.	7,717	8,662	16,379	268	259	527	16·3	15·8	32·1	103·5	10·5	...	16·2	16·7	32·9
61	92,940	101,390	194,330	Chicacole ... ... R.C.	92,940	101,390	194,330	2,624	2,487	5,111	13·5	12·8	26·3	105·5	2·3	...	12·3	11·6	23·9
62	141,825	155,911	297,736	Berhampur ... ... R.C.	141,825	155,911	297,736	3,555	3,339	6,894	11·9	11·2	23·1	106·4	3·8	...	12·2	11·4	23·6
63	89,283	96,548	185,831	Goomsur ... ... R.C.	89,283	96,548	185,831	2,398	2,281	4,679	12·9	12·2	25·1	105·1	6·9	...	11·2	10·7	21·9
64	411,664	439,445	851,109	Zamíndaries	411,664	439,445	851,109	7,645	6,757	14,402	9·0	7·9	16·9	113·1	4·9	...	9·1	8·4	17·5
65	158,828	148,490	307,318	Agency Tracts	158,828	148,490	307,318	160	136	296	0·5	0·4	0·9	117·6	...	0·03	0·8	0·8	1·6
8	923,000	973,400	1,896,400	Total District ...	923,000	973,400	*1,896,400	17,161	15,762	32,923	9·0	8·3	17·3	108·9	3·8	...	8·9	8·4	17·3
				GÓDÁVARI.															
66	20,066	20,002	40,068	Cocanada ... ... M.T.C.	20,066	20,002	40,068	398	413	811	9·9	10·3	20·2	96·4	3·0	...	11·4	11·4	22·8
67	13,869	14,410	28,279	Rajahmundry ... ... M.T.C.	13,869	14,410	28,279	550	438	988	19·4	15·5	34·9	125·6	2·4	...	15·9	14·6	30·5
68	14,242	15,054	29,296	Ellore ... ... M.T.C.	14,242	15,054	29,296	433	380	813	14·8	12·9	27·7	113·9	5·9	...	12·8	12·3	25·1
69	6,807	6,924	13,731	Pithápuram ... ... T.C.	6,807	6,924	13,731	67	71	138	4·9	5·1	10·0	94·3	2·3	...	5·1	4·4	9·5
70	6,619	7,033	13,652	Peddápuram ... ... T.C.	6,619	7,033	13,652	236	219	455	17·3	16·0	33·3	107·7	3·4	...	14·0	14·6	28·6
71	6,407	7,002	13,409	Samalkot ... ... T.C.	6,407	7,002	13,409	53	43	96	3·9	3·2	7·1	123·2	1·5	...	6·6	7·3	13·9
72	4,818	5,636	10,454	Dowlaishweram ... T.C.	4,818	5,636	10,454	183	129	312	17·5	12·3	29·8	141·8	4·6	...	16·7	16·3	33·0
73	129,355	131,828	261,183	Rámachandrapuram ... R.C.	129,355	131,828	261,183	3,089	2,899	5,988	11·9	11·0	22·9	106·6	3·4	...	11·9	11·7	23·5
74	110,178	120,137	230,315	Narsapur ... ... R.C.	110,178	120,137	230,315	2,708	2,518	5,226	11·7	10·9	22·6	107·5	5·2	...	7·7	7·5	15·2
75	125,189	130,883	256,072	Amalápuram ... ... R.C.	125,189	130,883	256,072	2,492	2,355	4,847	9·7	9·2	18·9	105·8	5·2	...	9·4	8·9	18·3
76	99,535	104,505	204,040	Tanuku ... ... R.C.	99,535	104,505	204,040	2,936	2,676	5,612	14·3	13·2	27·5	109·7	5·7	...	11·6	11·3	22·9
77	59,624	62,366	121,990	Bhímavaram ... ... R.C.	59,624	62,366	121,990	1,435	1,459	2,894	11·8	11·9	23·7	98·4	5·4	...	10·8	10·5	21·3
78	73,008	69,577	142,585	Ellore ... ... R.C.	73,008	69,577	142,585	1,666	1,605	3,271	11·6	11·3	22·9	103·8	5·6	...	10·8	10·6	21·4
79	68,355	67,849	136,204	Yernagúdem ... ... R.C.	68,355	67,849	136,204	1,868	1,769	3,637	13·7	13·0	26·7	105·6	5·0	...	12·5	12·2	24·7
80	53,693	53,173	106,866	Rajahmundry ... ... R.C.	53,693	53,173	106,866	1,399	1,387	2,786	13·0	13·0	26·0	100·9	4·1	...	13·5	13·0	26·5
81	61,654	62,374	124,028	Peddápuram ... ... R.C.	61,654	62,374	124,028	2,302	2,196	4,498	18·5	17·7	36·2	104·8	7·8	...	14·2	13·9	28·1
82	64,762	62,352	† 127,114	Bhadráchalam ... R.C.	64,762	62,352	† 127,114	2,044	1,942	3,986	16·0	15·3	31·3	105·3	6·6	...	19·9	19·1	39·0
83	108,451	110,121	218,572	Zamíndaries	108,451	110,121	218,572	2,108	2,130	4,238	9·6	9·7	19·3	99·0	3·8		8·7	8·3	17·0
18	1,026,632	1,051,226	2,077,858	Total District ...	1,026,632	1,051,226	2,077,858	25,967	24,629	50,596	12·5	11·8	24·3	105·4	5·0	...	10·9	10·6	21·5
				KISTNA.															
84	18,539	20,128	38,667	Masulipatam ... ... M.T.C.	18,539	20,128	38,667	657	636	1,293	17·0	16·4	33·4	103·3	6·0	...	14·8	13·9	28·7
85	11,705	11,562	23,267	Guntúr ... ... M.T.C.	11,705	11,562	23,267	425	430	855	18·2	18·5	36·7	98·8	10·3	...	16·3	15·0	31·3
86	11,330	9,281	20,611	Bezwada ... ... M.T.C.	11,330	9,281	20,611	368	318	686	17·9	15·4	33·3	115·7	5·6	...	14·6	14·1	28·7
87	5,241	5,340	10,581	Chírála ... ... T.C.	5,241	5,340	10,581	224	172	396	21·2	16·2	37·4	130·2	15·2	...	15·1	13·0	28·1
88	113,038	109,718	222,756	Répalle ... ... R.C.	113,038	109,718	222,756	3,970	3,870	7,840	17·8	17·4	35·2	102·6	16·5	...	16·2	15·8	32·0
89	87,104	84,241	171,345	Bápatla ... ... R.C.	87,104	84,241	171,345	3,155	3,001	6,156	18·4	17·5	35·9	105·1	17·4	...	15·7	15·2	30·9
90	73,383	69,984	143,367	Guntúr ... ... R.C.	73,383	69,984	143,367	2,761	2,643	5,404	19·3	18·4	37·7	104·5	18·2	...	17·8	17·5	35·3
91	70,191	71,814	142,005	Palnad ... ... R.C.	70,191	71,814	142,005	2,623	2,595	5,218	18·5	18·2	36·7	101·1	18·7	...	16·2	15·6	31·8
92	78,910	77,454	156,364	Narasaraopet ... ... R.C.	78,910	77,454	156,364	2,585	2,451	5,036	16·5	15·7	32·2	105·5	17·8	...	13·5	13·2	26·7
93	60,088	58,220	118,308	Gudiváda ... ... R.C.	60,088	58,220	118,308	1,793	1,756	3,549	15·2	14·8	30·0	102·1	9·1	...	17·1	16·4	33·5
94	70,034	68,577	138,611	Sattenapalle ... ... R.C.	70,034	68,577	138,611	2,883	2,731	5,614	20·8	19·7	40·5	105·6	22·6	...	18·0	17·2	35·2
95	80,234	79,313	159,547	Masulipatam ... ... R.C.	80,234	79,313	159,547	2,223	2,240	4,463	13·9	14·0	27·9	99·2	12·6	...	13·1	13·0	26·1
96	63,376	63,322	126,698	Nandigáma ... ... R.C.	63,376	63,322	126,698	2,406	2,318	4,724	19·0	18·3	37·3	103·8	19·3	...	18·6	17·8	36·4
97	43,318	42,413	85,731	Bezwada .. ... R.C.	43,318	42,413	85,731	1,418	1,360	2,778	16·5	15·9	32·4	104·3	13·6	...	16·3	16·0	32·3
98	41,760	40,671	82,431	Vinukonda ... ... R.C	41,760	40,671	82,431	1,448	1,406	2,854	17·5	17·1	34·6	102·3	19·7	...	16·5	16·0	32·5
99	109,806	104,929	214,735	Zamíndaries	109,806	104,929	214,735	2,740	2,749	5,489	12·8	12·8	25·6	99·7	10·4	...	11·0	10·7	21·7
16	938,057	916,967	1,855,024	Total District ...	938,057	916,967	1,855,024	31,679	30,676	62,355	17·1	16·5	33·6	103·3	15·7	...	15·5	15·0	30·5
				KURNOOL.															
100	11,631	12,675	24,306	Kurnool .. .. M.T.C.	11,631	12,675	24,306	413	427	840	17·0	17·6	34·6	96·7	4·0	...	14·1	14·8	28·9
101	5,330	5,374	10,704	Nandyal ... ... T.C.	5,330	5,374	10,704	104	89	193	9·7	8·3	18·0	116·9	4·2	...	5·6	5·7	11·3
102	51,862	48,728	100,590	Ramallakot ... ... R.C.	51,862	48,728	100,590	1,964	1,920	3,884	19·5	19·1	38·6	102·3	17·0	...	18·0	17·9	35·9
103	71,576	67,127	138,703	Pattikonda ... ... R.C.	71,576	67,127	138,703	2,320	2,381	4,701	16·7	17·2	33·9	97·4	14·3	...	16·8	16·7	33·5
104	44,786	43,773	88,559	Nandikotkur ... ... R.C.	44,786	43,773	88,559	1,869	1,681	3,550	21·1	19·0	40·1	111·2	15·0	...	18·1	18·0	36·1
105	43,307	42,235	85,542	Nandyal ... ... R.C.	43,307	42,235	85,542	1,447	1,345	2,792	16·9	15·7	32·6	107·6	11·9	...	16·2	15·8	32·0
106	43,710	42,833	86,543	Koilkuntla ... ... R.C.	43,710	42,833	86,543	1,411	1,297	2,708	16·3	15·0	31·3	108·8	8·7	...	16·4	16·5	32·9
107	32,915	32,249	65,164	Sirvel ... ... R.C.	32,915	32,249	65,164	1,059	1,062	2,121	16·2	16·3	32·5	99·7	6·2	...	16·9	16·8	33·7
108	58,632	58,946	117,578	Cumbum ... ... R.C.	58,632	58,946	117,578	1,607	1,722	3,329	13·7	14·6	28·3	93·3	12·6	...	12·1	11·5	23·6
109	50,286	49,685	99,971	Markapur ... ... R.C.	50,286	49,685	99,971	1,627	1,660	3,287	16·3	16·6	32·9	98·0	17·4	...	14·8	14·0	28·8
10	414,035	403,625	817,660	Total District ...	414,035	403,625	817,660	13,821	13,584	27,405	16·9	16·6	33·5	101·8	12·9	...	15·8	15·6	31·4
				MADRAS.															
110	217,690	218,685	436,375	Madras ... ... M.T.C.	217,690	218,685	436,375	9,468	9,093	18,561	21·7	20·8	42·5	104·1	4·6	...	19·8	18·9	38·7
				MADURA.															
111	43,707	43,414	87,121	Madura ... ... M.T.C.	43,707	43,414	87,121	1,251	1,277	2,528	14·4	14·6	29·0	97·9	2·8	...	16·2	16·5	32·7
112	9,984	10,131	20,115	Dindigul ... ... M.T.C.	9,984	10,131	20,115	472	386	858	23·4	19·2	42·6	122·3	20·9	...	21·8	19·7	40·5
113	7,718	8,645	16,363	Periyakulam ... ... M.T.C.	7,718	8,645	16,363	340	331	671	20·8	20·2	41·0	102·7	3·8	...	19·3	18·6	37·9
114	8,080	8,860	16,940	Palni ... ... M.T.C.	8,080	8,866	16,940	241	252	493	14·2	14·9	29·1	95·6	3·5	...	18·5	19·3	37·8
115	6,414	7,175	13,589	Ramnad ... ... T.C.	6,414	7,175	13,589	131	104	235	9·6	7·7	17·3	125·9	...	4·5	9·9	9·6	19·5
116	6,131	6,542	12,673	Aruppukóttai ... ... T.C.	6,131	6,542	12,673	253	224	477	19·9	17·7	37·6	112·9	25·2		16·7	14·7	31·4
117	5,880	6,516	12,396	Kilakarai ... ... T.C.	5,880	6,516	12,396	94	87	181	7·6	7·0	14·6	108·0	0·6	...	12·1	10·5	22·6
118	4,966	5,035	10,001	Paramagudi ... ... T.C.	4,966	5,035	10,001	67	61	128	6·7	6·1	12·8	109·8	...	1·6	6·5	5·3	11·8
119	84,372	89,383	173,755	Madura ... ... R.C.	84,372	89,383	173,755	2,272	2,243	4,515	13·1	12·9	26·0	101·3	7·3	...	12·4	11·6	24·0
120	71,498	77,152	148,650	Málúr ... ... R.C.	71,498	77,152	148,650	2,006	1,872	3,878	13·5	12·6	26·1	107·2	8·2	...	13·5	12·6	26·1

* The population for which the returns were received from the district of Ganjám according to the census of 1891, is not available. Hence the ratios in column 6 have been calculated on the total population of the district as per census of 1891.

†. Including Agency Tracts.

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				GANJÁM—*cont.*															
60	7,717	8,662	16,379	Parlákimedi ... ... M.T.C.	7,717	8,662	16,379	268	259	527	16·3	15·8	32·1	103·5	10·5	...	16·2	16·7	32·9
61	92,940	101,390	194,330	Chicacole ... ... R.C.	92,940	101,390	194,330	2,624	2,487	5,111	13·5	12·8	26·3	105·5	2·3	...	12·3	11·6	23·9
62	141,825	155,911	297,736	Berhampur ... ... R.C.	141,825	155,911	297,736	3,555	3,339	6,894	11·9	11·2	23·1	106·4	3·8	...	12·2	11·4	23·6
63	89,283	96,548	185,831	Goomsur ... ... R.C.	89,283	96,548	185,831	2,398	2,281	4,679	12·9	12·2	25·1	105·1	6·9	...	11·2	10·7	21·9
64	411,664	439,445	851,109	Zamíndaries	411,664	439,445	851,109	7,645	6,757	14,402	9·0	7·9	16·9	113·1	4·9	...	9·1	8·4	17·5
65	158,828	148,490	307,318	Agency Tracts	158,828	148,490	307,318	160	136	296	0·5	0·4	0·9	117·6	...	0·03	0·8	0·8	1·6
8	923,000	973,400	1,896,400	Total District ...	923,000	973,400	*1,896,400	17,161	15,762	32,923	9·0	8·3	17·3	108·9	3·8	...	8·9	8·4	17·3
				GÓDÁVARI.															
66	20,066	20,002	40,068	Cocanada ... ... M.T.C.	20,066	20,002	40,068	398	413	811	9·9	10·3	20·2	96·4	3·0	...	11·4	11·4	22·8
67	13,869	14,410	28,279	Rajahmundry ... ... M.T.C.	13,869	14,410	28,279	550	438	988	19·4	15·5	34·9	125·6	2·4	...	15·9	14·6	30·5
68	14,242	15,054	29,296	Ellore ... ... M.T.C.	14,242	15,054	29,296	433	380	813	14·8	12·9	27·7	113·9	5·9	...	12·8	12·3	25·1
69	6,807	6,924	13,731	Pithápuram ... ... T.C.	6,807	6,924	13,731	67	71	138	4·9	5·1	10·0	94·3	2·3	...	5·1	4·4	9·5
70	6,619	7,033	13,652	Peddápuram ... ... T.C.	6,619	7,033	13,652	236	219	455	17·3	16·0	33·3	107·7	3·4	...	14·0	14·6	28·6
71	6,407	7,002	13,409	Samalkot ... ... T.C.	6,407	7,002	13,409	53	43	96	3·9	3·2	7·1	123·2	1·5	...	6·6	7·3	13·9
72	4,818	5,636	10,454	Dowlaishweram ... T.C.	4,818	5,636	10,454	183	129	312	17·5	12·3	29·8	141·8	4·6	...	16·7	16·3	33·0
73	129,355	131,828	261,183	Rámachandrapuram ... R.C.	129,355	131,828	261,183	3,089	2,899	5,988	11·9	11·0	22·9	106·6	3·4	...	11·9	11·7	23·5
74	110,178	120,137	230,315	Narsapur ... ... R.C.	110,178	120,137	230,315	2,708	2,518	5,226	11·7	10·9	22·6	107·5	5·2	...	7·7	7·5	15·2
75	125,189	130,883	256,072	Amalápuram ... ... R.C.	125,189	130,883	256,072	2,492	2,355	4,847	9·7	9·2	18·9	105·8	5·2	...	9·4	8·9	18·3
76	99,535	104,505	204,040	Tanuku ... ... R.C.	99,535	104,505	204,040	2,936	2,676	5,612	14·3	13·2	2·75	109·7	5·7	...	11·6	11·3	22·9
77	59,624	62,366	121,990	Bhímavaram ... ... R.C.	59,624	62,366	121,990	1,435	1,459	2,894	11·8	11·9	23·7	98·4	5·4	...	10·8	10·5	21·3
78	73,008	69,577	142,585	Ellore ... ... R.C.	73,008	69,577	142,585	1,666	1,605	3,271	11·6	11·3	22·9	103·8	5·6	...	10·8	10·6	21·4
79	68,355	67,849	136,204	Yernagúdem ... ... R.C.	68,355	67,849	136,204	1,868	1,769	3,637	13·7	13·0	26·7	105·6	5·0	...	12·5	12·2	24·7
80	53,693	53,173	106,866	Rajahmundry ... ... R.C.	53,693	53,173	106,866	1,399	1,387	2,786	13·0	13·0	26·0	100·9	4·1	...	13·5	13·0	26·5
81	61,654	62,374	124,028	Peddápuram ... ... R.C.	61,654	62,374	124,028	2,302	2,196	4,498	18·5	17·7	36·2	104·8	7·8	...	14·2	13·9	28·1
82	64,762	62,352	† 127,114	Bhadráchalam ... ... R.C.	64,762	62,352	† 127,114	2,044	1,942	3,986	16·0	15·3	31·3	105·3	6·6	...	19·9	19·1	39·0
83	108,451	110,121	218,572	Zamíndaries	108,451	110,121	218,572	2,108	2,130	4,238	9·6	9·7	19·3	99·0	3·8		8·7	8·3	17·0
18	1,026,632	1,051,226	2,077,858	Total District ...	1,026,632	1,051,226	2,077,858	25,967	24,629	50,596	12·5	11·8	24·3	105·4	5·0	...	10·9	10·6	21·5
				KISTNA.															
84	18,539	20,128	38,667	Masulipatam ... ... M.T.C.	18,539	20,128	38,667	657	636	1,293	17·0	16·4	33·4	103·3	6·0	...	14·8	13·9	28·7
85	11,705	11,562	23,267	Guntúr ... ... M.T.C.	11,705	11,562	23,267	425	430	855	18·2	18·5	36·7	98·8	10·3	...	16·3	15·0	31·3
86	11,330	9,281	20,611	Bezwada ... ... M.T.C.	11,330	9,281	20,611	368	318	686	17·9	15·4	33·3	115·7	5·6	...	14·6	14·1	28·7
87	5,241	5,340	10,581	Chírála ... ... T.C.	5,241	5,340	10,581	224	172	396	21·2	16·2	37·4	130·2	15·2	...	15·1	13·0	28·1
88	113,038	109,718	222,756	Répalle ... ... R.C.	113,038	109,718	222,756	3,970	3,870	7,840	17·8	17·4	35·2	102·6	16·5	...	16·2	15·8	32·0
89	87,104	84,241	171,345	Bápatla ... ... R.C.	87,104	84,241	171,345	3,155	3,001	6,156	18·4	17·5	35·9	105·1	17·4	...	15·7	15·2	30·9
90	73,383	69,984	143,367	Guntúr ... ... R.C.	73,383	69,984	143,367	2,761	2,643	5,404	19·3	18·4	37·7	104·5	18·2	...	17·8	17·5	35·3
91	70,191	71,814	142,005	Palnad ... ... R.C.	70,191	71,814	142,005	2,623	2,595	5,218	18·5	18·2	36·7	101·1	18·7	...	16·2	15·6	31·8
92	78,910	77,454	156,364	Narasaraopet ... ... R.C.	78,910	77,454	156,364	2,585	2,451	5,036	16·5	15·7	32·2	105·5	17·8	...	13·5	13·2	26·7
93	60,088	58,220	118,308	Gudiváda ... ... R.C.	60,088	58,220	118,308	1,793	1,756	3,549	15·2	14·8	30·0	102·1	9·1	...	17·1	16·4	33·5
94	70,034	68,577	138,611	Sattenapalle ... ... R.C.	70,034	68,577	138,611	2,883	2,731	5,614	20·8	19·7	40·5	105·6	22·6	...	18·0	17·2	35·2
95	80,234	79,313	159,547	Masulipatam ... ... R.C.	80,234	79,313	159,547	2,223	2,240	4,463	13·9	14·0	27·9	99·2	12·6	...	13·1	13·0	26·1
96	63,376	63,322	126,698	Nandigáma ... ... R.C.	63,376	63,322	126,698	2,406	2,318	4,724	19·0	18·3	37·3	103·8	19·3	...	18·6	17·8	36·4
97	43,318	42,413	85,731	Bezwada ... ... R.C.	43,318	42,413	85,731	1,418	1,360	2,778	16·5	15·9	32·4	104·3	13·6	...	16·3	16·0	32·3
98	41,760	40,671	82,431	Vinukonda ... ... R.C	41,760	40,671	82,431	1,448	1,406	2,854	17·5	17·1	34·6	102·3	19·7	...	16·5	16·0	32·5
99	109,806	104,929	214,735	Zamindaries	109,806	104,929	214,735	2,740	2,749	5,489	12·8	12·8	25·6	99·7	10·4	...	11·0	10·7	21·7
16	938,057	916,967	1,855,024	Total District ...	938,057	916,967	1,855,024	31,679	30,676	62,355	17·1	16·5	33·6	103·3	15·7	...	15·5	15·0	30·5
				KURNOOL.															
100	11,631	12,675	24,306	Kurnool .. .. M.T.C.	11,631	12,675	24,306	413	427	840	17·0	17·6	34·6	96·7	4·0	...	14·1	14·8	28·9
101	5,330	5,374	10,704	Nandyal ... ... T.C.	5,330	5,374	10,704	104	89	193	9·7	8·3	18·0	116·9	4·2	...	5·6	5·7	11·3
102	51,862	48,728	100,590	Ramallakot ... ... R.C.	51,862	48,728	100,590	1,964	1,920	3,884	19·5	19·1	38·6	102·3	17·0	...	18·0	17·9	35·9
103	71,576	67,127	138,703	Pattikonda ... ... R.C.	71,576	67,127	138,703	2,320	2,381	4,701	16·7	17·2	33·9	97·4	14·3	...	16·8	16·7	33·5
104	44,786	43,773	88,559	Nandikotkur ... ... R.C.	44,786	43,773	88,559	1,869	1,681	3,550	21·1	19·0	40·1	111·2	15·0	...	18·1	18·0	36·1
105	43,307	42,235	85,542	Nandyal ... ... R.C.	43,307	42,235	85,542	1,447	1,345	2,792	16·9	15·7	32·6	107·6	11·9	...	16·2	15·8	32·0
106	43,710	42,833	86,543	Koilkuntla ... ... R.C.	43,710	42,833	86,543	1,411	1,297	2,708	16·3	15·0	31·3	108·8	8·7	...	16·4	16·5	32·9
107	32,915	32,249	65,164	Sirvel ... ... R.C.	32,915	32,249	65,164	1,059	1,062	2,121	16·2	16·3	32·5	99·7	6·2	...	16·9	16·8	33·7
108	58,632	58,946	117,578	Cumbum ... ... R.C.	58,632	58,946	117,578	1,607	1,722	3,329	13·7	14·6	28·3	93·3	12·6	...	12·1	11·5	23·6
109	50,286	49,685	99,971	Markapur ... ... R.C.	50,286	49,685	99,971	1,627	1,660	3,287	16·3	16·6	32·9	98·0	17·4	...	14·8	14·0	28·8
10	414,035	403,625	817,660	Total District ...	414,035	403,625	817,660	13,821	13,584	27,405	16·9	16·6	33·5	101·8	12·9	...	15·8	15·6	31·4
				MADRAS.															
110	217,690	218,685	436,375	Madras ... ... M.T.C.	217,690	218,685	436,375	9,468	9,093	18,561	21·7	20·8	42·5	104·1	4·6	...	19·8	18·9	38·7
				MADURA.															
111	43,707	43,414	87,121	Madura ... ... M.T.C.	43,707	43,414	87,121	1,251	1,277	2,528	14·4	14·6	29·0	97·9	2·8	...	16·2	16·5	32·7
112	9,984	10,131	20,115	Dindigul ... ... M.T.C.	9,984	10,131	20,115	472	386	858	23·4	19·2	42·6	122·3	20·9	...	21·8	19·7	40·5
113	7,718	8,645	16,363	Periyakulam ... ... M.T.C.	7,718	8,645	16,363	340	331	671	20·8	20·2	41·0	102·7	3·8	...	19·3	18·6	37·9
114	8,080	8,860	16,940	Palni ... ... M.T.C.	8,080	8,860	16,940	241	252	493	14·2	14·9	29·1	95·6	3·5	...	18·5	19·3	37·8
115	6,414	7,175	13,589	Ramnad ... ... T.C.	6,414	7,175	13,589	131	104	235	9·6	7·7	17·3	125·9	...	4·5	9·9	9·6	19·5
116	6,131	6,542	12,673	Aruppukóttai ... ... T.C.	6,131	6,542	12,673	253	224	477	19·9	17·7	37·6	112·9	25·2		16·7	14·7	31·4
117	5,880	6,516	12,396	Kilakarai ... ... T.C.	5,880	6,516	12,396	94	87	181	7·6	7·0	14·6	108·0	0·6	...	12·1	10·5	22·6
118	4,966	5,035	10,001	Paramagudi ... ... T.C.	4,966	5,035	10,001	67	61	128	6·7	6·1	12·8	109·8	...	1·6	6·5	5·3	11·8
119	84,372	89,383	173,755	Madura ... ... R.C.	84,372	89,383	173,755	2,272	2,243	4,515	13·1	12·9	26·0	101·3	7·3	...	12·4	11·6	24·0
120	71,498	77,152	148,650	Mélúr ... ... R.C.	71,498	77,152	148,650	2,006	1,872	3,878	13·5	12·6	26·1	107·2	8·2	...	13·5	12·6	26·1

* The population for which the returns were received from the district of Ganjám according to the census of 1891, is not available. Hence the ratios in column 6 have been calculated on the total population of the district as per census of 1891.

† Including Agency Tracts.

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				MADURA—*cont.*															
121	130,162	134,458	264,620	Tirumangalam ... ... R.C.	130,162	134,458	264,620	3,582	3,656	7,238	13·5	13·8	27·3	98·0	11·0	...	13·5	12·7	26·2
122	120,373	126,472	246,845	Periyakulam ... ... R.C.	120,373	126,472	246,845	4,049	3,916	7,965	16·4	15·9	32·3	103·4	14·0	...	14·8	14·1	28·9
123	181,508	189,349	370,857	Dindigul ... ... R.C.	181,508	189,349	370,857	6,214	6,082	12,296	16·8	16·4	33·2	102·2	15·5	...	16·7	16·0	32·7
124	86,086	92,024	178,110	Palni ... ... R.C.	86,086	92,024	178,110	3,501	3,461	6,962	19·7	19·4	39·1	101·1	15·7	...	17·7	17·3	35·0
125	587	696	1,283	Settinandal villages, &c. R.C.	587	696	1,283	15	18	33	11·7	14·0	25·7	83·3	...	2·3	14·0	14·0	28·0
15	767,466	805,852	1,573,318	Total District ...	767,466	805,852	1,573,318	24,488	23,970	48,458	15·6	15·2	33·8	102·1	11·7	...	15·1	14·5	29·6
				MALABAR.															
126	13,100	13,531	26,631	Tellicherry ... ... M.T.C.	13,100	13,531	26,631	490	437	927	18·4	16·4	34·8	112·1	9·5	...	15·9	15·5	31·4
127	33,841	30,957	64,798	Calicut ... ... M.T.C.	33,841	30,957	64,798	1,298	1,202	2,500	20·0	18·5	38·5	108·0	6·8	...	16·9	15·3	32·2
128	19,070	20,297	39,367	Palghat ... ... M.T.C.	19,070	20,297	39,367	833	776	1,609	21·2	19·7	40·9	107·3	12·3	...	16·7	15·3	32·0
129	8,656	7,491	16,147	Cochin ... ... M.T.C.	8,656	7,491	16,147	304	278	582	18·8	17·2	36·0	109·3	8·6	...	16·8	16·3	33·1
130	12,885	13,768	26,653	Cannanore ... ... M.T.C.	12,885	13,768	26,653	570	571	1,141	21·4	21·4	42·8	99·8	13·7	...	16·7	15·0	31·7
131	138,433	145,038	283,471	Chirakkal ... ... R.C.	138,433	145,038	283,471	3,654	3,387	7,041	12·9	11·9	24·8	107·9	10·5	...	10·9	10·3	21·2
132	82,593	85,667	168,260	Kóttayam ... ... R.C.	82,593	85,667	168,260	2,153	2,044	4,197	12·8	12·1	24·9	105·3	7·7	...	11·7	11·3	23·0
133	151,160	152,851	304,011	Kurumbranát ... ... R.C.	151,160	152,851	304,011	3,128	2,854	5,982	10·3	9·4	19·7	109·6	8·5	...	9·4	8·8	18·2
134	84,731	86,851	171,582	Calicut ... ... R.C.	84,731	86,851	171,582	2,090	1,962	4,052	12·2	11·4	23·6	106·5	8·0	...	10·6	10·1	20·7
135	169,699	169,488	339,187	Ernad ... ... R.C.	169,699	169,488	339,187	4,359	4,091	8,450	12·8	12·1	24·9	106·5	7·1	...	11·4	10·6	22·0
136	222,587	226,666	449,253	Ponnáni ... ... R.C.	222,587	226,666	449,253	5,303	4,704	10,007	11·8	10·5	22·3	112·7	7·8	...	9·4	9·1	18·5
137	163,996	168,338	332,334	Walavanad ... ... R.C.	163,996	168,338	332,334	4,089	3,772	7,861	12·3	11·3	23·6	108·4	6·5	...	10·9	10·4	21·3
138	160,645	171,982	332,627	Palghat ... ... R.C.	160,645	171,982	332,627	3,814	3,528	7,342	11·5	10·6	22·1	108·1	5·2	...	9·8	9·2	19·0
139	42,514	33,851	76,365	Wynaad ... ... R.C.	42,514	33,851	76,365	736	716	1,452	9·6	9·4	19·0	102·8	...	1·5	9·6	9·1	18·7
140	2,872	3,116	5,988	Cochin ... ... R.C.	2,872	3,116	5,988	77	88	165	12·9	14·7	27·6	87·5	7·3	...	13·2	13·5	26·7
15	1,306,782	1,329,892	2,636,674	Total District ...	1,306,782	1,329,892	2,636,674	32,898	30,410	63,308	12·5	11·5	24·0	108·2	7·4	...	10·8	10·2	21·0
				NELLORE.															
141	14,200	14,928	29,128	Nellore ... ... M.T.C.	14,200	14,928	29,128	471	440	911	16·2	15·1	31·3	107·0	9·9	...	14·2	11·4	25·6
142	5,421	5,411	10,832	Ongole ... ... M.T.C.	5,421	5,411	10,832	187	190	377	17·2	17·5	34·8	98·4	11·4	...	16·6	14·0	30·6
143	59,035	57,723	116,758	Gudur ... ... R.C.	59,035	57,723	116,758	1,306	1,253	2,559	11·2	10·7	21·9	104·2	8·1	...	9·0	9·5	18·5
144	31,209	30,096	61,305	Rapur ... ... R.C.	31,209	30,096	61,305	1,023	985	2,008	16·7	16·1	32·8	109·9	10·2	...	16·2	15·9	32·1
145	84,021	84,527	168,548	Nellore ... ... R.C.	84,021	84,527	168,548	1,909	1,844	3,753	11·3	11·0	22·3	103·5	7·9	...	9·2	8·7	17·9
146	48,803	47,546	96,349	Atmakur ... ... R.C.	48,803	47,546	96,349	1,551	1,507	3,058	16·1	15·6	31·7	102·9	10·5	...	15·1	14·4	29·5
147	34,179	34,697	68,876	Kávali ... ... R.C.	34,179	34,697	68,876	865	800	1,665	12·6	11·6	24·2	108·1	8·4	...	13·1	12·5	25·6
148	28,166	27,216	55,382	Udayagiri ... ... R.C.	28,166	27,216	55,382	938	858	1,796	16·9	15·5	32·4	109·3	11·8	...	14·5	14·4	28·9
149	56,478	56,879	113,357	Kandukur ... ... R.C.	56,478	56,879	113,357	1,608	1,564	3,172	14·2	13·8	28·0	102·2	10·7	...	14·3	13·7	28·0
150	31,013	30,053	61,066	Kanigiri ... ... R.C.	31,013	30,053	61,066	834	777	1,611	13·7	12·7	26·4	107·3	9·2	...	12·6	11·8	24·4
151	83,284	83,695	166,979	Ongole ... ... R.C.	83,284	83,695	166,979	2,663	2,501	5,164	15·9	15·0	30·9	106·5	14·2	...	14·1	13·8	27·9
152	260,585	254,192	514,777	Zemindaries	260,585	254,192	514,777	6,383	6,285	12,668	12·4	12·2	24·6	101·6	9·5	...	9·9	9·6	19·5
12	736,394	726,963	1,463,357	Total District ...	736,394	726,963	1,463,357	19,738	19,004	38,742	13·5	13·0	26·5	103·9	10·0	...	11·8	11·3	23·1
				NILGIRIS.															
153	7,450	6,541	13,991	Ootacamund ... ... M.T.C.	7,450	6,541	13,991	220	239	459	15·7	17·1	32·8	92·0	9·0	...	14·8	14·2	29·0
154	3,005	2,581	5,586	Coonoor ... ... M.T.C.	3,005	2,581	5,586	107	102	209	19·1	18·3	37·4	105·0	8·8	...	18·5	16·1	34·6
155	28,027	24,141	52,168	Nilgiris ... ... R.C.	28,027	24,141	52,168	865	827	1,692	16·6	15·8	32·4	104·6	7·6	...	15·0	13·8	28·8
156	16,003	9,017	25,020	South-East Wynaad ... R.C.	16,003	9,017	25,020	205	201	406	8·2	8·0	16·2	102·0	...	8·0	6·9	6·7	13·6
4	54,485	42,280	96,765	Total District ...	54,485	42,280	96,765	1,397	1,369	2,766	14·4	14·1	28·5	102·0	3·7	...	13·1	12·2	25·3
				NORTH ARCOT.															
157	21,188	23,536	44,724	Vellore ... ... M.T.C.	21,188	23,536	44,724	829	782	1,611	18·5	17·5	36·0	106·0	12·4	...	18·3	17·5	35·8
158	4,943	5,542	10,485	Wállajápet ... ... M.T.C.	4,943	5,542	10,485	187	163	350	17·8	15·6	33·4	114·7	4·1	...	20·1	19·0	39·1
159	9,224	9,521	18,745	Gudiyáttam ... ... M.T.C.	9,224	9,521	18,745	381	373	754	20·3	19·9	40·2	102·1	16·6	...	15·5	13·1	28·7
160	6,872	7,366	14,238	Tirupati ... ... M.T.C.	6,872	7,366	14,238	205	227	432	14·4	15·9	30·3	90·3	1·3	...	14·0	13·0	27·0
161	5,518	6,197	11,715	Kálahasti ... ... T.C.	5,518	6,197	11,715	113	129	242	9·6	11·0	20·6	87·6	9·0	...	5·2	5·4	10·6
162	5,269	5,659	10,928	Arcot ... ... T.C.	5,269	5,659	10,928	187	154	341	17·1	14·1	31·2	121·4	7·4	...	14·0	14·1	28·1
163	4,973	5,610	10,583	Ambúr ... ... T.C.	4,973	5,610	10,583	67	58	125	6·3	5·5	11·8	115·5	5·7	...	3·8	2·7	6·5
164	101,938	98,248	200,186	Chittoor ... ... R.C.	101,938	98,248	200,186	2,439	2,333	4,772	12·1	11·2	23·3	104·5	10·1	...	11·6	11·1	22·7
165	51,507	48,523	100,030	Chendragiri ... ... R.C.	51,507	48,523	100,030	1,252	1,173	2,425	12·5	11·7	24·2	106·7	11·0	...	9·8	9·2	19·0
166	24,271	23,860	48,131	Palmanér ... ... R.C.	24,271	23,860	48,131	443	449	892	9·2	9·3	18·5	98·2	5·2	...	8·8	8·5	17·3
167	78,547	79,316	157,863	Gudiyáttam ... ... R.C.	78,547	79,316	157,863	2,297	2,055	4,352	14·5	13·0	27·5	111·3	11·7	...	12·7	12·1	24·8
168	68,729	68,638	137,367	Vellore ... ... R.C.	68,729	68,638	137,367	2,048	1,973	4,021	14·9	14·4	29·3	108·9	13·7	...	14·4	13·3	27·7
169	69,371	70,326	139,697	Polur ... ... R.C.	69,371	70,326	139,697	2,094	2,058	4,152	15·0	14·9	29·9	101·7	10·9	...	15·7	15·0	30·7
170	88,932	88,787	177,719	Wandiwash ... ... R.C.	88,932	88,787	177,719	2,652	2,555	5,207	14·9	14·4	29·3	103·7	11·5	...	15·2	14·7	29·9
171	82,190	83,758	165,948	Arcot ... ... R.C.	82,190	83,758	165,948	2,792	2,694	5,486	16·8	16·2	33·0	103·6	13·7	...	15·8	15·4	31·2
172	114,741	113,889	228,630	Wállajápet ... ... R.C.	114,741	113,889	228,630	3,281	3,060	6,341	14·3	13·4	27·7	107·2	11·3	...	14·5	13·5	28·0
173	322,060	314,536	636,596	Zamindaries	322,060	314,536	636,596	9,394	9,263	18,657	14·8	14·5	29·3	101·4	14·1	...	15·2	14·9	31·1
17	1,060,273	1,053,312	2,113,585	Total District ...	1,060,273	1,053,312	2,113,585	30,661	29,499	60,160	14·5	14·0	28·5	103·9	12·2	...	14·2	13·6	27·8
				SALEM.															
174	32,828	34,812	67,640	Salem ... ... M.T.C.	32,828	34,812	67,640	1,365	1,294	2,659	20·2	19·1	39·3	105·5	18·4	...	17·6	16·0	33·6
175	6,988	8,850	15,838	Vániyambádi ... M.T.C.	6,988	8,850	15,838	431	408	839	27·2	25·8	53·0	105·6	24·3	...	23·2	21·3	44·5
176	7,721	8,742	16,463	Tiruppattúr ... M.T.C.	7,721	8,742	16,463	365	389	754	22·2	23·6	45·8	93·8	21·6	...	20·0	17·6	37·6

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				SALEM—*cont.*															
177	6,416	6,938	13,354	Sendamangalam ... ... T.C.	6,416	6,938	13,354	115	103	218	8·6	7·7	16·3	111·6	7·2	...	7·3	5·9	13·2
178	5,119	5,420	10,539	Rásipuram ... ... T.C.	5,119	5,420	10,539	148	130	278	14·1	12·3	26·4	113·8	15·0	...	14·9	15·4	30·3
179	166,338	172,421	338,759	Sa e n ... ... R.C.	166,338	172,421	338,759	5,629	5,448	11,077	16·6	16·1	32·7	103·3	16·4	...	15·6	14·9	30·5
180	89,211	93,991	183,202	Atur ... ... R.C.	89,211	93,991	183,202	2,784	2,750	5,534	15·1	15·0	30·1	101·2	12·6	...	15·8	15·3	31·1
181	138,698	147,988	286,686	Námakkal ... ... R.C.	138,698	147,988	286,686	4,438	4,254	8,692	15·5	14·8	30·3	104·3	12·0	...	15·0	14·6	29·6
182	123,072	125,595	248,667	Tiruchengodu ... ... R.C.	123,072	125,595	248,667	4,168	4,161	8,329	16·8	16·7	33·5	100·2	16·2	...	16·8	15·8	32·6
183	76,954	78,739	155,693	Hosúr ... ... R.C.	76,954	78,739	155,693	2,287	2,173	4,460	14·7	13·9	28·6	105·2	9·4	...	14·4	14·2	28·6
184	75,399	76,717	152,116	Krishnagiri ... ... R.C.	75,399	76,717	152,116	2,272	2,260	4,532	14·9	14·9	29·8	100·5	14·9	...	13·8	13·4	27·2
185	87,559	90,861	178,420	Dharmapuri ... ... R.C.	87,559	90,861	178,420	3,101	2,973	6,074	17·4	16·7	34·1	104·3	17·3	...	16·8	15·7	32·5
186	77,067	79,228	156,295	Tiruppattúr ... ... R.C.	77,067	79,228	156,295	2,482	2,400	4,882	15·8	15·4	31·2	102·6	13·7	...	14·1	13·5	27·6
187	67,829	70,283	138,112	Uttangarai ... ... R.C.	67,829	70,283	138,112	2,271	2,013	4,284	16·4	14·6	31·0	112·8	9·1	...	14·7	14·0	28·7
14	961,199	1,000,585	1,961,784	Total District ...	961,199	1,000,585	1,961,784	31,836	30,756	62,592	16·2	15·7	31·9	103·5	14·2	...	15·4	14·8	30·2
				SOUTH ARCOT.															
188	23,026	23,999	47,025	Cuddalore ... ... M.T.C.	23,026	23,999	47,025	853	895	1,748	18·1	19·0	37·1	95·3	15·5	...	14·2	14·2	28·4
189	9,077	9,557	18,634	Chidambaram ... M.T.C.	9,077	9,557	18,634	218	229	447	11·7	12·3	24·0	95·2	...	11·2	13·9	13·4	27·3
190	6,179	7,866	14,045	Port Novo ... ... T.C.	6,179	7,866	14,045	97	102	199	6·9	7·3	14·2	95·1	3·2	...	6·2	6·6	12·8
191	5,970	6,178	12,148	Tiruvannámalai ... T.C.	5,970	6,178	12,148	64	66	130	5·3	5·4	10·7	97·0	2·3	...	7·6	6·8	14·4
192	145,706	144,202	289,908	Cuddalore ... ... R.C.	145,706	144,202	289,908	4,244	4,183	8,427	14·6	14·4	29·0	101·5	8·4	...	12·7	12·2	24·9
193	151,872	149,818	301,690	Villupuram ... ... R.C.	151,872	149,818	301,690	5,416	5,157	10,573	17·9	17·1	35·0	105·0	13·4	...	16·3	15·5	31·8
194	123,014	126,555	249,569	Chidambaram ... ... R.C.	123,014	126,555	249,569	4,492	4,324	8,816	18·0	17·3	35·3	103·9	3·1	...	14·9	13·9	28·8
195	159,076	156,918	315,994	Tindivanam ... ... R.C.	159,076	156,918	315,994	5,634	5,405	11,039	17·9	17·1	35·0	104·2	16·2	...	16·0	15·2	31·2
196	119,209	120,970	240,179	Kallakurchi ... ... R.C.	119,209	120,970	240,179	3,668	3,618	7,286	15·3	15·0	30·3	101·4	9·6	...	12·4	12·0	24·4
197	128,831	128,284	257,115	Tirukkóyilúr ... ... R.C.	128,831	128,284	257,115	4,969	4,872	9,841	19·3	19·0	38·3	102·0	11·8	...	16·9	16·4	33·3
198	97,284	95,954	193,238	Tiruvannámalai ... ... R.C.	97,284	95,954	193,238	3,084	2,959	6,043	15·9	15·3	31·2	104·2	13·0	...	14·4	13·4	27·8
199	109,611	113,180	222,791	Vriddhachalam ... R.C.	109,611	113,180	222,791	3,229	3,306	6,535	14·5	14·8	29·3	97·7	4·3	...	13·2	12·9	26·1
12	1,078,855	1,083,481	2,162,336	Total District ...	1,078,855	1,083,481	2,162,336	35,968	35,116	71,084	16·6	16·2	32·8	102·4	10·1	...	14·5	13·9	28·4
				SOUTH CANARA.															
200	21,168	19,452	40,620	Mangalore ... ... M.T.C.	21,168	19,452	40,620	594	603	1,197	14·6	14·9	29·5	98·5	3·5	...	15·3	14·5	29·8
201	115,802	122,172	237,974	Mangalore ... ... R.C.	115,802	122,172	237,974	3,459	3,314	6,773	14·5	13·9	28·4	104·4	8·7	...	14·3	13·8	28·1
202	137,596	143,059	280,655	Kasaragod ... ... R.C.	137,596	143,059	280,655	4,277	3,850	8,127	15·2	13·7	28·9	111·1	12·8	...	14·9	14·1	29·1
203	60,612	58,192	118,804	Uppinangadi ... ... R.C.	60,612	58,192	118,804	1,857	1,835	3,692	15·6	15·4	31·0	101·2	5·9	...	16·9	16·0	32·9
204	118,714	134,985	253,699	Udipi ... ... R.C.	118,714	134,985	253,699	4,209	3,845	8,054	16·6	15·1	31·7	109·5	12·3	...	16·5	16·2	32·7
205	55,078	65,172	120,250	Kundapur ... ... R.C.	55,078	65,172	120,250	2,108	1,747	3,855	17·5	14·5	32·0	120·7	9·8	...	16·8	15·9	32·7
6	508,970	543,032	1,052,002	Total District ...	508,970	543,032	1,052,002	16,504	15,194	31,698	15·7	14·4	30·1	108·6	10·3	...	15·6	15·0	30·6
				TANJORE.															
206	25,870	28,388	54,258	Tanjore ... ... M.T.C.	25,870	28,388	54,258	840	766	1,606	15·5	14·1	29·6	109·7	4·0	...	14·4	14·4	28·8
207	26,440	27,814	54,254	Kumbakónam ... ... M.T.C.	26,440	27,814	54,254	901	892	1,793	16·6	16·4	33·0	101·0	1·8	...	14·5	14·0	28·5
208	11,526	12,228	23,754	Máyávaram ... ... M.T.C.	11,526	12,228	23,754	411	382	793	17·3	16·1	33·4	107·6	7·2	...	16·7	15·5	32·2
209	26,668	31,905	58,573	Negapatam ... ... M.T.C.	26,668	31,905	58,573	981	921	1,902	16·8	15·7	32·5	106·5	2·7	...	13·3	12·7	26·0
210	9,704	10,688	20,392	Mannárgudi ... ... M.T.C.	9,704	10,688	20,392	406	363	769	19·9	17·8	37·7	111·8	10·8	...	15·3	14·3	29·6
211	6,063	6,871	12,934	Tiruválúr ... ... T.C.	6,063	6,871	12,934	191	151	342	14·8	11·7	26·5	126·5	...	1·8	9·3	8·7	18·0
212	172,425	183,596	356,021	Tanjore ... ... R.C.	172,425	183,596	356,021	4,800	4,505	9,305	13·5	12·6	26·1	106·5	3·3	...	13·9	13·1	27·0
213	156,320	167,030	323,350	Kumbakónam ... R.C.	156,320	167,030	323,350	5,266	5,015	10,281	16·3	15·5	31·8	105·0	7·4	...	15·6	15·1	30·7
214	105 172	115,805	220,977	Máyavaram ... ... R.C.	105,172	115,805	220,977	3,675	3,544	7,219	16·6	16·0	32·6	103·7	7·6	...	16·8	16·1	32·9
215	57,586	62,215	119,801	Shiyali - ... ... R.C.	57,586	62,215	119,801	1,921	1,980	3,901	16·0	16·5	32·5	97·0	9·6	...	16·3	15·7	32·0
216	100,250	115,655	215,905	Nannilam ... ... R.C.	100,250	115,655	215,905	3,343	3,075	6,418	15·5	14·2	29·7	108·7	4·6	...	14·6	13·9	28·5
217	68,944	79,233	148,177	Negapatam ... ... R.C.	68,944	79,233	148,177	1,983	1,790	3,773	13·4	12·1	25·5	110·8	2·2	...	14·1	13·6	27·7
218	80,143	86,890	167,033	Mannárgudi ... ... R.C.	80,143	86,890	167,033	2,559	2,406	4,965	15·3	14·4	29·7	106·3	8·5	...	13·8	13·0	26·8
219	87,800	92,493	180,293	Tirutturaippúndi ... R.C.	87,800	92,493	180,293	2,622	2,392	5,014	14·5	13·3	27·8	109·6	6·3	...	14·2	13·2	27·4
220	130,539	140,820	271,359	Pattukkóttai ... ... R.C.	130,539	140,820	271,359	3,477	3,212	6,689	12·8	11·8	24·6	108·2	8·1	...	12·2	11·5	23·7
15	1,065,450	1,161,631	2,227,081	Total District ...	1,065,450	1,161,631	2,227,081	33,376	31,394	64,770	15·0	14·1	29·1	106·3	6·0	...	14·5	13·7	28·2
				TINNEVELLY.															
221	11,752	13,004	24,756	Tinnevelly ... ... M.T.C.	11,752	13,004	24,756	435	448	883	17·6	18·1	35·7	97·1	3·6	...	17·0	16·2	33·2
222	8,808	9,804	18,612	Palamcottah ... ... M.T.C.	8,808	9,804	18,612	321	303	624	17·2	16·3	33·5	105·9	6·7	...	16·7	16·1	32·8
223	13,624	11,340	24,964	Tuticorin ... ... M.T.C.	13,624	11,340	24,964	422	364	786	16·9	14·6	31·5	115·9	0·1	...	13·9	13·1	27·0
224	14,367	15,174	29,541	Srívilliputtúr ... M.T.C.	14,367	15,174	29,541	395	389	784	13·4	13·1	26·5	101·5	9·1	...	...	...	...
225	7,012	8,898	15,910	Kulasékarapatnam ... T.J.	7,012	8,898	15,910	256	189	445	16·1	11·8	27·9	135·3	...	2·2	13·8	12·8	26·6
226	6,547	7,528	14,075	Virudupatti ... ... T.C.	6,547	7,528	14,075	143	118	261	10·1	8·4	18·5	121·2	7·4	...	8·5	7·6	16·1
227	6,504	7,447	13,951	Viravanallúr ... ... T.C.	6,504	7,447	13,951	110	102	212	7·9	7·3	15·2	107·8	...	3·7	8·7	8·1	16·8
228	6,607	6,694	13,301	Rajapalaiyam ... ... T.C	6,607	6,694	13,301	291	187	478	21·9	14·0	35·9	155·6	24·9	...	20·6	15·3	35·9
229	6,151	6,710	12,861	Tenkási ... ... T.C.	6,151	6,710	12,861	252	242	494	19·6	18·8	38·4	104·1	2·1	...	21·8	21·8	43·6
230	5,788	6,396	12,184	Sivakási ... ... T.C.	5,788	6,396	12,184	294	269	563	24·1	22·1	46·2	109·3	9·2	...	20·1	20·5	40 6
231	4,404	7,060	11,464	Káyalpatnam ... ... T.C.	4,404	7,060	11,464	252	308	560	22·0	26·8	48·8	81·8	5·9	...	17·8	16·1	34·0
232	5,230	5,866	11,096	Kalladakurchi ... ... T.C.	5,230	5,866	11,096	176	209	385	15·9	18·8	34·7	84·2	1·9	...	15·1	12·3	27·4
233	155,341	161,649	316,990	Ottappidáram ... ... R.C.	155,341	161,649	316,990	4,010	3,884	7,894	12·6	12·3	24·9	103·2	5·0	...	12·6	11·8	24·4
234	125,196	135,000	260,196	Srivaikundam ... ... R.C.	125,196	135,000	260,196	4,293	3,962	8,255	16·5	15·2	31·7	108·3	1·8	...	14·4	13·6	28·0
235	68,436	72,816	141,252	Tinnevelly ... ... R.C.	68,436	72,816	141,252	2,583	2,368	4,951	18·3	16·7	35·0	109·0	8·0	...	15·0	13·9	28·9
236	75,244	77,009	152,253	Srívilliputtúr ... ... R.C.	75 244	77,009	152,253	2,227	2,088	4,315	14·6	13·7	28·3	106·6	6·6	...	15·1	14·1	29·2
237	104,061	105,152	* 209,213	Sankaranayinár Kóyil R.C.	104,061	105,152	* 209,213	3,219	3,177	6,396	15·4	15·2	30·6	101·3	8·4	...	12·6	11·9	24·5
238	84,402	90,008	174,410	Nángunéri ... ... R.C.	84,402	90,008	174,410	2,872	2,691	5,563	16·5	15·4	31·9	106·7	5·2	...	15·1	14·3	29·3

* Excludes 4,585, the population of Aracchippatti village which has been clubbed with the Srívilliputtúr Municipality.

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3		4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.		Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.			Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				SALEM—*cont.*																
177	6,416	6,938	13,354	Sendamangalam	T.C.	6,416	6,938	13,354	115	103	218	8·6	7·7	16·3	111·6	7·2	...	7·3	5·9	13·2
178	5,119	5,420	10,539	Rásipuram	T.C.	5,119	5,420	10,539	148	130	278	14·1	12·3	26·4	113·8	15·0	...	14·9	15·4	30·3
179	166,338	172,421	338,759	Sa e n	R.C.	166,338	172,421	338,759	5,629	5,448	11,077	16·6	16·1	32·7	103·3	16·4	...	15·6	14·9	30·5
180	89,211	93,991	183,202	Atur	R.C.	89,211	93,991	183,202	2,784	2,750	5,534	15·1	15·0	30·1	101·2	12·6	...	15·8	15·3	31·1
181	138,698	147,988	286,686	Námakkal	R.C.	138,698	147,988	286,686	4,438	4,254	8,692	15·5	14·8	30·3	104·3	12·0	...	15·0	14·6	29·6
182	123,072	125,595	248,667	Tiruchengodu	R.C.	123,072	125,595	248,667	4,168	4,161	8,329	16·8	16·7	33·5	100·2	16·2	...	16·8	15·8	32·6
183	76,954	78,739	155,693	Hosúr	R.C.	76,954	78,739	155,693	2,287	2,173	4,460	14·7	13·9	28·6	105·2	9·4	...	14·4	14·2	28·6
184	75,399	76,717	152,116	Krishnagiri	R.C.	75,399	76,717	152,116	2,272	2,260	4,532	14·9	14·9	29·8	100·5	14·9	...	13·8	13·4	27·2
185	87,559	90,861	178,420	Dharmapuri	R.C.	87,559	90,861	178,420	3,101	2,973	6,074	17·4	16·7	34·1	104·3	17·3	...	16·8	15·7	32·5
186	77,067	79,228	156,295	Tiruppattúr	R.C.	77,067	79,228	156,295	2,462	2,400	4,862	15·8	15·4	31·2	102·6	13·7	...	14·1	13·5	27·6
187	67,829	70,283	138,112	Uttangarai	R.C.	67,829	70,283	138,112	2,271	2,013	4,284	16·4	14·6	31·0	112·8	9·1	...	14·7	14·0	28·7
14	961,199	1,000,585	1,961,784	Total District ...		961,199	1,000,585	1,961,784	31,836	30,756	62,592	16·2	15·7	31·9	103·5	14·2	...	15·4	14·8	30·2
				SOUTH ARCOT.																
188	23,026	23,999	47,025	Cuddalore	M.T.C.	23,026	23,999	47,025	853	895	1,748	18·1	19·0	37·1	95·3	15·5	...	14·2	14·2	28·4
189	9,077	9,557	18,634	Chidambaram ...	M.T.C.	9,077	9,557	18,634	218	229	447	11·7	12·3	24·0	95·2	...	11·2	13·9	13·4	27·3
190	6,179	7,866	14,045	Port Novo	T.C.	6,179	7,866	14,045	97	102	199	6·9	7·3	14·2	95·1	3·2	...	6·2	6·6	12·8
191	5,970	6,178	12,148	Tiruvannámalai ...	T.C.	5,970	6,178	12,148	64	66	130	5·3	5·4	10·7	97·0	2·3	...	7·6	6·8	14·4
192	145,706	144,202	289,908	Cuddalore	R.C.	145,706	144,202	289,908	4,244	4,183	8,427	14·6	14·4	29·0	101·5	8·4	...	12·7	12·2	24·9
193	151,872	149,818	301,690	Villupuram	R.C.	151,872	149,818	301,690	5,416	5,157	10,573	17·9	17·1	35·0	105·0	13·4	...	16·3	15·5	31·8
194	123,014	126,555	249,569	Chidambaram	R.C.	123,014	126,555	249,569	4,492	4,324	8,816	18·0	17·3	35·3	103·9	3·1	...	14·9	13·9	28·8
195	159,076	156,918	315,994	Tindivanam	R.C.	159,076	156,918	315,994	5,634	5,405	11,039	17·9	17·1	35·0	104·2	16·2	...	16·0	15·2	31·2
196	119,209	120,970	240,179	Kallákurchi	R.C.	119,209	120,970	240,179	3,668	3,618	7,286	15·3	15·0	30·3	101·4	9·6	...	12·4	12·0	24·4
197	128,831	128,284	257,115	Tirukkóyilúr	R.C.	128,831	128,284	257,115	4,969	4,872	9,841	19·3	19·0	38·3	102·0	11·8	...	16·9	16·4	33·3
198	97,284	95,954	193,238	Tiruvannámalai ...	R.C.	97,284	95,954	193,238	3,084	2,959	6,043	15·9	15·3	31·2	104·2	13·0	...	14·4	13·4	27·8
199	109,611	113,180	222,791	Vriddhachalam ...	R.C.	109,611	113,180	222,791	3,229	3,306	6,535	14·5	14·8	29·3	97·7	4·3	...	13·2	12·9	26·1
12	1,078,855	1,083,481	2,162,336	Total District ...		1,078,855	1,083,481	2,162,336	35,968	35,116	71,084	16·6	16·2	32·8	102·4	10·1	...	14·5	13·9	28·4
				SOUTH CANARA.																
200	21,168	19,452	40,620	Mangalore	M.T.C.	21,168	19,452	40,620	594	603	1,197	14·6	14·9	29·5	98·5	3·5	...	15·3	14·5	29·8
201	115,802	122,172	237,974	Mangalore	R.C.	115,802	122,172	237,974	3,459	3,314	6,773	14·5	13·9	28·4	104·4	8·7	...	14·3	13·8	28·1
202	137,596	143,059	280,655	Kasaragod	R.C.	137,596	143,059	280,655	4,277	3,850	8,127	15·2	13·7	28·9	111·1	12·8	...	14·9	14·1	29·1
203	60,612	58,192	118,804	Uppinangadi	R.C.	60,612	58,192	118,804	1,857	1,835	3,692	15·6	15·4	31·0	101·2	5·9	...	16·9	16·0	32·9
204	118,714	134,985	253,699	Udipi	R.C.	118,714	134,985	253,699	4,209	3,845	8,054	16·6	15·1	31·7	109·5	12·3	...	16·5	16·2	32·7
205	55,078	65,172	120,250	Kundapur	R.C.	55,078	65,172	120,250	2,108	1,747	3,855	17·5	14·5	32·0	120·7	9·8	...	16·8	15·9	32·7
6	508,970	543,032	1,052,002	Total District ...		508,970	543,032	1,052,002	16,504	15,194	31,698	15·7	14·4	30·1	108·6	10·3	...	15·6	15·0	30·6
				TANJORE.																
206	25,870	28,388	54,258	Tanjore	M.T.C.	25,870	28,388	54,258	840	766	1,606	15·5	14·1	29·6	109·7	4·0	...	14·4	14·4	28·8
207	26,440	27,814	54,254	Kumbakónam	M.T.C.	26,440	27,814	54,254	901	892	1,793	16·6	16·4	33·0	101·0	1·8	...	14·5	14·0	28·5
208	11,526	12,228	23,754	Máyávaram	M.T.C.	11,526	12,228	23,754	411	382	793	17·3	16·1	33·4	107·6	7·2	...	16·7	15·5	32·2
209	26,668	31,905	58,573	Negapatam	M.T.C.	26,668	31,905	58,573	981	921	1,902	16·8	15·7	32·5	106·5	2·7	...	13·3	12·7	26·0
210	9,704	10,688	20,392	Mannárgudi	M.T.C.	9,704	10,688	20,392	406	363	769	19·9	17·8	37·7	111·8	10·8	...	15·3	14·3	29·6
211	6,063	6,871	12,934	Tiruválúr	T.C.	6,063	6,871	12,934	191	151	342	14·8	11·7	26·5	126·5	...	1·8	9·3	8·7	18·0
212	172,425	183,596	356,021	Tanjore	R.C.	172,425	183,596	356,021	4,800	4,505	9,305	13·5	12·6	26·1	106·5	3·3	...	13·9	13·1	27·0
213	156,320	167,030	323,350	Kumbakónam ...	R.C.	156,320	167,030	323,350	5,266	5,015	10,281	16·3	15·5	31·8	105·0	7·4	...	15·6	15·1	30·7
214	105 172	115,805	220,977	Máyavaram	R.C.	105,172	115,805	220,977	3,675	3,544	7,219	16·6	16·0	32·6	103·7	7·6	...	16·8	16·1	32·9
215	57,586	62,215	119,801	Shiyali	R.C.	57,586	62,215	119,801	1,921	1,980	3,901	16·0	16·5	32·5	97·0	9·6	...	16·3	15·7	32·0
216	100,250	115,655	215,905	Nannilam	R.C.	100,250	115,655	215,905	3,343	3,075	6,418	15·5	14·2	29·7	108·7	4·6	...	14·6	13·9	28·5
217	68,944	79,233	148,177	Negapatam	R.C.	68,944	79,233	148,177	1,983	1,790	3,773	13·4	12·1	25·5	110·8	2·2	...	14·1	13·6	27·7
218	80,143	86,890	167,033	Mannárgudi	R.C.	80,143	86,890	167,033	2,559	2,406	4,965	15·3	14·4	29·7	106·3	8·5	...	13·8	13·0	26·8
219	87,800	92,493	180,293	Tirutturaippúndi ...	R.C.	87,800	92,493	180,293	2,622	2,392	5,014	14·5	13·3	27·8	109·6	6·3	...	14·2	13·2	27·4
220	130,539	140,820	271,359	Pattukkóttai	R.C.	130,539	140,820	271,359	3,477	3,212	6,689	12·8	11·8	24·6	108·2	8·1	...	12·2	11·5	23·7
15	1,065,450	1,161,631	2,227,081	Total District ...		1,065,450	1,161,631	2,227,081	33,376	31,394	64,770	15·0	14·1	29·1	106·3	6·0	...	14·5	13·7	28·2
				TINNEVELLY.																
221	11,752	13,004	24,756	Tinnevelly	M.T.C.	11,752	13,004	24,756	435	448	883	17·6	18·1	35·7	97·1	3·6	...	17·0	16·2	33·2
222	8,808	9,804	18,612	Palamcottah	M.T.C.	8,808	9,804	18,612	321	303	624	17·2	16·3	33·5	105·9	6·7	...	16·7	16·1	32·8
223	13,624	11,340	24,964	Tuticorin	M.T.C.	13,624	11,340	24,964	422	364	786	16·9	14·6	31·5	115·9	0·1	...	13·9	13·1	27·0
224	14,367	15,174	29,541	Srívilliputtúr ...	M.T.C.	14,367	15,174	29,541	395	389	784	13·4	13·1	26·5	101·5	9·1	...	...	...	...
225	7,012	8,898	15,910	Kulasékarapatnam ...	T.J.	7,012	8,898	15,910	256	189	445	16·1	11·8	27·9	135·3	...	2·2	13·8	12·8	26·6
226	6,547	7,528	14,075	Virudupatti	T.C.	6,547	7,528	14,075	143	118	261	10·1	8·4	18·5	121·2	7·4	...	8·5	7·6	16·1
227	6,504	7,447	13,951	Víravanallúr	T.C.	6,504	7,447	13,951	110	102	212	7·9	7·3	15·2	107·8	...	3·7	8·7	8·1	16·8
228	6,607	6,694	13,301	Rajapalaiyam	T.C	6,607	6,694	13,301	291	187	478	21·9	14·0	35·9	155·6	24·9	...	20·6	15·3	35·9
229	6,151	6,710	12,861	Tenkási	T.C.	6,151	6,710	12,861	252	242	494	19·6	18·8	38·4	104·1	2·1	...	21·8	21·8	43·6
230	5,788	6,396	12,184	Sivakási	T.C.	5,788	6,396	12,184	294	269	563	24·1	22·1	46·2	109·3	9·2	...	20·1	20·5	40·6
231	4,404	7,060	11,464	Káyalpatnam	T.C.	4,404	7,060	11,464	252	308	560	22·0	26·8	48·8	81·8	5·9	...	17·8	16·1	34·0
232	5,230	5,866	11,096	Kalladakurchi	T.C.	5,230	5,866	11,096	176	209	385	15·9	18·8	34·7	84·2	1·9	...	15·1	12·3	27·4
233	155,341	161,649	316,990	Ottappidáram	R.C.	155,341	161,649	316,990	4,010	3,884	7,894	12·6	12·3	24·9	103·2	5·0	...	12·6	11·8	24·4
234	125,196	135,000	260,196	Srivaikundam	R.C.	125,196	135,000	260,196	4,293	3,962	8,255	16·5	15·2	31·7	108·3	1·8	...	14·4	13·6	28·0
235	68,436	72,816	141,252	Tinnevelly	R.C.	68,436	72,816	141,252	2,583	2,368	4,951	18·3	16·7	35·0	109·0	8·0	...	15·0	13·9	28·9
236	75,244	77,009	152,253	Srívilliputtúr	R.C.	75 244	77,009	152,253	2,227	2,088	4,315	14·6	13·7	28·3	106·6	6·6	...	15·1	14·1	29·2
237	104,061	105,152	* 209,213	Sankaranayinár Kóyil	R.C.	104,061	105,152	* 209,213	3,219	3,177	6,396	15·4	15·2	30·6	101·3	8·4	...	12·6	11·9	24·5
238	84,402	90,008	174,410	Nángunéri	R.C.	84,402	90,008	174,410	2,872	2,691	5,563	16·5	15·4	31·9	106·7	5·2	...	15·1	14·3	29·3

* Excludes 4,585, the population of Aracchippatti village which has been clubbed with the Srívilliputtúr Municipality.

No. I.—*Showing the Births registered in the districts of the Madras Presidency during the year* 1895—cont.

1	2			3	4			5			6			7	8	9	10		
Number.	Population (exclusive of Europeans and Eurasians) as per census of 1891.			Districts and Towns and Rural Circles.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1,000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.		
	Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.				Males.	Females.	Total.
				TINNEVELLY—*cont.*															
239	75,776	82,776	158,552	Ambásamudram ... R.C.	75,776	82,776	158,552	2,525	2,390	4,915	15·9	15·0	30·9	105·6	3·3	...	15·4	14·9	30·3
240	77,688	80,358	158,046	Sáttúr ... ... R.C.	77,688	80,358	158,046	2,499	2,348	4,847	15·8	14·9	30·7	106·4	5·8	...	12·5	11·5	24·0
241	70,284	71,791	142,075	Tenkási ... ... R.C.	70,284	71,791	142,075	2,110	1,897	4,007	14·8	13·4	28·2	111·2	1·9	...	14·9	14·0	28·9
21	933,222	982,480	1,915,702	Total District ...	933,222	982,480	1,915,702	29,685	27,933	57,618	15·5	14·6	30·1	106·3	5·0	...	14·1	13·2	27·3
				TRICHINOPOLY.															
242	43,576	46,090	89,666	Trichinopoly ... ... M.T.C.	43,576	46,090	89,666	1,059	1,024	2,083	11·8	11·4	23·2	103·2	...	0·3	11·4	10·4	21·8
243	10,238	11,394	21,632	Srírangam ... ... M.T.C.	10,238	11,394	21,632	393	351	744	18·2	16·2	34·4	111·7	0·8	...	15·6	14·6	30·2
244	119,143	129,418	248,561	Trichinopoly ... ... R.C.	119,143	129,418	248,561	3,900	3,608	7,508	15·7	14·5	30·2	108·9	9·0	...	15·5	15·0	30·5
245	133,852	148,763	282,615	Musiri ... ... R.C.	133,852	148,763	282,615	4,492	4,198	8,690	15·9	14·8	30·7	107·0	9·3	...	14·1	13·5	27·6
246	118,900	124,785	243,685	Kulittalai ... ... R.C.	118,900	124,785	243,685	3,065	2,969	6,034	12·6	12·2	24·8	103·2	9·0	...	9·3	8·6	17·9
247	94,627	100,377	195,004	Perambalúr ... ... R.C.	94,627	100,377	195,004	3,243	3,209	6,452	16·6	16·4	33·0	101·1	9·0	...	15·6	14·9	30·5
248	98,773	102,757	201,530	Udaiyárpálaiyam ... R.C.	98,773	102,757	201,530	3,399	3,367	6,766	16·8	16·7	33·5	100·9	5·9	...	16·6	16·3	32·9
249	43,926	45,107	89,033	Zamindaries	43,926	45,107	89,033	1,086	1,114	2,200	12·2	12·5	24·7	97·5	5·1	...	23·5	23·2	46·7
8	663,035	708,691	1,371,726	Total District ...	663,035	708,691	1,371,726	20,637	19,840	40,477	15·0	14·5	29·5	104·0	7·6	...	14·5	13·9	28·4
				VIZAGAPATAM.															
250	16,477	17,484	33,961	Vizagapatam ... ... M.T.C.	16,477	17,484	33,961	567	626	1,193	16·7	18·4	35·1	90·6	6·1	...	16·8	15·8	32·6
251	4,639	5,057	9,696	Bimlipatam ... ... M.T.C.	4,639	5,057	9,696	156	146	302	16·1	15·0	31·1	106·8	7·7	...	16·6	14·3	30·9
252	14,805	15,930	30,735	Vizianagram ... ... M.T.C.	14,805	15,930	30,735	451	396	847	14·7	12·9	27·6	113·9	2·0	...	13·0	13·0	26·0
253	8,482	8,519	17,001	Anakápalle ... ... M.T.C.	8,482	8,519	17,001	326	267	593	19·2	15·7	34·9	122·1	7·7	...	16·8	15·8	32·6
254	6,971	7,477	14,448	Bobbili ... ... T.C.	6,971	7,477	14,448	242	198	440	16·7	13·7	30·4	122·2	12·4	...	14·9	13·6	28·5
255	5,983	6,927	12,910	Súlúr ... ... T.C.	5,983	6,927	12,910	75	71	146	5·8	5·5	11·3	105·6	1·0	...	7·9	6·9	14·8
256	4,869	5,495	10,364	Pálkonda ... ... T.C.	4,869	5,495	10,364	138	143	281	13·3	13·8	27·1	96·5	...	0·6	12·4	12·3	24·7
257	4,711	5,342	10,053	Párvatipuram ... ... T.C.	4,711	5,342	10,053	140	134	274	13·9	13·3	27·2	104·5	...	0·8	16·1	13·9	30·0
258	76,740	78,210	154,950	Sarvasiddhi ... ... R.C.	74,984	76,503	151,487	2,442	2,287	4,729	16·1	15·1	31·2	106·8	11·2	...	13·1	12·9	26·0
259	59,459	59,053	118,512	Narasapatnam or Golgonda. R.C.	56,898	56,601	113,499	1,727	1,639	3,366	15·2	14·5	29·9	105·4	11·7	...	12·0	11·8	23·8
260	66,484	68,661	135,145	Anakápalle ... ... R.C.	63,545	64,144	127,489	1,881	1,845	3,726	14·7	14·5	29·2	101·9	11·9	...	12·2	12·1	24·3
261	31,481	31,325	62,806	Vizagapatam ... ... R.C.	28,607	28,074	56,681	662	759	1,421	11·7	13·4	25·1	87·2	4·6	...	11·8	12·4	24·2
262	98,604	99,261	197,865	Vírvalli ... ... R.C.	94,033	94,690	188,723	2,318	2,369	4,687	12·3	12·5	24·8	97·9	7·0	...	10·0	9·6	19·6
263	52,506	52,950	105,456	Bimlipatam ... ... R.C.	48,512	47,100	95,612	1,243	1,249	2,492	13·0	13·1	26·1	99·5	7·1	...	10·4	10·0	20·4
264	64,401	64,918	129,319	Srungavarapukotah ... R.C.	61,847	62,092	123,939	1,753	1,685	3,438	14·1	13·6	27·7	104·0	8·4	...	11·5	11·3	22·8
265	67,688	68,030	135,718	Vizianagram ... ... R.C.	62,716	63,138	125,854	1,427	1,274	2,701	11·3	10·1	21·4	112·0	4·0	...	8·8	8·6	17·4
266	61,564	62,231	123,795	Gajapatinagaram ... R.C.	54,797	55,311	110,108	1,876	1,858	3,734	17·0	16·9	33·9	100·9	6·9	...	12·5	12·3	24·8
267	77,664	79,162	156,826	Chipurupalle ... ... R.C.	71,844	74,032	145,876	1,608	1,663	3,271	11·0	11·4	22·4	96·7	5·4	...	9·3	9·0	18·3
268	34,391	36,391	70,782	Sálúru ... ... R.C.	30,159	31,990	62,149	698	644	1,342	11·2	10·4	21·6	108·4	0·1	...	10·5	9·9	20·4
269	56,393	57,919	114,312	Bobbili ... ... R.C.	53,400	53,805	107,205	1,352	1,304	2,656	12·6	12·2	24·8	103·6	2·4	...	11·2	10·9	22·1
270	97,279	101,165	198,444	Palkonda ... .. R.C.	89,747	91,801	181,548	2,440	2,381	4,821	13·4	13·1	26·5	102·9	2·0	...	10·1	9·8	19·9
271	48,321	50,776	99,097	Párvatípuram ... ... R.C.	42,380	43,140	85,520	1,062	1,030	2,092	12·4	12·0	24·4	103·1	...	2·7	11·0	10·8	21·8
22	959,912	982,283	1,942,195	Total District ...	900,206	914,652	1,814,858	24,584	23,968	48,552	13·5	13·2	26·7	102·6	6·0	...	11·1	10·9	22·0
92	1,235,693	1,291,082	2,526,775	Total of Town Circles in the Presidency.	1,235,693	1,291,082	2,526,775	43,468	41,516	84,984	17·2	16·4	33·6	104·7	6·4	...	15·4	14·6	30·0
179	15,437,516	15,728,888	31,166,404	Total of Rural Circles in the Presidency.	15,377,810	15,661,257	31,039,067	455,193	436,395	891,588	14·7	14·0	28·7	104·3	9·7	...	13·5	13·0	26·5
271	16,673,209	17,019,970	33,693,179	Grand Total for the Presidency.	16,613,503	16,952,339	33,565,842	498,661	477,911	976,572	14·9	14·2	29·1	104·3	9·5	...	13·6	13·1	26·7

M.T.C. indicates Municipal Town Circle.
T.C. ——— Non-Municipal Town Circle or Rural Town Circle.
R.C. ——— Rural Circle.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895.*

1	2		3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	ANANTAPUR.																
1	Anantapur ...	M.T.C.	...	...	3,473	3,500	6,973	280	40·1	66	49	115	134·7	...	0·6	7·3	0·1
2	Tadpatri ...	T.C.	...	...	5,125	5,150	10,275	235	22·8	68	49	117	138·8	...	0·2	...	0·1
3	Anantapur ...	R.C.	...	...	51,030	46,451	97,481	3,083	31·6	818	744	1,562	109·9	...	0·6	1·1	0·1
4	Gooty ...	R.C.	...	...	72,633	69,884	142,577	4,745	33·3	1,398	1,268	2,666	110·2	0·4	0·7	1·6	0·5
5	Tadpatri ...	R.C.	...	...	51,976	50,397	102,373	2,977	29·1	1,046	936	1,982	111·8	0·1	1·3	0·7	0·1
6	Penukonda ...	R.C.	...	...	41,447	39,653	81,100	2,350	28·9	648	670	1,318	96·7	...	0·04	0·5	0·4
7	Dharmavaram ...	R.C.	...	...	34,204	31,909	66,113	1,984	30·0	465	451	916	103·1	...	0·1	5·9	0·1
8	Hindupur ...	R.C.	...	...	40,903	39,940	80,843	2,210	27·3	672	577	1,249	116·5	...	...	2·4	0·4
9	Madakasira ...	R.C.	...	...	34,231	33,761	67,992	1,797	26·5	433	470	883	88·0	...	0·3	2·4	0·5
10	Kalyandroog	R.C.	...	...	36,952	34,640	71,592	2,100	29·3	422	438	860	96·3	...	0·3	4·6	0·2
10	Total District ...		5,275	134·2	372,034	355,285	* 727,319	21,761	29·9	6,016	5,652	11,668	106·4	0·1	0·5	2·8	0·3
	BELLARY.																
11	Bellary ...	M.T.C.	...	...	29,130	28,650	57,780	1,890	32·7	736	768	1,504	95·8	0·9	0·02	2·4	2·0
12	Adóni ...	M.T.C.	...	...	13,231	12,985	26,216	1,172	44·7	224	296	620	109·4	0·1	...	9·0	0·1
13	Hospet ...	T.C.	...	...	6,263	6,606	12,869	399	31·0	71	77	148	92·2	0·7	...	10·0	...
14	Kampli ...	T.C.	...	...	5,406	5,122	10,528	404	38·4	150	126	276	119·0	3·9	0·1	21·5	0·1
15	Rayadrug ...	T.C.	...	...	5,209	5,169	10,378	370	35·7	67	59	126	113·6	...	...	9·2	...
16	Bellary ...	R.C.	...	...	61,444	59,356	120,800	4,886	39·9	1,448	1,396	2,844	103·7	2·8	1·1	6·9	0·8
17	Hospet ...	R.C.	...	...	35,231	33,872	69,103	2,268	32·8	959	835	1,794	114·8	3·9	0·1	15·1	0·4
18	Kúdligi ...	R.C.	...	...	47,281	47,014	94,295	2,642	28·0	925	823	1,748	112·4	0·8	0·4	10·0	0·4
19	Hadagalli ...	R.C.	...	...	54,811	49,224	104,035	3,061	29·4	1,002	939	1,941	106·7	3·3	0·03	4·7	1·3
20	Harpanahalli ...	R.C.	...	...	41,370	40,870	82,240	2,983	36·2	865	777	1,642	111·3	2·2	0·04	8·5	1·1
21	Alúr ...	R.C.	...	...	44,685	43,391	88,076	3,583	40·7	843	821	1,664	102·7	...	1·6	3·9	0·3
22	Adóni ...	R.C.	...	...	68,982	65,569	134,551	5,321	39·5	1,864	1,333	2,697	102·3	2·6	0·3	4·5	0·3
23	Rayadrug ...	R.C.	...	...	34,782	33,461	† 68,243	2,445	35·8	672	719	1,391	93·5	0·8	2·4	11·2	0·3
24	Zamindari ...	R.C.	...	...	5,712	5,659	11,371	477	41·9	228	187	415	121·9	4·8	...	24·3	0·3
14	otal District ...		6,136	148·2	453,537	436,948	890,485	31,841	35·7	9,654	9,156	18,810	105·4	2·0	0·6	8·1	0·7

* Includes 19,176, the population of certain villages of Rayadrug taluk transferred from the Bellary District.
† Excludes 19,176, the population of certain villages transferred to the Anantapur District.

9				10			11	12	13			14
Deaths per 1,000 of population from				Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects.			Measures taken for sanitary improvements of circle.
Injuries.	All other causes.	All causes. Males.	All causes. Females.	All causes. Total.	Males.	Females.	Total.			a. In drainage.	b. In water-supply.	c. In domestic cleansing and conservancy.	
								RS. A. P.	RS. A. P.				
0·7	7·8	19·0	14·0	16·5	24·2	23·1	23·8	416 1 10	2,692 11 4	No system. Cess-pools abound, which are covered over and cleaned when full, hence the ground around must be saturated. Side drains in the main streets are covered over with platforms.	The tank which is said to contain water of good quality is subject to pollution, washing and bathing being allowed. People also commit nuisance to some extent on the bund and steps of the tank.	The existing public latrines are large open enclosures without seats. They are maintained on the dry earth system which could not be satisfactorily carried out during rainy season. Fields and road sides are also used as latrines by a good many.	The cess-pools that are now constructed are being built of brick and chunam or stone and chunam. The question of removing platforms over drains is pending legal advice. One of the drinking-water wells was provided with a cistern for receiving the waste water.
										A market and two latrines were repaired. Iron buckets with covers and an iron night-soil cart of approved pattern were purchased.			
0·1	11·0	13·2	9·5	11·4	15·8	15·1	15·4	20 0 0	1,451 4 11	There is no system of drainage in any of the towns or villages. The side channels or rough drains that exist in the main streets of union towns are covered over with pials and consequently these could not conveniently be cleaned. Cess-pools are cleaned only when full. There is no system of house drainage.	Except in union towns and a few other villages where watchmen are appointed to guard tanks, wells, rivers and channels which are the chief drinking-water sources, elsewhere they are generally much contaminated by men and animals. The beds of rivers and banks of channels are used as latrines in some places.	Unsatisfactory. In some of the unions, rubbish and human excreta are either deposited in any convenient place or thrown in the existing hollows or allowed to remain about the outskirts and ruined houses. All the latrines are mere open enclosures without seats. The latrine at Kalyandrug is not used for want of a toty.	Tahsildars and Revenue Inspectors sometimes prosecute people who fail to keep their surroundings clean and remove manure heaps. Some funds have been provided by the Taluk Board of Anantapur for getting a few important villages cleaned. The Police prevent commission of nuisance in the beds of the river and banks of channels. A latrine, six dust-bins, a market, and a slaughter-house, were constructed. Ten latrines were repaired; four night-soil carts were purchased; prickly-pear and rank vegetation removed.
0·1	13·9	16·0	16·0	16·0	20·7	21·5	21·1	...	133 0 0				
0·4	15·1	19·2	18·1	18·7	22·9	22·6	22·7	189 5 3	2,845 12 8				
0·3	16·8	20·1	18·5	19·3	24·4	23·6	24·0	34 4 0	544 4 2				
0·3	9·0	15·6	16·9	16·2	22·4	23·1	22·7	...	556 1 4				
0·2	7·6	13·6	14·1	13·9	18·6	19·8	19·2	...	875 6 8				
0·2	12·4	16·4	14·4	15·4	17·6	17·8	17·7	...	634 11 8				
0·5	9·3	12·1	13·9	13·0	14·2	15·1	14·6	...	420 15 0				
0·3	7·2	11·4	12·6	12·0	...	...	...	...	...				
0·3	12·0	16·2	15·9	16·0	20·5	20·7	20·6	...	...				
0·7	14·0	25·3	26·8	26·0	25·7	29·4	27·5	3,444 0 0	25,927 0 0	No system. Drainage of houses is not good. Cess-pools are used to a large extent, which are not at all kept clean. The system of conducting house drainage into cess-pools must be put a stop to.	The branches of baboot trees which overhang the Fort ditch—one of the drinking-water sources should be removed. Means should also be taken to pump or draw up the water to avoid the fouling that is at present caused by hundreds of people.	.....	An advance of Rs. 1,000 has been made to the Sanitary Engineer for the investigation of the Copper Mountain water-supply scheme. Out of Rs. 2,000 sanctioned by Government for the purpose, a latrine was constructed and another repaired. A well was also repaired.
0·2	14·3	24·5	22·8	23·7	26·8	27·4	27·1	2,536 4 11	7,227 6 5	No system of drainage at present.	.....	.....	A scheme for providing the town with a good drainage system is under contemplation. Two zinc latrines were constructed. A latrine and three drains were repaired. A market was improved.
0·2	0·6	11·3	11·6	11·5	22·1	16·5	19·3	...	...	No system. Very defective in some places. Cess-pools abound which are rarely cleaned.	Is defective in several villages, especially in those comprised in Bellary, Kúdligi, Hadagalli, and Harpanahalli rural circles.	As a rule, refuse is not systematically disposed of. It is either allowed to remain where it happens to be or thrown in the nearest vacant spot. It is rarely taken out of the village. In some places latrines should be provided at least for the female population.	A sufficient number of dust-bins has been provided in some of the villages in Hospet circle and people have been instructed to deposit rubbish in them. A good staff of sweepers is also maintained in this and Kampli town circle where also the sanitary condition is bad. A latrine and a few markets were constructed. A few wells and some latrines were repaired. Rank vegetation removed.
0·6	0·1	27·7	24·6	26·2	22·1	21·6	22·0						
0·1	2·8	12·8	11·4	12·1	15·7	15·9	15·9						
0·3	11·6	23·5	23·5	23·5	25·0	25·5	25·2						
0·3	6·1	27·2	24·6	25·9	31·0	29·6	30·3						
0·2	5·8	19·6	17·5	18·5	23·5	22·3	22·9						
0·2	9·0	18·3	19·1	18·6	20·1	22·7	21·3						
0·4	7·8	20·9	19·0	20·0	24·0	23·4	24·0						
0·3	12·8	18·9	18·9	18·9	22·9	22·5	22·7						
0·3	12·0	19·8	20·3	20·0	23·9	24·1	24·0						
0·2	5·6	19·3	21·5	20·4	20·8	21·4	21·1						
0·2	6·9	39·9	33·0	36·5	31·8	30·3	31·0						
0·3	9·4	21·3	20·9	21·1	23·9	24·0	23·9	...	...				

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895.

1	2		3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	ANANTAPUR.																
1	Anantapur ...	M.T.C.	...	...	3,473	3,500	6,973	280	40·1	66	49	115	134·7	...	0·6	7·3	0·1
2	Tadpatri ...	T.C.	...	...	5,125	5,150	10,275	235	22·8	68	49	117	138·8	...	0·2	...	0·1
3	Anantapur ...	R.C.	...	...	51,030	46,451	97,481	3,083	31·6	818	744	1,562	109·9	...	0·6	1·1	0·1
4	Gooty ...	R.C.	...	...	72,693	69,884	142,577	4,745	33·3	1,398	1,268	2,666	110·2	0·4	0·7	1·6	0·1
5	Tadpatri ...	R.C.	...	...	51,976	50,397	102,373	2,977	29·1	1,046	936	1,982	111·8	0·1	1·3	0·7	0·5
6	Penukonda ...	R.C.	...	...	41,447	39,653	81,100	2,350	28·9	648	670	1,318	96·7	...	0·04	0·5	0·1
7	Dharmavaram	R.C.	...	...	34,204	31,909	66,113	1,984	30·0	465	451	916	103·1	...	0·1	5·9	0·4
8	Hindupur ...	R.C.	...	...	40,303	39,940	80,243	2,210	27·3	672	577	1,249	116·5	...	...	2·4	0·1
9	Madakasira ...	R.C.	...	...	34,231	33,761	67,992	1,797	26·5	413	470	883	88·0	...	0·3	2·4	0·4
10	Kalyandroog	R.C.	...	...	36,952	34,640	71,592	2,100	29·3	422	438	860	96·3	...	0·3	4·0	0·5
10	Total District ...		5,275	134·2	372,034	355,285	* 727,319	21,761	29·9	6,016	5,652	11,668	106·4	0·1	0·5	2·8	0·2
	BELLARY.																
11	Bellary ...	M.T.C.	...	...	29,130	28,650	57,780	1,890	32·7	736	768	1,504	95·8	0·9	0·02	2·4	2·0
12	Adóni ...	M.T.C.	...	...	13,231	12,985	26,216	1,172	44·7	224	296	520	109·4	0·1	...	9·0	0·1
13	Hospet ...	T.C.	...	...	6,263	6,606	12,869	399	31·0	71	77	148	92·2	0·7	...	10·0	...
14	Kampli ...	T.C.	...	...	5,406	5,122	10,528	404	38·4	150	126	276	119·0	3·9	0·1	21·5	0·1
15	Rayadrug ...	T.C.	...	...	5,209	5,169	10,378	370	35·7	67	59	126	113·6	...	...	9·2	...
16	Bellary ...	R.C.	...	...	61,444	59,356	120,800	4,826	39·9	1,448	1,396	2,844	103·7	2·8	1·1	6·9	0·8
17	Hospet ...	R.C.	...	...	35,231	33,872	69,103	2,268	32·8	959	835	1,794	114·8	3·9	0·1	15·1	0·4
18	Kúdligi ...	R.C.	...	...	47,281	47,014	94,295	2,642	28·0	925	823	1,748	112·4	0·8	0·4	10·0	0·4
19	Hadagalli ...	R.C.	...	...	54,811	49,224	104,035	3,061	29·4	1,002	939	1,941	106·7	3·3	0·05	4·7	1·3
20	Harpanahalli	R.C.	...	...	41,370	40,870	82,240	2,383	36·2	865	777	1,642	111·3	2·2	0·04	8·5	1·1
21	Alúr ...	R.C.	...	...	44,685	43,391	88,076	3,553	40·7	843	821	1,664	102·7	...	1·6	3·9	0·3
22	Adóni ...	R.C.	...	...	68,982	65,569	134,551	5,321	39·5	1,364	1,333	2,697	102·3	2·6	0·3	4·5	0·3
23	Rayadrug ...	R.C.	...	...	34,782	33,461	† 68,243	2,445	35·8	672	719	1,391	93·5	0·8	2·4	11·2	0·3
24	Zamindari ...	R.C.	...	...	5,712	5,659	11,371	477	41·9	228	187	415	121·9	4·8	....	24·3	0·3
14	otal District ...		6,136	148·2	453,537	436,948	890,485	31,841	35·7	9,654	9,156	18,810	105·4	2·0	0·6	8·1	0·7

* Includes 19,176, the population of certain villages of Rayadrug taluk transferred from the Bellary District.
† Excludes 19,176, the population of certain villages transferred to the Anantapur District.

9				10			11	12	13			14
of population from				Mean ratio of deaths per 1,000 during previous five years.					Principal sanitary defects.			
Injuries.	All other causes.	All causes. Males.	All causes. Females.	All causes. Total.	Males.	Females.	Total.	Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	a	b	c	Measures taken for sanitary improvements of circle.
								RS. A. P.	RS. A. P.	In drainage.	In water-supply.	In domestic cleansing and conservancy.	
0·7	7·8	19·0	14·0	16·5	24·2	23·1	23·8	416 1 10	2,692 11 4	No system. Cess-pools abound, which are covered over and cleaned when full, hence the ground around must be saturated. Side drains in the main streets are covered over with platforms.	The tank which is said to contain water of good quality is subject to pollution, washing and bathing being allowed. People also commit nuisance to some extent on the bund and steps of the tank.	The existing public latrines are large open enclosures without seats. They are maintained on the dry earth system which could not be satisfactorily carried out during rainy season. Fields and road sides are also used as latrines by a good many.	The cess-pools that are now constructed are being built of brick and chunam or stone and chunam. The question of removing platforms over drains is pending legal advice. One of the drinking-water wells was provided with a cistern for receiving the waste water.
0·1	11·0	13·2	9·5	11·4	15·8	15·1	15·4	20 0 0	1,471 4 11	A market and two latrines were repaired. Iron buckets with covers and an iron night-soil cart of approved pattern were purchased.			
0·3	13·9	16·0	16·0	16·0	20·7	21·5	21·1	...	183 0 0				
0·4	15·1	19·2	18·1	18·7	22·9	22·6	22·7	189 5 3	2,845 12 8				
0·3	16·8	20·1	18·5	19·3	24·4	23·6	24·0	34 4 0	544 4 2				
0·3	9·0	15·6	16·9	16·2	22·4	23·1	23·7	...	556 1 4				
0·2	7·6	13·6	14·1	13·9	18·6	19·8	19·2	...	875 6 8				
0·2	12·4	16·4	14·4	15·4	17·6	17·8	17·7	...	634 11 8				
0·5	9·3	12·1	13·9	13·0	14·2	15·1	14·6	...	420 15 0				
0·3	7·2	11·4	12·6	12·0	...	...	...	...	...	There is no system of drainage in any of the towns or villages. The side channels or rough drains that exist in the main streets of union towns are covered over with pials and consequently these could not conveniently be cleaned. Cess-pools are cleaned only when full. There is no system of house drainage.	Except in union towns and a few other villages where watchmen are appointed to guard tanks, wells, rivers and channels which are the chief drinking-water sources, elsewhere they are generally much contaminated by men and animals. The beds of rivers and banks of channels are used as latrines in some places.	Unsatisfactory. In some of the unions, rubbish and human excreta are either deposited in any convenient place or thrown in the existing hollows or allowed to remain about the outskirts and ruined houses. All the latrines are mere open enclosures without seats. The latrine at Kalyandrug is not used for want of a toty.	Tahsildars and Revenue Inspectors sometimes prosecute people who fail to keep their surroundings clean and remove manure heaps. Some funds have been provided by the Taluk Board of Anantapur for getting a few important villages cleaned. The Police prevent commission of nuisance in the beds of the river and banks of channels. A latrine, six dust-bins, a market, and a slaughter-house, were constructed. Ten latrines were repaired; four night-soil carts were purchased; prickly-pear and rank vegetation removed.
0·3	12·0	16·2	15·9	16·0	20·5	20·7	20·6	...	...				
0·7	14·0	25·3	26·8	26·0	25·7	29·4	27·5	3,444 0 0	25,927 0 0	No system. Drainage of houses is not good. Cess-pools are used to a large extent, which are not at all kept clean. The system of conducting house drainage into cess-pools must be put a stop to.	The branches of babool trees which overhang the Fort ditch—one of the drinking-water sources should be removed. Means should also be taken to pump or draw up the water to avoid the fouling that is at present caused by hundreds of people.	.....	An advance of Rs. 1,000 has been made to the Sanitary Engineer for the investigation of the Copper Mountain water-supply scheme. Out of Rs. 2,000 sanctioned by Government for the purpose, a latrine was constructed and another repaired. A well was also repaired.
0·2	14·3	24·5	22·8	23·7	26·8	27·4	27·1	2,556 4 11	7,227 6 5	No system of drainage at present.	.....	.....	A scheme for providing the town with a good drainage system is under contemplation. Two zinc latrines were constructed. A latrine and three drains were repaired. A market was improved.
0·2	0·6	11·3	11·6	11·5	22·1	16·5	19·3	...	...	No system. Very defective in some places. Cess-pools abound which are rarely cleaned.	Is defective in several villages, especially in those comprised in Bellary, Kúdligi, Hadagalli, and Harpanahalli rural circles.	As a rule, refuse is not systematically disposed of. It is either allowed to remain where it happens to be or thrown in the nearest vacant spot. It is rarely taken out of the village. In some places latrines should be provided at least for the female population.	A sufficient number of dust-bins has been provided in some of the villages in Hospet circle and people have been instructed to deposit rubbish in them. A good staff of sweepers is also maintained in this and Kampli town circle where also the sanitary condition is bad. A latrine and a few markets were constructed. A few wells and some latrines were repaired. Rank vegetation removed.
0·6	0·1	27·7	24·6	26·2	22·1	21·6	22·0						
0·1	2·8	12·8	11·4	12·1	15·7	15·9	15·9						
0·3	11·6	23·5	23·5	23·5	25·0	25·5	25·2						
0·3	6·1	27·2	24·6	25·9	31·0	29·6	30·3						
0·2	5·8	19·6	17·5	18·5	23·5	22·3	22·9						
0·2	9·0	18·3	19·1	18·6	20·1	22·7	21·3						
0·4	7·8	20·9	19·0	20·0	24·6	23·4	24·0						
0·3	12·8	18·9	18·9	18·9	22·9	22·5	22·7						
0·3	12·0	19·8	20·3	20·0	23·9	24·1	24·0						
0·2	5·5	19·3	21·5	20·4	20·8	21·4	21·1						
0·2	6·9	39·9	33·0	36·5	31·8	30·3	31·0						
0·3	9·4	21·5	20·9	21·1	23·9	24·0	23·9	...	...				

No. II.—*Statement of births and deaths registered in each town and rural circle of the together with the principal sanitary defects of each circle,*

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	ANANTAPUR.															
1	Anantapur ... M.T.C.	...	...	3,473	3,500	6,973	280	40·1	66	49	115	134·7	...	0·6	7·3	0·1
2	Tadpatri ... T.C.	...	...	5,125	5,150	10,275	235	22·8	68	49	117	138·8	...	0·2	...	0·1
3	Anantapur ... R.C.	...	...	51,030	46,451	97,481	3,083	31·6	818	744	1,562	109·9	...	0·6	1·1	0·1
4	Gooty ... R.C.	...	...	72,693	69,884	142,577	4,745	33·3	1,398	1,268	2,666	110·2	0·4	0·7	1·6	0·5
5	Tadpatri ... R.C.	...	...	51,976	50,397	102,373	2,977	29·1	1,046	936	1,982	111·8	0·1	1·3	0·7	0·1
6	Penukonda ... R.C.	...	...	41,447	39,653	81,100	2,350	28·9	648	670	1,318	96·7	...	0·04	0·5	0·4
7	Dharmavaram R.C.	...	...	34,204	31,909	66,113	1,984	30·0	465	451	916	103·1	...	0·1	5·9	0·1
8	Hindupur ... R.C.	...	...	40,303	39,940	80,843	2,210	27·3	672	577	1,249	116·5	...	...	2·4	0·4
9	Madakasira ... R.C.	...	...	34,231	33,761	67,992	1,797	26·5	413	470	883	88·0	...	0·3	2·4	0·5
10	Kalyandroog R.C.	...	...	36,952	34,640	71,592	2,100	29·3	422	438	860	96·3	...	0·3	4·6	0·2
10	Total District ...	5,275	134·2	372,034	355,285	* 727,319	21,761	29·9	6,016	5,652	11,668	106·4	0·1	0·5	2·8	0·3
	BELLARY.															
11	Bellary ... M.T.C.	...	...	29,130	28,650	57,780	1,890	32·7	736	768	1,504	95·8	0·9	0·02	8·4	2·0
12	Adóni ... M.T.C.	...	...	13,231	12,985	26,216	1,172	44·7	324	296	620	109·4	0·1	...	9·0	0·1
13	Hospet ... T.C.	...	...	6,263	6,606	12,869	399	31·0	71	77	148	92·2	0·7	...	10·0	...
14	Kampli ... T.C.	...	...	5,406	5,122	10,528	404	38·4	150	126	276	119·0	3·9	0·1	21·5	0·1
15	Rayadrug ... T.C.	...	...	5,209	5,169	10,378	370	35·7	67	59	126	113·6	...	...	9·2	...
16	Bellary ... R.C.	...	...	61,444	59,356	120,800	4,836	36·9	1,448	1,396	2,844	103·7	2·8	1·1	6·9	0·8
17	Hospet ... R.C.	...	...	35,231	33,872	69,103	2,268	32·8	959	835	1,794	114·8	3·9	0·1	15·1	0·4
18	Kudligi ... R.C.	...	...	47,281	47,014	94,295	2,642	28·0	925	823	1,748	112·4	0·8	0·4	10·9	0·4
19	Hadagalli ... R.C.	...	...	54,811	49,224	104,035	3,061	29·4	1,002	939	1,941	106·7	3·3	0·03	4·7	1·3
20	Harpanahalli R.C.	...	...	41,370	40,870	82,240	2,983	36·2	865	777	1,642	111·3	2·2	0·04	8·5	1·1
21	Ajúr ... R.C.	...	...	44,685	43,391	88,076	3,583	40·7	843	821	1,664	102·7	...	1·6	3·9	0·3
22	Adóni ... R.C.	...	...	68,982	65,569	134,551	5,321	39·5	1,364	1,333	2,697	102·3	2·6	0·3	4·5	0·3
23	Rayadrug ... R.C.	...	...	34,782	33,461	† 68,243	2,445	35·8	672	719	1,391	93·5	0·8	2·4	11·2	0·3
24	Zamindari ... R.C.	...	...	5,712	5,659	11,371	477	41·9	228	187	415	121·9	4·8	...	24·3	0·3
14	otal District ...	6,136	148·2	453,537	436,948	890,485	31,841	35·7	9,654	9,156	18,810	105·4	2·0	0·6	8·1	0·7

* Includes 19,176, the population of certain villages of Rayadrug taluk transferred from the Bellary District.
† Excludes 19,176, the population of certain villages transferred to the Anantapur District.

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895.

9						10			11	12	13			14
of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects.			Measures taken for sanitary improvements of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.							In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·7	7·8	19·0	14·0	16·5		24·2	23·1	23·8	416 1 10	2,692 11 4	No system. Cess-pools abound, which are covered over and cleaned when full, hence the ground around must be saturated. Side drains in the main streets are covered over with platforms.	The tank which is said to contain water of good quality is subject to pollution, washing and bathing being allowed. People also commit nuisance to some extent on the bund and steps of the tank.	The existing public latrines are large open enclosures without seats. They are maintained on the dry earth system which could not be satisfactorily carried out during rainy season. Fields and road sides are also used as latrines by a good many.	The cess-pools that are now constructed are being built of brick and chunam or stone and chunam. The question of removing platforms over drains is pending legal advice. One of the drinking-water wells was provided with a cistern for receiving the waste water.
											A market and two latrines were repaired. Iron buckets with covers and an iron night-soil cart of approved pattern were purchased.			
0·1	11·0	13·2	9·5	11·4		15·8	15·1	15·4	20 0 0	1,431 4 11	There is no system of drainage in any of the towns or villages. The side channels or rough drains that exist in the main streets of union towns are covered over with pials and consequently these could not conveniently be cleaned. Cess-pools are cleaned only when full. There is no system of house drainage.	Except in union towns and a few other villages where watchmen are appointed to guard tanks, wells, rivers and channels which are the chief drinking-water sources, elsewhere they are generally much contaminated by men and animals. The beds of rivers and banks of channels are used as latrines in some places.	Unsatisfactory. In some of the unions, rubbish and human excreta are either deposited in any convenient place or thrown in the existing hollows or allowed to remain about the outskirts and ruined houses. All the latrines are mere open enclosures without seats. The latrine at Kalyandrug is not used for want of a toty.	Tahsildars and Revenue Inspectors sometimes prosecute people who fail to keep their surroundings clean and remove manure heaps. Some funds have been provided by the Taluk Board of Anantapur for getting a few important villages cleaned. The Police prevent commission of nuisance in the beds of the river and banks of channels. A latrine, six dust-bins, a market, and a slaughter-house, were constructed. Ten latrines were repaired; four night-soil carts were purchased; prickly-pear and rank vegetation removed.
0·3	13·9	16·0	16·0	16·0		20·7	21·5	21·1	...	187 0 0				
0·4	15·1	19·2	18·1	18·7		22·9	22·6	22·7	189 5 3	2,845 12 8				
0·3	16·8	20·1	18·5	19·3		24·4	23·6	24·0	34 4 0	544 4 2				
0·3	9·0	15·6	16·9	16·2		22·4	23·1	22·7	...	556 1 4				
0·2	7·0	13·6	14·1	13·9		18·3	19·8	19·2	...	875 6 8				
0·2	12·4	16·4	14·4	15·4		17·6	17·8	17·7	...	634 11 8				
0·5	9·3	12·1	13·9	13·0		14·2	15·1	14·6	...	420 15 0				
0·3	7·2	11·4	12·6	12·0		...	...	...	...	...				
0·3	12·0	16·2	15·9	16·0		20·5	20·7	20·6	...	...				
0·7	14·0	25·3	26·8	26·0		25·7	29·4	27·5	3,444 0 0	25,927 0 0	No system. Drainage of houses is not good. Cess-pools are used to a large extent, which are not at all kept clean. The system of conducting house drainage into cess-pools must be put a stop to.	The branches of babool trees which overhang the Fort ditch—one of the drinking-water sources should be removed. Means should also be taken to pump or draw up the water to avoid the fouling that is at present caused by hundreds of people.	.....	An advance of Rs. 1,000 has been made to the Sanitary Engineer for the investigation of the Copper Mountain water-supply scheme. Out of Rs. 2,000 sanctioned by Government for the purpose, a latrine was constructed and another repaired. A well was also repaired.
0·2	14·3	24·5	22·8	23·7		26·8	27·4	27·1	2,536 4 11	7,227 6 5	No system of drainage at present.	.....	.....	A scheme for providing the town with a good drainage system is under contemplation. Two zinc latrines were constructed. A latrine and three drains were repaired. A market was improved.
0·2	0·6	11·3	11·6	11·5		22·1	16·5	19.3			No system. Very defective in some places. Cess-pools abound which are rarely cleaned.	Is defective in several villages, especially in those comprised in Bellary, Kudligi, Hadagalli, and Harpanahalli rural circles.	As a rule, refuse is not systematically disposed of. It is either allowed to remain where it happens to be or thrown in the nearest vacant spot. It is rarely taken out of the village. In some places latrines should be provided at least for the female population.	A sufficient number of dust-bins has been provided in some of the villages in Hospet circle and people have been instructed to deposit rubbish in them. A good staff of sweepers is also maintained in this and Kampli town circle where also the sanitary condition is bad. A latrine and a few markets were constructed. A few wells and some latrines were repaired. Rank vegetation removed.
0·6	0·1	27·7	24·6	26·2		22·1	21·6	22·0						
0·1	2·8	12·8	11·4	12·1		15·7	15·9	15·9						
0·3	11·6	23·5	23·5	23·5		25·0	25·5	25·2						
0·3	6·1	27·2	24·6	25·9		31·0	29·6	30·3						
0·2	5·8	19·6	17·5	18·5		23·5	22·3	22·9						
0·2	9·0	18·3	19·1	18·6		20·1	22·7	21·5						
0·4	7·8	20·9	19·0	20·0		24·6	23·4	24·0						
0·3	12·8	18·9	18·9	18·9		22·9	22·5	22·7						
0·3	12·0	19·8	20·3	20·0		23·9	24·1	24·0						
0·2	5·5	19·3	21·5	20·4		20·8	21·4	21·1						
0·2	6·9	39·9	33·0	36·5		31·8	30·3	31·0						
0·3	9·4	21·3	20·9	21·1		23·9	24·0	23·9	...	...				

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895*—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	CHINGLEPUT.															
25	Conjeeveram M.T.C.	...	...	20,611	21,932	42,543	1,632	38·3	695	733	1,428	94·8	1·8	0·2	8·5	3·7
26	St. Thomas' Mount T.C.	...	...	5,781	6,359	12,140	340	28·0	139	141	280	98·5	0·1	0·3	7·4	1·8
27	Saidapet ... R.C.	...	...	105,580	103,897	209,477	7,567	36·1	2,492	2,444	4,936	102·0	0·8	0·1	7·7	2·4
28	Chingleput ... R.C.	...	...	69,175	68,001	137,176	5,914	43·1	1,546	1,511	3,057	102·3	0·3	0·05	6·2	2·9
29	Madurántakam R.C.	...	...	132,734	130,396	263,130	10,411	39·5	2,777	2,642	5,419	105·1	0·9	0·02	4·7	1·4
30	Conjeeveram... R.C.	...	...	87,931	88,190	176,121	6,834	38·8	1,974	1,867	3,841	105·7	0·8	0·1	6·1	2·3
31	Tiruvallúr ... R.C.	...	...	120,783	116,133	236,916	8,932	37·7	2,637	2,566	5,203	102·8	0·2	0·04	6·9	1·0
32	Ponnéri ... R.C.	...	...	62,221	60,177	122,398	4,466	36·4	1,357	1,376	2,733	98·6	0·3	0·05	7·3	1·6
8	Total District ...	2,842	399·0	604,816	595,085	1,199,901	46,096	38·4	13,617	13,280	26,897	102·5	0·6	0·1	6·5	1·9
	COIMBATORE.															
33	Coimbatore ... M.T.C.	...	...	22,079	23,928	46,007	1,864	40·5	666	622	1,288	107·1	...	0·3	7·1	2·8
34	Erode ... M.T.C.	...	...	6,074	6,164	12,238	432	35·3	153	147	300	104·1	...	...	5·4	2·4
35	Karúr ... M.T.C.	...	...	5,157	5,583	10,740	403	37·5	150	156	306	96·1	0·1	0·2	10·6	7·6
36	Coimbatore... R.C.	...	...	127,828	132,593	260,421	8,047	30·8	2,447	2,252	4,699	108·7	0·004	0·05	9·5	0·3
37	Erode ... R.C.	...	...	116,150	118,527	234,677	6,426	27·3	2,183	2,153	4,336	101·4	2·5	0·008	4·9	0·7
38	Satyamangalam ... R.C.	...	...	90,270	93,809	184,088	5,422	29·4	1,555	1,429	2,984	108·8	0·1	0·01	9·7	0·3
39	Pollachi ... R.C.	...	...	89,249	94,401	183,650	5,551	30·2	1,841	1,792	3,633	102·7	1·0	0·01	9·8	0·4
40	Palladam ... R.C.	...	...	132,332	138,052	270,384	8,117	30·0	2,459	2,289	4,748	107·4	0·5	0·02	7·3	0·6
41	Bhavání ... R.C.	...	...	59,032	60,835	119,867	3,143	26·2	953	846	1,799	112·6	...	0·02	9·9	0·1
42	Kollegal ... R.C.	...	...	43,575	44,949	88,524	2,527	28·5	747	727	1,474	102·7	...	0·04	9·5	0·8
43	Udamalpet ... R.C.	...	...	69,346	73,710	143,056	4,200	29·3	1,311	1,265	2,576	103·6	0·6	0·04	6·4	0·3
44	Karúr ... R.C.	...	...	97,405	103,638	201,043	5,391	26·8	1,589	1,463	3,052	108·6	0·3	0·004	3·4	0·1
45	Dharápuram. R.C.	...	...	122,727	126,489	249,216	6,780	27·2	2,341	2,144	4,485	109·1	2·9	0·03	3·4	0·5
13	Total District ..	7,860	254·9	981,233	1,022,678	2,003,911	58,303	29·1	18,395	17,285	35,680	106·4	0·9	0·03	7·1	0·5
14																

9						10			11	12	13			14
of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·3	19·1	33·7	33·4	33·6		32·4	30·1	31·2	3,641 5 0	7,330 3 9	No system. Drainage of houses sonks into backyards.	Unsatisfactory ...	.....	A scheme for supplying the town with water has been sanctioned by Government and the work was undertaken by the Sanitary Engineer. Parapet walls were constructed to a tank and some of the public wells. A tank which used to be highly contaminated was closed for drinking purposes. The system of private scavengering has been extended. Two markets were constructed.
0·1	13·4	24·0	22·2	23·1		10·5	9·3	9·9	...	...	No public masonry drains.	Tank water is soft, but contains large quantity of organic impurities. Well water is harder, but comparatively free from organic impurities. No permanent watchmen are employed to guard drinking-water supply both day and night.	Conservancy establishment is deficient in each and every union. Lights and dust-bins not sufficient. Latrines are greatly wanted. Cattle sheds are situated near dwelling houses. Rubbish, &c., are thrown in the backyards of houses.	New wells were sunk. Prickly-pear was removed in different parts. Three new wells and two latrines are under construction. Silt was removed from 14 wells. Five springs were dug out; 12 tanks, 3 ponds and 5 wells were repaired. Watchmen were employed to guard sources of drinking-water supply.
0·4	12·2	23·6	23·5	23·6		22·4	22·4	22·4	7 4 0	459 14 0				
0·5	12·3	22·3	22·2	22·3		22·7	22·3	22·5	31 0 0	177 0 0				
0·5	13·1	21·9	20·3	20·6		22·7	21·5	22·1	...	...				
0·3	12·2	22·4	21·2	21·8		24·0	23·5	23·7	0 14 6	181 15 5				
0·3	13·5	21·8	22·1	21·9		16·9	17·7	17·3	475 8 4	1,944 14 1				
0·4	12·6	21·8	22·8	22·3		21·9	21·7	21·8	...	1,212 0 0				
0·4	12·9	22·5	22·3	22·4		21·8	21·6	21·7	...	...				
0·4	17·4	30·1	26·0	28·0		30·0	26·4	28·4	1,151 2 2	10,323 14 5	The existing drains, which are mere side ditches, are very offensive in several places with stagnant sewage.	The majority of wells in backyards of houses are near cesspits and drains. Some of the public wells are quite close to drains. Bathing and washing is allowed in Teppakolam, one of the drinking-water sources, although guarded by a watchman.	Owing to the want of a sufficient number of dust-bins, the sweepings of most of the houses are thrown in front of houses along the road sides and side ditches which are generally blown and scattered about by the wind. Most of the existing latrines are in a dilapidated condition; they are consequently not freely resorted to.	Almost all the drains were cleared of silt. The drinking wells in the town are cleaned and repaired when necessary every year. Drainage and water-supply schemes have been prepared by the Sanitary Engineer and sanctioned by Government. Two tanks and 8 wells were repaired, as also two public latrines and drains.
0·5	16·2	25·2	23·8	24·5		27·3	29·7	28·5	351 8 0	2,234 13 10	Defective	.....	.....	Levels of the town have been taken for a drainage scheme, and the subject is before the Sanitary Engineer.
0·6	9·4	29·0	28·0	28·5		32·5	29·9	31·2	281 12 9	2,544 6 10	Side drains of a primitive type exist. They are often choked with stagnant sewage.	Most of the wells contain brackish water.	More latrines are required.	A drainage scheme was submitted to Government, but a good water-supply was considered more urgent and important. Twenty dust-bins were constructed and a well was sunk.
0·3	7·9	19·1	16·9	18·0		20·7	18·1	19·3			There is absolutely no system of drainage in the towns and villages. The principal streets have ordinary side ditches into which the majority of house drains empty their contents. In these, sewage of all sorts stagnates until flushed by rain water.	River water is greatly pollated by being used for bathing and washing purposes. Tanks and step wells are likewise polluted. Draw wells are near drains. Ordure, &c., are stored up and occasionally removed to fields; backyards are generally very unclean, being used as latrines. In towns and villages where there are conservancy establishments, there is great laxity in supervision and much less work exacted.	Houses are daily swept, and sweepings with other filthy refuse of the house are thrown carelessly in backyards some of which are never cleaned. Cattle are kept immediately in front and back of houses.	Two wells were sunk and 12 others repaired. Prickly-pear and rank vegetation cleared in some of the villages. Four latrines and a market were constructed; a few drains were also repaired.
0·4	10·0	18·8	18·1	18·5		17·8	16·7	17·2						
0·5	5·6	17·2	15·2	16·2		20·0	17·3	18·6	...	...				
0·2	8·3	20·6	18·9	19·7		21·4	19·2	20·3						
0·3	8·8	18·5	16·5	17·5		19·1	17·6	18·2						
0·3	4·7	16·2	13·9	15·0		17·6	15·6	16·6						
0·2	6·1	17·1	16·1	16·6		20·4	18·4	19·4	26 4 0	1,354 1 6				
0·2	10·5	18·9	17·1	18·0		19·5	18·0	18·7	...	1,172 11 4				
0·1	11·2	16·3	14·1	15·1		19·3	17·0	18·1	284 0 5	...				
0·3	10·9	19·0	17·0	18·0		16·8	15·8	16·7	...	...				
0·3	9·0	18·7	16·9	17·8		19·5	17·7	18·6	...	...				

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	9						10			11	12	13			14
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
													Injuries.	All other causes.	All causes.									a	b	c	
				Males.	Females	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.				Males.	Females.	Total.	Males.	Females.	Total.				In drainage.	In water-supply.	In domestic cleansing and conservancy.	
	CUDDAPAH.																					Rs. A. P.	Rs. A. P.				
46	Cuddapah ... M.T.C.	...	...	8,597	8,614	17,211	392	22·7	311	260	571	119·6	0·6	12·5	36·2	30·2	33·2	38·9	39·8	39·3	1,193 8 0	5,863 0 0	No proper drains exist in the town.	.....	The general sanitary condition of the town is very unsatisfactory.	The town is supplied with pipe water from Buggasprings. Prickly-pear and rank vegetation removed. A market stall was constructed and a few others were repaired. A drain was made.
47	Badvel ... R.C.	...	...	46,792	46,358	93,150	2,830	30·7	867	793	1,660	109·3	0·3	2·4	18·5	17·1	17·8	27·4	26·5	26·9	15 13 0	...	No drainage. In some villages the streets are very low, and consequently rain water remains as stagnant pools.	Some wells require parapet walls.	Cattle are kept within houses.	In principal villages streets are cleaned by scavengers paid from Local Funds.
48	Proddatur ... R.C.	...	...	49,572	48,845	98,417	3,111	31·6	1,049	1,015	2,064	103·3	0·5	6·0	21·1	20·7	21·0	26·0	25·3	25·6	...	2,189 3 8	Except in the town of Proddatur there is nothing like drainage in any of the outlying villages where rain water either sinks, if the soil is sandy, or stagnates amidst and around villages forming pools in the rainy season and becoming miry and sending forth offensive smell.	Most of the people in Proddatur town obtain their supply from the irrigation channel which receives the surface drainage during the rainy season, and is also polluted by the letting in of filthy water in the village of Ramésvaram. In other villages step and draw wells and reservoirs supply water. Their surroundings are unsatisfactory, as dung heaps and manure pits are allowed to remain close to them.	The cess-pools in Proddatur town are an eye-sore. Some of them are so deep that filthy water is likely to percolate into drinking-water wells. In villages cattle are kept in houses and urine and dung are either not removed at all daily, or, if removed, are done so imperfectly that houses stink as manure pits.	Certain improvements to water-supply have been effected.
49	Siddhavattam R.C.	...	...	33,680	33,129	66,809	1,820	27·2	729	649	1,378	112·3	...	0·4	2·5	21·6	19·6	20·6	23·9	22·3	23·1	3 7 0	1,101 0 0	Very bad, except at Taluk head-quarters where side channels exist. Elsewhere drainage water takes its own course.	.....	Backyards of houses are generally unclean, as cattle are kept within houses. The streets are also dirty with cattle excretion, but they are only disgusting in the rainy season.	Scavengering establishments are maintained in some of the villages. They remove rubbish from streets and store them in heaps in proper places and sell by auction. Two fresh water wells have been repaired. Prickly-pear has also been removed by the itenerating gang employed by the Local Board.
50	Pullampet ... R.C.	...	...	75,597	73,496	149,093	3,702	24·8	1,513	1,448	2,961	104·4	0·7	0·5	3·7	20·1	19·9	19·8	21·7	21·3	21·5	55 0 0	1,778 7 11	There are no drains constructed in any of the towns.	*Nil*	In non-union villages rubbish is thrown on dung heaps.	Nothing could be done for constructing drains. Village officers are instructed to advise people to remove dung heaps from near villages.
51	Cuddapah ... R.C.	...	...	69,744	67,711	137,455	3,536	25·7	1,369	1,399	2,768	97·8	...	0·4	3·1	19·6	20·6	20·1	23·3	23·0	23·1	6 8 0	1,295 5 0				
52	Jammalamadugu ... R.C.	...	...	51,393	49,880	101,273	3,546	35·0	1,196	1,142	2,338	104·7	0·8	0·6	6·8	23·2	22·8	23·0	24·4	24·0	24·2	63 0 0	1,070 0 0	No drainage ...	In many of the villages supply obtained is not good, being brackish. In a few villages scarcity is felt.	The houses of the agricultural classes are generally very dirty, cattle being kept in their houses. The streets are not generally cleaned in some of the villages.	Rs. 291 was spent on drainage.
53	Pulivendla ... R.C.	...	...	53,808	52,034	105,842	3,039	28·7	1,328	1,292	2,620	102·8	...	0·6	3·8	24·6	24·8	24·7	23·6	22·9	23·2	51 8 0	...	Do. ...	.....	In some of the villages manure is stored in backyards of houses.	Some latrines were constructed. People are instructed to keep their backyards clean, and dig side channels for the free flow of drainage water.
54	Rayachóti ... R.C.	...	...	57,770	55,464	113,234	2,637	23·2	1,266	1,117	2,383	113·3	...	0·7	2·1	21·9	20·1	21·0	21·1	21·4	21·2	31 0 0	561 13 8	Except in Rayachóti town there is no drainage at all anywhere. Refuse water, therefore, soaks in backyards and low grounds.	.....	Domestic cleansing is very backward except in refined quarters. Children as well as old people defecate almost immediately in the vicinity of houses. There are no latrines.	The village heads are directed to see that the villages are kept clean. Rank vegetation has been removed to a considerable extent. In several villages, villagers were with difficulty made to deposit manure heaps at some distance from the villages.
55	Kadiri ... R.C.	...	...	69,718	65,174	134,892	4,011	29·7	1,556	1,507	3,063	103·2	...	0·7	3·9	22·3	23·1	22·7	20·8	21·2	21·0	112 0 6	970 2 9	Except in a very few villages there are no defects in the drainage.	.....	The houses of the lower classes are not generally kept clean.	Instructions are given to inhabitants to keep their houses, &c., clean. Wells are constructed in places where water-supply is deficient. Scavengers have been employed in important villages to clean the streets.

No. 11.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	CUDDAPAH—*cont.*															
56	Váyalpád ... R.C.	...	...	64,247	62,788	127,035	3,237	25·4	1,166	1,190	2,356	97·9	...	0·2	15·5	0·5
57	Madanapalle R.C.	...	...	65,214	62,096	127,310	4,645	36·5	1,200	1,297	2,497	92·5	...	0·02	14·6	0·7
12	Total District ...	8,722	145·8	646,132	625,589	1,271,721	36,506	28·7	13,550	13,109	26,659	103·4	0·1	0·2	16·0	0·4
	GANJÁM.															
58	Chicacole ... M.T.C.	...	...	8,451	9,753	18,204	395	21·6	237	233	470	101·7	...	...	9·5	3·4
59	Berhampur... M.T.C.	...	...	12,292	13,201	25,493	619	24·2	355	262	617	135·5	...	0·04	7·9	3·2
60	Parlákimedi M.T.C.	...	...	7,717	8,662	16,379	527	32·1	189	166	355	113·8	...	0·1	9·6	2·8
61	Chicacole ... R.C.	...	...	92,940	101,390	194,330	5,111	26·3	2,392	2,262	4,654	105·7	0·8	0·4	19·6	0·5
62	Berhampur... R.C.	...	...	141,825	155,911	297,736	6,894	23·1	2,897	2,850	5,747	101·6	0·2	0·3	15·7	0·9
63	Goomsur ... R.C.	...	...	89,783	96,548	185,831	4,679	25·1	1,729	1,666	3,395	103·7	0·1	0·2	13·1	0·9
64	Zamindaries ...	...	...	411,664	439,445	851,109	14,402	16·9	5,471	4,764	10,235	114·8	0·1	0·2	9·5	0·5
65	Agency Tracts ...	...	...	158,828	148,490	307,318	296	0·9	152	154	306	98·7	...	0·000	0·9	...
8	Total District ...	8,370	226·6	923,000	973,400	* 1,896,400	32,923	17·3	13,422	12,357	25,779	108·6	0·2	0·2	10·4	0·5

9					10		11	12	13			14
of population from					Mean ratio of deaths per 1,000 during previous five years.				Principal sanitary defects of circle.			
Injuries.	All other causes.	All causes. Males.	All causes. Females.	All causes. Total.	Males.	Females.	Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	*a* In drainage.	*b* In water-supply.	*c* In domestic cleansing and conservancy.	Measures taken for sanitary improvement of circle.
							Rs. A. P.	Rs. A. P.				
0·5	1·8	18·1	18·9	18·5	21·6	21·2	21·4	9 0 0	949 9 9	Defective	*Nil*	There are no latrines in some of the villages which causes a good deal of inconvenience.	.....
0·6	3·7	18·4	20·7	19·6	19·0	20·1	19·5	191 1 0	1,436 5 7	No system	.....	The latrines in these parts are deep excavations, the contents of which are never removed. In houses having small backyards, these filthy pits are a great nuisance, drinking-water wells being in close proximity to them.	Prickly-pear has been removed to some extent in some of the villages.
0·5	3·7	20·9	20·9	20·9	22·9	22·7	22·8	...	...				
0·2	12·7	28·0	28·8	25·8	25·0	19·7	22·3	510 6 6	3,067 11 9	The whole drainage is defective and out of level.	.....	.....	Increased attention is being paid to the sanitation of the town and several are prosecuted for committing nuisance. Two new corrugated iron latrines were constructed. Three tanks and a well were repaired. Prickly-pear and rank vegetation removed.
0·1	13·0	28·8	19·8	24·2	22·2	17·8	20·0	...	...	Very defective. The existing drains are practically useless in their present condition. The refuse water from houses empty into cess-pools which are mostly mere pits dug in the earth either in the front or at the back of the houses. They are a source of considerable danger, as their contents are not regularly removed for want of a sufficient number of sewage carts.	*Nil*	A dozen urinals are required to prevent people committing nuisance in the streets. The conservancy staff needs better supervision. The corrugated iron dust-bins used in the place of brick ones are not spacious. A trained Sanitary Inspector should be employed to look after the sanitation of the town. With better supervision the present staff could show better results.	Much has been done towards the improvement of roads and lanes, and attention has been paid to the cleanliness of the lanes and corners. Some latrines were constructed and others repaired. Most of the brick dust-bins were replaced by corrugated iron ones, but they are not spacious.
...	9·2	24·5	19·2	21·7	24·1	18·4	21·1	89 1 11	1,729 15 5	In most of the houses, refuse water is allowed to soak into the backyards or is received in pits where it stagnates.	In parts of tanks which are used as drinking water sources, washing of clothes and bathing are allowed. Water in most of the wells is brackish, that from tanks was not satisfactory.	.....	A drain was constructed and 4 latrines were repaired. Rubbish depot and burning ground were removed to a site beyond the catchment area of the drinking water tank. A rubbish cart is under construction.
0·2	3·0	25·7	22·3	23·9	18·7	16·6	17·6	...	992 0 0	Drainage is natural. In Union villages, side channels are dug which, not being built of stone and chunam, allow their contents to percolate through the soil. In some places house-owners bury a large pot at one end of the house and allow all the washings to fall into it, and this is removed once or twice daily. In other villages drainage is purely natural, no effort being made for the convenience and safety of the general public.	With the exception of Union villages where watchmen are appointed to prevent pollution of drinking water, elsewhere no such precaution is observed.	Depends upon the extent of sanitary knowledge possessed by individuals concerned, which, in most instances, is very deficient.	The Presidents of Taluk Boards have to some extent remedied the defects pointed out as funds permitted them.
0·2	2·0	20·4	18·2	19·3	15·8	12·6	14·2	...	2,151 0 0				
0·3	3·6	19·3	17·2	18·2	16·0	13·6	14·8	8 0 0	1,072 0 0				
0·2	1·7	13·2	10·8	12·0	12·7	10·9	11·8	313 0 0	5,462 0 0				
0·009	0·05	0·9	1·0	0·9	1·7	1·5	1·6	...	...				
0·2	2·1	14·5	12·7	13·6	12·5	10·9	11·7	...	...				

* The population for which the returns were received from the district of Ganjám according to the census of 1891, is not available—hence the ratios shown in column 9 have been calculated on the total population of the district as per census of 1891.

No. 11.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	9						10			11	12	13			14
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	All causes. Males.	All causes. Females.	All causes. Total.	Males.	Females.	Total.			a In drainage.	b In water-supply.	c In domestic cleansing and conservancy.	
	CUDDAPAH—*cont.*																										
56	Váyalpád ... R.C.	...	...	64,247	62,788	127,035	3,237	25·4	1,166	1,190	2,356	97·9	...	0·2	15·5	0·5	0·5	1·8	18·1	18·9	18·5	21·6	21·2	21·4	Rs. A. P. 9 0 0	Rs. A. P. 949 9 9	Defective	*Nil*	There are no latrines in some of the villages which causes a good deal of inconvenience.	.....
57	Madanapalle R.C.	...	...	65,214	62,096	127,310	4,645	36·5	1,200	1,297	2,497	92·5	...	0·02	14·6	0·7	0·6	3·7	18·4	20·7	19·6	19·0	20·1	19·5	191 1 0	1,436 5 7	No system	.....	The latrines in these parts are deep excavations, the contents of which are never removed. In houses having small backyards, these filthy pits are a great nuisance, drinking-water wells being in close proximity to them.	Prickly-pear has been removed to some extent in some of the villages.
12	Total District ...	8,722	145·8	646,132	625,589	1,271,721	36,506	28·7	13,550	13,109	26,659	103·4	0·1	0·2	16·0	0·4	0·5	3·7	20·9	20·9	20·9	22·9	22·7	22·8	...	...				
	GANJÁM.																											
58	Chicacole ... M.T.C.	...	...	8,451	9,753	18,204	395	21·6	237	233	470	101·7	...	...	9·5	3·4	0·2	12·7	28·0	28·8	25·8	25·0	19·7	22·3	510 6 6	3,067 11 9	The whole drainage is defective and out of level.	.....	.....	Increased attention is being paid to the sanitation of the town and several are prosecuted for committing nuisance. Two new corrugated iron latrines were constructed. Three tanks and a well were repaired. Prickly-pear and rank vegetation removed.
59	Berhampur... M.T.C.	...	...	12,292	13,201	25,493	619	24·2	355	262	617	135·5	...	0·04	7·9	3·2	0·1	13·0	28·8	19·8	24·2	22·2	17·8	20·0	...	...	Very defective. The existing drains are practically useless in their present condition. The refuse water from houses empty into cess-pools which are mostly mere pits dug in the earth either in the front or at the back of the houses. They are a source of considerable danger, as their contents are not regularly removed for want of a sufficient number of sewage carts.	*Nil*	A dozen urinals are required to prevent people committing nuisance in the streets. The conservancy staff needs better supervision. The corrugated iron dust-bins used in the place of brick ones are not spacious. A trained Sanitary Inspector should be employed to look after the sanitation of the town. With better supervision the present staff could show better results.	Much has been done towards the improvement of roads and lanes, and attention has been paid to the cleanliness of the lanes and corners. Some latrines were constructed and others repaired. Most of the brick dust-bins were replaced by corrugated iron ones, but they are not spacious.
60	Parlákimedi M.T.C.	...	...	7,717	8,662	16,379	527	32·1	189	166	355	113·8	...	0·1	9·6	2·8	...	9·2	24·5	19·2	21·7	24·1	18·4	21·1	89 1 11	1,729 15 5	In most of the houses, refuse water is allowed to soak into the backyards or is received in pits where it stagnates.	In parts of tanks which are used as drinking water sources, washing of clothes and bathing are allowed. Water in most of the wells is brackish, that from tanks was not satisfactory.	.....	A drain was constructed and 4 latrines were repaired. Rubbish depot and burning ground were removed to a site beyond the catchment area of the drinking water tank. A rubbish cart is under construction.
61	Chicacole ... R.C.	...	...	92,940	101,390	194,330	5,111	26·3	2,392	2,262	4,654	105·7	0·8	0·4	19·0	0·5	0·2	3·0	25·7	22·3	23·9	18·7	16·6	17·6	...	992 0 0	Drainage is natural. In Union villages, side channels are dug which, not being built of stone and chunam, allow their contents to percolate through the soil. In some places house-owners bury a large pot at one end of the house and allow all the washings to fall into it, and this is removed once or twice daily. In other villages drainage is purely natural, no effort being made for the convenience and safety of the general public.	With the exception of Union villages where watchmen are appointed to prevent pollution of drinking water, elsewhere no such precaution is observed.	Depends upon the extent of sanitary knowledge possessed by individuals concerned, which, in most instances, is very deficient.	The Presidents of Taluk Boards have to some extent remedied the defects pointed out as funds permitted them.
62	Berhampur... R.C.	...	...	141,825	155,911	297,736	6,894	23·1	2,897	2,850	5,747	101·6	0·2	0·3	15·7	0·9	0·2	2·0	20·4	18·2	19·3	15·8	12·6	14·2	...	2,151 0 0				
63	Goomsur ... R.C.	...	...	89,783	96,548	185,831	4,879	25·1	1,729	1,666	3,395	103·1	0·1	0·2	15·1	0·9	0·3	3·6	19·3	17·2	18·2	16·0	13·6	14·8	8 0 0	1,072 0 0				
64	Zamindaries	...	...	411,664	439,445	851,109	14,402	16·9	5,471	4,764	10,235	114·8	0·1	0·2	9·5	0·3	0·2	1·7	13·2	10·8	12·0	12·7	10·9	11·8	313 0 0	5,462 0 0				
65	Agency Tracts	...	...	158,828	148,490	307,318	296	0·9	152	154	306	98·7	...	0·009	0·9	...	0·009	0·05	0·9	1·0	0·9	1·7	1·5	1·6	...	...				
8	Total District ...	8,370	226·6	923,000	973,400	* 1,896,400	32,923	17·3	13,422	12,357	25,779	108·6	0·2	0·2	10·4	0·5	0·2	2·1	14·5	12·7	13·6	12·5	10·9	11·7	...	...				

* The population for which the returns were received from the district of Ganjám according to the census of 1891, is not available—hence the ratios shown in column 9 have been calculated on the total population of the district as per census of 1891.

No. 11.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8					9			10			11	12	13			14
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000				Proportion of population from			Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	All causes.	Males.	Females.	Total.			a In drainage.	b In water-supply.	c In domestic cleansing and conservancy.	
	CUDDAPAH—*cont.*																						RS. A. P.	RS. A. P.				
56	Vayalpád ... R.C.	...	...	64,247	62,788	127,035	3,237	25·4	1,166	1,190	2,356	97·9	...	0·2	15·5	0·5	0·5	1·8	18·1	18·9	18·5	21·6	21·2	21·4	9 0 0	949 9 9	Defective	*Nil*	There are no latrines in some of the villages which causes a good deal of inconvenience.	.....
57	Madanapalle R.C.	...	...	65,214	62,096	127,310	4,645	36·5	1,200	1,297	2,497	92·5	...	0·02	14·6	0·7	0·6	3·7	18·4	20·7	19·6	19·0	20·1	19·5	191 1 0	1,436 5 7	No system	.....	The latrines in these parts are deep excavations, the contents of which are never removed. In houses having small backyards, these filthy pits are a great nuisance, drinking-water wells being in close proximity to them.	Prickly-pear has been removed to some extent in some of the villages.
12	Total District ...	8,722	145·8	646,132	625,589	1,271,721	36,506	28·7	13,550	13,109	26,659	103·4	0·1	0·2	16·0	0·4	0·5	3·7	20·9	20·9	20·9	22·9	22·7	22·8	...	...				
	GANJÁM.																											
58	Chicacole ... M.T.C.	...	...	8,451	9,753	18,204	395	21·6	237	233	470	101·7	...	...	9·5	3·4	0·2	12·7	28·0	25·8	25·8	25·0	19·7	22·3	510 6 6	3,067 11 9	The whole drainage is defective and out of level.	.....	.....	Increased attention is being paid to the sanitation of the town and several are prosecuted for committing nuisance. Two new corrugated iron latrines were constructed. Three tanks and a well were repaired. Prickly-pear and rank vegetation removed.
59	Berhampur... M.T.C.	...	...	12,292	13,201	25,493	619	24·2	355	262	617	135·5	...	0·04	7·9	3·2	0·1	13·0	28·8	19·8	24·2	22·2	17·8	20·0	...	...	Very defective. The existing drains are practically useless in their present condition. The refuse water from houses empty into cess-pools which are mostly mere pits dug in the earth either in the front or at the back of the houses. They are a source of considerable danger, as their contents are not regularly removed for want of a sufficient number of sewage carts.	*Nil*	A dozen urinals are required to prevent people committing nuisance in the streets. The conservancy staff needs better supervision. The corrugated iron dust-bins used in the place of brick ones are not spacious. A trained Sanitary Inspector should be employed to look after the sanitation of the town. With better supervision the present staff could show better results.	Much has been done towards the improvement of roads and lanes, and attention has been paid to the cleanliness of the lanes and corners. Some latrines were constructed and others repaired. Most of the brick dust-bins were replaced by corrugated iron ones, but they are not spacious.
60	Parlákimedi M.T.C.	...	...	7,717	8,662	16,379	527	32·1	189	166	355	113·8	...	0·1	9·6	2·3	...	9·2	24·5	19·2	21·7	24·1	18·4	21·1	89 1 11	1,729 15 5	In most of the houses, refuse water is allowed to soak into the backyards or is received in pits where it stagnates.	In parts of tanks which are used as drinking water sources, washing of clothes and bathing are allowed. Water in most of the wells is brackish, that from tanks was not satisfactory.	.....	A drain was constructed and 4 latrines were repaired. Rubbish depot and burning ground were removed to a site beyond the catchment area of the drinking water tank. A rubbish cart is under construction.
61	Chicacole ... R.C.	...	...	92,940	101,390	194,330	5,111	26·3	2,392	2,262	4,654	105·7	0·8	0·4	19·0	0·5	0·2	3·9	25·7	22·3	23·9	18·7	16·6	17·6	...	992 0 0	Drainage is natural. In Union villages, side channels are dug which, not being built of stone and chunam, allow their contents to percolate through the soil. In some places house-owners bury a large pot at one end of the house and allow all the washings to fall into it, and this is removed once or twice daily. In other villages drainage is purely natural, no effort being made for the convenience and safety of the general public.	With the exception of Union villages where watchmen are appointed to prevent pollution of drinking water, elsewhere no such precaution is observed.	Depends upon the extent of sanitary knowledge possessed by individuals concerned, which, in most instances, is very deficient.	The Presidents of Taluk Boards have to some extent remedied the defects pointed out as funds permitted them.
62	Bernampur... R.C.	...	...	141,825	155,911	297,736	6,894	23·1	2,897	2,850	5,747	101·6	0·2	0·3	15·7	0·9	0·2	2·0	20·4	18·2	19·3	15·8	12·6	14·2	...	2,151 0 0				
63	Goomsur ... R.C.	...	...	89,283	96,548	185,831	4,679	25·1	1,729	1,606	3,395	103·1	0·1	0·2	13·1	0·9	0·3	3·6	19·3	17·2	18·2	16·0	13·6	14·8	8 0 0	1,072 0 0				
64	Zamindaries	...	...	411,664	439,445	851,109	14,402	16·9	5,471	4,764	10,235	114·8	0·1	0·2	9·5	0·3	0·2	1·7	13·2	10·8	12·0	12·7	10·9	11·8	$13 0 0	5,462 0 0				
65	Agency Tracts	...	...	158,828	148,490	307,318	296	0·9	152	154	306	98·7	...	0·009	0·9	...	0·009	0·05	0·9	1·0	0·9	1·7	1·5	1·6	...	...				
8	Total District ...	8,370	226·6	923,000	973,400	* 1,896,400	32,923	17·3	13,422	12,357	25,779	108·6	0·2	0·2	10·4	0·5	0·2	2·1	14·5	12·7	13·6	12·5	10·9	11·7	...	...				

* The population for which the returns were received from the district of Ganjám according to the census of 1891, is not available—hence the ratios shown in column 9 have been calculated on the total population of the district as per census of 1891.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	GÓDÁVARI.															
66	Cocanada ... M.T.C	...	...	20,066	20,002	40,068	811	20·2	358	334	692	107·2	...	6·5	2·6	2·1
6	Rajahmundry M.T.C.	...	...	13,869	14,410	28,279	988	34·9	485	435	920	111·5	...	0·9	9·7	5·2
68	Ellore ... M.T.C.	...	...	14,242	15,054	29,296	813	27·7	342	298	640	114·8	...	0·4	3·9	1·8
69	Pithápuram ... T.C.	...	...	6,807	6,924	13,731	138	10·0	66	40	106	165·0	...	...	0·9	0·2
70	Peddápuram ... T.C.	...	...	6,619	7,033	13,652	455	33·3	210	198	408	106·0	...	...	5·0	0·1
71	Samalkot ... T.C.	...	...	6,407	7,002	13,409	96	7·1	39	37	76	105·4	...	...	5·0	0·1
72	Dowlaishweram T.C.	...	...	4,818	5,636	10,454	312	29·8	138	126	264	109·5	...	...	...	...

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.					Principal sanitary defects of circle.			
		All causes.									a	b	c	Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	Males.	Females.	Total.		Males.	Females.	Total.	Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									Rs. A. P.	Rs. A. P.				
0·3	11·8	17·8	16·7	17·3		24·2	20·8	22·5	...	...	Drainage hardly exists.	Unsatisfactory. The channel which feeds the tanks is uncovered at its source near Simson's lock and for the first 50 yards. The water is consequently open to pollution.	The 2 cinerators in which the refuse used formerly to be burnt are not in working order. They should be repaired.	A special scheme for the supply of better water has been prepared by the Sanitary Engineer and sent to Government. The main masonry pipes from Smalcottah canal and Robertson's bridge to market and church tank, respectively, were cleared of silt; 8 wells were sunk and 7 tanks repaired. A market was constructed and another repaired. Some public latrines and drains were repaired.
0·7	16·0	35·0	30·2	32·5		32·7	27·2	29·9	3,564 7 0	9,110 2 10	No regular system of drainage. The roads have side-cuttings or badly constructed masonry drains. House drains are also of faulty construction. The existing cess-pools are not of regular pattern and are very dirty.	River Gódávari which is one of the drinking water sources is open to pollution. The surroundings of most of the public wells are not good as people wash themselves and their clothes in their vicinity.	The public latrines are not kept clean. Some of the cinerators are very near public latrines.	The town has been surveyed and the necessary levels taken for a drainage scheme. A scheme for water-supply is under consideration. The Kunatala tank has been cleared of weeds. A latrine has been constructed.
0·4	15·3	24·0	19·8	21·8		25·2	23·5	24·3	999 3 6	6,007 6 0	No regular system. Cess-pools are not properly kept.	Impure and brackish. There are many pot-ring wells and their surroundings are generally bad and insanitary.	The existing latrines are not well kept. The tatty latrines are an eye-sore to the municipality.	Ten latrines were constructed and 4 others repaired. A drain was repaired.
...	6·6	9·4	5·8	7·7		11·1	8·7	9·9	...	959 0 0	No regular system. There are only a few side-cuttings and badly constructed brick drains which discharge into open streets or overflowing cess-pools. There is no proper outlet and most of the sewage sinks into the soil.	Quality indifferent because open to pollution. Platforms and parapets of wells out of repair. Condition and surroundings of private wells insanitary.	Backyards dirty and damp. Badly drained. Latrines insufficient. No private scavengering. Cattle are kept in backyards with heaps of manure, &c.	New iron dust-bins were put up. 2 extra toties and 1 watcher were employed. Repairs to wells, better surface, cleanliness. A large number of new cess-pools were constructed. 2 new wells were sunk.
0·3	24·5	31·7	28·1	29·9		24·0	21·2	21·6	...	801 0 0	No regular system. There are only some side-cuttings and badly constructed surface, channels leading directly into streets or into cess-pools, the owners of which are in the habit of deliberately draining into the roads at night.	Measures adopted are insufficient to prevent pollution. Tanks polluted in spite of 'watchers.' Private wells in bad order and insanitary.	Backyards dirty cattle kept there and manure heaped up. Soil saturated with sewage and cattle ordure. Cess-pools overflowing and in bad repair. No public or private latrines. Backyards so used. No system of conservancy which is only done by pigs.	Removal of cattle pound and butcher's stalls to better sites. Extra tank watchers. Better surface, cleanliness.
0·1	0·5	6·1	5·3	5·7		15·7	12·8	14·2	...	899 0 0	Road side-cuttings inadequate. Dirty water from houses let out into roads. No proper outlets. No cess-pools.	Quality of tank water bad. Graveyard in vicinity of principal tank. Watchers insufficient. Private wells bad.	Backyards dirty and neglected, saturated with cow-dung and sewage. Accumulations of filth seen. No private latrines. Public latrines in disrepair and dirty. Full of prickly-pear and pigs.	Some repairs to roads and drains. Construction of an embankment to keep off flood water. Better surface, cleanliness, &c. Clearing a tank of weeds.
0·7	24·5	28·6	22·3	25·2		36·3	26·9	31·3	...	...	No regular system. Direction of outlets unsatisfactory; some lead to river, others to nowhere in particular.	River and well water open to pollution and therefore unsafe, washing by sides of wells. Only one watcher (quite in adequate). Private wells bad.	Backyards contain accumulations of cow-dung, &c. Most of the sewage sinks into the soil. Numerous dirty private latrines, mostly consumed by pigs. No proper private scavengering. Only 2 public latrines inconveniently situated, and of no use for the general public.	Improved surface cleanliness. Some materials collected for new latrines.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895—cont.*

1	2	3	4	5			6		7			8	9						10			11	12	13			14
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
													Injuries.	All other causes.	All causes.									a	b	c	
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females	Total.		Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
	GÓDÁVARI—*cont.*																					RS. A. P.	RS. A. P.				
73	Rámachandrapuram R.C.	...	...	129,355	131,828	261,183	5,988	22·9	2,737	2,362	5,099	115·8	...	0·1	8·3	0·5	0·1	10·5	21·1	17·9	19·5	22·6	20·5	21·5	...	...	Drainage very bad everywhere. Soil damp and water-logged. Swampy during rains. No outlets. Some ditches lead to irrigation channels used for drinking.	Quality indifferent. Open to pollution. Vicinity of wells badly drained. One tank fed by a channel, leading through a burial site. All private wells bad. Rubbish in vicinity of wells, &c. Canals always polluted.	Backyards dirty. Either no drains, or bad ones. Sewage sinks into soil. Sweepers insufficient. No private conservancy. Public latrines either absent, or where provided, dirty.	On the whole somewhat cleaner. Some new dust-bins and lamps. Repairs to wells and roads. Cutting of side drains.
74	Narsapur ... R.C.	...	...	110,178	120,137	230,315	5,226	22·6	2,068	1,960	4,028	105·5	...	0·04	3·9	0·6	0·3	12·6	18·7	16·3	17·4	16·7	14·1	15·4	...	...	No regular system. Only some side-cuttings. In some places very swampy. Ditches have objectionable outlets. Dirty water in streets where cess-pools exist. They are filthy.	Quality generally impure, especially where from canals. Wells badlydrained. Washing in vicinity. In some places rubbish heaped up by sides of tanks, which are covered with weeds and banks used as latrines.	Backyards dirty; filth and manure heaps; badly drained. Often overgrown with rank vegetation. Latrines and toties both insufficient. No regular private scavengering.	Some more sweepers, toties, dust-bins, lamps, and markets. Improvements to water-supply. Enclosing of a latrine, repairs to roads.
75	Amalápuram ... R.C.	...	...	125,189	130,883	256,072	4,847	18·9	1,822	1,682	3,504	108·3	...	0·1	5·9	0·4	0·3	7·0	14·5	12·8	13·7	17·3	15·4	16·3	...	...	No system. Drainage runs into streets and soaks into the soil. Some ditches lead to drinking water tanks, others end in large stagnant pools. Soil damp and waterlogged.	Tanks badly situated and surrounded by nuisances; surroundings of wells bad. Canal water open to pollution. People defœcate on the banks and wash in at the same places from which drinking water is drawn.	Backyards dirty, broken ground filled with refuse and sweepings. Human excrement to be seen everywhere. No cess-pools. Toties and sweepers quite inadequate.	Repairs to roads and tanks, &c., some new dust-bins.
76	Tanuku ... R.C.	...	...	99,535	104,505	204,040	5,612	27·5	2,376	2,071	4,447	114·7	...	0·1	9·5	0·6	0·3	11·3	23·8	19·8	21·8	22·1	19·3	20·7	...	574 0 0	Only side-cuttings leading to canals. Soil very swampy. House drainage sinks into soil. Some roads almost impassable in wet weather.	Tank polluted. Rubbish in vicinity. Well water stagnant from disuse. Canal polluted by washing and defecation on its banks.	Backyards dirty and ill-drained. Private scavengering inadequate, Filth and cattle dung by sides of houses. Broken grounds and excavations filled with refuse.	Some improvements to bund of tank. Clearing away of weeds. Repairs, &c., to roads, tanks and wells. New approaches to canal. New lamps and dust-bins. New stone steps to a tank. Sinking a new well.
77	Bhimavaram ... R.C.	...	...	59,624	62,366	121,990	2,894	23·7	1,153	1,079	2,232	106·8	...	0·1	4·8	0·7	0·2	12·4	19·3	17·3	18·2	20·5	18·0	19·2	...	...	No system. Side-cuttings inadequate. Soil damp and water-logged. Sewage sinks into the soil.	Tanks are very filthy, polluted by cattle and washing, &c. Wells open to pollution and surroundings very insanitary.	Backyards filthy and ill-drained. Cattle manure heaped up near houses. Means of removal of filth and rubbish utterly inadequate.	*Nil.*
78	Ellore ... R.C.	...	...	73,008	69,577	142,585	3,271	22·9	1,199	1,272	2,471	94·2	...	0·2	10·4	0·2	0·3	6·2	16·4	18·2	17·3	19·4	18·6	19·0	...	...	Drainage both of streets and houses bad. The late flood has left much damage behind it and many villages were left submerged. For weeks afterwards huts were surrounded by swamps.	Drinking water from all sources polluted in every imaginable way. Means of protection either inadequate or useless. Even by side of wells, rubbish heaped up and washed in.	No regular system of conservancy. Hardly any latrines. Sweepers inadequate. Rubbish and filth in backyards.	Removing weeds from tanks. Constructing steps to drinking water tank. Repairs to tanks, wells and latrines. Construction of a new latrine.
79	Yernagúdem ... R.C.	...	...	68,355	67,849	136,204	3,637	26·7	1,473	1,471	2,944	100·1	...	0·1	14·9	0·6	0·3	5·7	21·5	21·6	21·6	11·8	20·2	21·0	...	...	No regular system. Side-cuttings inadequate. No private drains. Sewage sinks into the soil. Many filthy offensive swamps into which rubbish is thrown.	River water freely polluted everywhere. Wells surrounded by filthy stagnant swamps, in which pigs wallow. No system of protection.	Backyards very filthy. Soil damp and saturated with filth. No regular removal of refuse, &c. No latrines. Human and pig excreta strew the ground everywhere.	None.
80	Rajahmundry. ... R.C.	...	...	53,693	53,173	106,866	2,786	26·0	1,261	1,144	2,345	104·9	...	0·2	15·4	0·8	0·3	5·2	22·3	21·5	21·9	23·4	22·1	22·7	...	...	No system. Broken ground and excavations in which rain water lodges. Private drains absent.	Both wells and tanks are freely polluted in every way. Vicinity of wells badly drained.	Backyards and surroundings filthy. Heads of cattle kept in villages and dung seen everywhere. No latrines. No method of conservancy, except that a few road sweepers are maintained.	None.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	GÓDÁVARI—*cont.*															
81	Peddápuram ... R.C.	...	...	61,654	62,374	124,028	4,498	36·2	1,747	1,784	3,531	97·9	...	0·1	20·6	0·6
82	Bhadráchalam. R.C.	...	...	64,762	62,352	*127,114	3,986	31·3	1,611	1,534	3,145	105·0	...	0·05	16·7	0·6
83	Zemindaries	...	...	108,451	110,121	218,572	4,238	19·3	1,767	1,645	3,412	107·4	...	0·05	10·7	0·2
18	Total District ...	7,857	264·4	1,026,632	1,051,226	2,077,858	50,596	24·3	20,792	19,472	40,264	106·8	...	0·1	9·6	0·6
	KISTNA.															
84	Masulipatam. M.T.C.	...	...	18,539	20,128	38,667	1,293	33·4	555	507	1,062	109·4	...	0·03	6·6	2·0
85	Guntúr ... M.T.C.	...	...	11,705	11,562	23,267	855	36·7	309	307	616	100·6	...	1·3	7·5	1·3
86	Bezwáda ... M.T.C.	...	...	11,330	9,281	20,611	686	33·3	292	279	571	104·6	...	...	6·3	2·9
87	Chirála ... R.C.	...	...	5,241	5,340	10,581	396	37·4	127	108	235	117·6	...	...	6·0	0·5
88	Répalle ... R.C.	...	...	113,038	109,718	222,756	7,840	35·2	2,150	2,001	4,151	107·4	...	0·05	2·6	0·1
89	Bápatla ... R.C.	...	...	84,241	171,345	6,156	35·9	1,651	1,514	3,165	109·0	...	...	6·3	0·1	
90	Guntúr ... R.C.	...	...	87,104	145,367	5,404	37·7	1,428	1,365	2,793	104·6	...	0·03	6·4	0·2	
91	Palnad ... R.C.	...	...	75,383	69,984	5,218	36·7	1,287	1,275	2,562	100·9	...	0·04	10·7	0·1	
92	Narasaraspet ... R.C.	...	...	70,191	71,814	142,005	5,636	32·2	1,134	1,116	2,250	101·6	...	0·03	9·8	0·1
93	Gudiváda ... R.C.	...	...	78,910	77,454	156,364	5,549	36·0	1,269	1,200	2,469	105·7	...	0·1	3·7	0·4
94	Sattenapalle ... R.C.	...	...	60,088	58,220	118,308	4,463	27·9	1,250	1,233	2,483	101·4	...	0·04	2·6	0·2
95	Masulipatam. R.C.	...	...	70,034	68,577	138,611	5,614	40·5	1,259	1,205	2,464	102·8	...	0·04	6·9	0·2
96	Nandigama ... R.C.	...	...	80,234	79,313	159,547	4,724	37·3	1,133	1,156	2,289	99·7	...	0·04	8·4	0·2
97	Bezwáda ... R.C.	...	...	63,376	63,322	126,698	2,854	34·6	608	623	1,231	97·6	...	0·1	8·4	0·05
98	Vinukonda ... R.C.	...	...	42,413	85,731	2,778	32·4	816	792	1,608	103·0	...	0·02	8·3	0·2	
99	Zemindaries ... R.C.	...	...	40,671	82,451	2,854	34·6	608	623	1,231	97·6	...	0·1	8·4	0·05	
16	Total District ...	8,397	229·0	109,806	104,929	214,735	5,489	25·6	1,672	1,586	3,258	105·4	...	0·03	8·4	0·2
		938,057		916,967	1,855,024	62,355	33·6	16,920	16,247	33,167	104·1	...	0·05	6·8	0·3	

* Including Agency Tracts.

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									a	b	c	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
0·4	6·7	28·3	28·6	28·4		25·5	23·3	24·4	RS. A. P. ...	RS. A. P. ...	No system. Side-cuttings inadequate. Streets themselves are water-courses in the rainy weather. No house drainage. Soil saturated with sewage.	Streams polluted by burnings and burials in vicinity, by cattle washing, &c.	Very bad. Much cattle dung and rubbish in back-yards. No proper system of conservancy. No latrines.	Eight additional sweepers were entertained and 2 new tanks constructed.
0·3	7·1	24·8	24·6	24·7		34·6	33·5	34·1	...	...	Only side-cuttings with no regular outlet. No system.	River water (the main source) is freely polluted by washing cattle, &c.	Surface cleanliness bad. Overgrown with rank vegetation. Scavenging defective.	.....
0·2	4·3	16·2	14·9	15·4		15·6	14·5	15·0	...	...	No system. Side-cuttings to roads and a few badly constructed brick-drains. Drains lead to river. House drains run into streets and sewage soaks into the soil.	Quality of river and stream water bad. Watchers insufficient and pollution in every imaginable way.	Backyards dirty and neglected. Ordure and litter stored up. General over-crowding. Cess-pools in bad order. Latrines insufficient. No regular system of private conservancy, which is done mainly by pigs.	New side-ditches to some main roads. Erection of one new latrine. Clearing and repairing of wells, one new well. Acquisition of rubbish depot sites. Additional sweepers.
0·3	8·8	20·2	18·5	19·4		20·3	18·3	19·3						
0·5	18·4	29·9	25·1	27·1		29·3	25·5	27·3	...	...	No drainage system exists.	Subject to pollution both during its course through the irrigation channel and in the storage reservoir, the floor of which is thick with mud. The conduits are made of brick and mud and as the levels are not properly taken, they are faulty in construction.	The existing dust-bins are seldom used. The carts employed for removal of sweepings are of miserable description. The silchar cinerator, which is close to a slaughter-house, is surrounded by a considerable amount of refuse. The existing latrines are seldom used. The night-soil depot exists merely in name.	A tank and two wells were repaired; 30 dust-bins and a market were constructed; 7 drains; 2 markets and a slaughter-house were repaired.
0·9	15·5	26·4	26·6	26·5		29·2	26·1	27·7	1,517 0 4	9,900 8 7	No system	One of the reservoirs which forms the main source of water-supply to the residents of the town is subject to pollution notwithstanding the posting of a watchman.	The existing number of dust-bins and latrines are insufficient.	Two corrugated iron latrines and an urinal were constructed. A sluice on the bund of the black tank is in course of construction. A tank and a well were repaired: 2 public latrines and 24 dust-bins were constructed.
0·8	17·7	25·7	30·0	27·7		30·2	34·2	32·5	2,120 7 6	9,616 3 11	There is practically no drainage. The existing cess-pools are of the usual filthy kind.	The special danger is the crowding of the head of the main canal by boats resulting in continual pollution. Some of the wells in the town supply drinking water, but their condition is bad and surroundings dirty.	The conservancy arrangements of the town are very backward and require attention. Refuse is thrown at random. Some of the masonry latrines are in a very dilapidated condition. The neighbourhood of the latrines are used as much as the latrines themselves. They are always offensive and are not attended to with care. Latrines are urgently needed in the neighbourhood of the canal.	Four iron night-soil carts were bought. Two latrines have been removed from objectionable sites. A drain at the base of the telegraph hill partially made. Eight public latrines, 60 dust-bins, a market and a slaughter-house were repaired. A well was sunk and 7 others repaired.
0·5	15·2	24·2	20·2	22·2		27·7	21·5	24·6						
0·2	15·7	20·0	18·2	18·6		22·0	20·9	21·4						
0·3	11·8	19·0	18·0	18·5		24·5	23·1	23·8						
0·3	12·5	19·4	19·5	19·4		22·1	21·9	22·0						
0·4	6·8	18·3	17·7	18·0		27·7	26·5	27·1						
0·3	4·2	14·4	14·4	14·4		19·9	19·5	19·7						
0·2	16·5	21·1	20·6	20·9		26·8	25·4	26·1	...	...				
0·2	6·9	17·8	18·0	17·9		22·8	21·6	23·0						
0·2	12·3	15·4	15·2	15·3		19·4	17·8	18·6						
0·2	10·5	17·9	17·8	17·8		24·8	23·8	24·3						
0·4	9·9	18·8	18·7	18·8		24·8	24·0	24·4						
0·5	5·9	14·5	15·5	14·9		23·0	22·6	23·1						
0·3	6·3	15·2	15·1	15·2		15·8	15·2	15·5						
0·3	10·5	18·0	17·7	17·5		22·6	21·6	22·1			Natural. The streets of many low-lying wet villages are stagnant with water. In some places wet cultivation is carried on close to villages. Even in union villages proper drains are required. The same must be said of all the delta villages put a stop to.	Wells in some of the villages require platforms and drains. In places where tank water is depended upon scarcity is felt in summer season when it gets dry. No precaution is taken to prevent tanks and wells from being subject to pollution. There is a tendency to provide step wells instead of draw wells. This should be put a stop to.	Except in union and other villages where conservancy establishments are maintained, elsewhere the sanitary condition is defective, sweepings of houses, and cowdung being allowed to accumulate in backyards, which in some cases are small, and removed to fields during cultivating season. Cattle are kept either within or close to houses. There are no private latrines. In some of the big villages public latrines are very necessary.	Some wells were sunk or constructed. A few tanks and wells were repaired. Prickly-pear was removed in many villages. In a few instances people who failed to keep their premises clean were criminally prosecuted.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895*—cont.

1	2		3	4	5			6		7			8				
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	KURNOOL.																
100	Kurnool ...	M.T.C.	...	...	11,631	12,675	24,306	840	34·6	355	387	742	91·7	1·9	0·1	13·4	1·0
101	Nandyal ...	T.C.	...	...	5,330	5,374	10,704	193	18·0	82	66	148	124·2	0·2	0·1	11·2	0·1
102	Ramallakot ...	R.C.	...	...	51,862	48,728	100,590	3,384	33·6	1,132	1,045	2,177	111·8	2·2	1·0	14·6	0·3
103	Pattikonda ...	R.C.	...	...	71,676	67,127	138,703	4,701	33·9	1,434	1,282	2,716	111·8	0·05	0·9	14·2	0·1
104	Nandikotkur	R.C.	...	...	44,786	43,773	88,559	3,556	40·1	1,134	1,085	2,219	104·5	0·07	1·1	11·7	0·09
105	Nandyal ...	R.C.	...	...	43,307	42,235	85,542	2,792	32·6	855	920	1,775	92·9	0·06	0·5	16·9	0·2
106	Koilkuntla ...	R.C.	...	...	43,710	42,833	86,543	2,708	31·3	964	988	1,952	97·6	...	0·7	15·8	0·2
107	Sirvel ...	R.C.	...	...	32,915	32,249	65,164	2,121	32·5	874	842	1,716	103·8	...	0·07	19·7	0·2
108	Cumbum ...	R.C.	...	...	58,632	58,946	117,578	3,329	28·3	964	884	1,848	109·0	...	0·1	12·9	0·2
109	Markapur ...	R.C.	...	...	50,286	49,685	99,971	3,287	32·9	814	733	1,547	111·1	...	0·01	13·6	0·04
10	Total District ...		7,514	109·0	414,035	403,625	817,660	27,405	33·5	8,608	8,232	16,840	104·6	0·3	0·6	15·1	0·2
	MADRAS.																
110	Madras ...	M.T.C.	29	15,978·8	217,690	218,685	436,375	18,561	42·5	8,249	8,316	16,565	99·2	0·3	0·06	14·2	4·9

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
		All causes.									a	b	c	
Injuries.	All other causes.	Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·2	15·9	30·5	30·5	30·5		32·5	33·3	32·9	...	...	Unsatisfactory ...	The supply derived from masonry conduits is liable to contamination through leaky points with impure sub-soil water.	There are many ruined houses in the town. Cattle are kept in many houses. The open space public latrines are all of bad design.	A water-supply scheme has been sanctioned by Government and the work is in progress. No drainage scheme has been prepared for want of funds.
0·5	1·7	15·4	12·3	13·8		27·9	23·1	25·5	381 4 11	3,362 8 3	Defective. In the rainy season low-lying villages become very marshy and mire is sometimes very deep.	Surface drainage finds its way into some of the wells by percolation.	In some of the villages the sweepings of houses are deposited as manure near dwellings. The stabling of cattle in the inhabited houses is the chief cause of the unhealthy condition of the circle. Latrines are constructed in a few of the villages for the use of females, but no scavengers are appointed to them.	.....
0·3	3·2	21·8	21·4	21·6		23·8	23·6	23·7	2 11 3	1,200 7 0	No drains in any village. Some of the existing cess-pools are not cleaned until they overflow.	Many of the wells have neither parapet walls, platforms or drains. Malas have no wells.	Houses of ryots are not generally kept clean. A portion of the house is used as cattle shed. Conservancy staff needs strengthening.	.....
0·5	3·9	20·0	19·1	19·6		27·3	26·7	27·0	36 9 6	1,783 11 7	.....	.....	.....	.....
0·5	5·6	25·3	24·8	25·0		31·4	31·2	31·3	...	4,069 2 7	No drainage ...	The wells in some of the important villages require parapet walls and platforms.	Some of the villages have conservancy staff, but this is very inadequate to meet requirements.	Want of funds preclude the carrying out of recommendations made by District Sanitary Officer.
0·4	3·6	19·7	21·8	20·7		29·9	28·8	29·3	...	...	Natural	Quality of water not good.	In non-conserved villages house-owners are held responsible for the cleanliness of their surroundings, but this is very indifferently carried out.	.....
0·4	5·4	22·0	23·1	22·7		28·3	28·9	28·6	0 9 0	670 6 0	The masonry drains in Koilkuntla and Owk need repair.	No special provision is made for the protection of the drinking-water sources in some of the villages.	Conservancy arrangements very backward. More latrines are required in Koilkuntla and Owk which are in a very insanitary condition.	The suggestions made for the sanitary improvement of the circle were disposed of by the authorities concerned in a very casual way.
0·5	5·9	26·5	26·1	26·3		32·4	31·8	32·1	960 9 8	1,315 0 2	Natural	Wells being private property, their surroundings are in many instances insanitary and they have neither platforms nor drains.	Conservancy arrangements very defective. Great want of latrines is felt in large villages as Sirvel and Yerraguntla. The sanitary staff employed is quite inadequate for the villages.	Wells were sunk in two villages for the use of Malas. It is resolved to call upon the householders to attend to the repairs of these wells.
0·3	2·2	16·4	15·0	15·7		26·1	24·3	25·2	61 0 0	1,592 4 5	Natural except in Cumbum, where some of the streets have side-cuttings.	The water-supply of many of the villages is not protected from pollution. They require cleaning out. The water of the Cumbum tank was pronounced to be 'suspicious.'	The latrines at Cumbum are mere mud wall enclosures around open spaces and cannot be thoroughly cleaned except by pigs and buffaloes. Many of the latrines are in bad repair.	The attention of the authorities was drawn to the inadequate sanitary staff, but with no tangible result.
0·3	1·5	16·2	14·8	15·4		25·3	23·5	24·4	...	...	Natural in Markapur and Yarragundapalem. Drainage of houses runs into cess-pools which are not cleaned.	Except in Markapur where the Union Panchayat take an interest, elsewhere the wells are in a very neglected and insanitary condition.	Many of the villages in this circle are not conserved; more latrines are wanted everywhere.	Want of funds precludes sanitary improvements being carried out.
0·4	4·0	20·8	20·4	20·6		27·6	27·0	27·3	...	...				
0·4	18·2	37·9	38·0	38·0		42·1	44·3	43·2	9,316 0 0	2,37,176 0 0	.....	.....	.....	.....

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895—cont.*

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.				
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	MADURA.															
111	Madura ... M.T.C.	...	...	43,707	43,414	87,121	2,528	29·0	1,115	1,166	2,281	95·6	0·3	0·2	4·6	2·4
112	Dindigul ... M.T.C.	...	...	9,984	10,131	20,115	858	42·6	238	199	437	114·6	0·2	...	4·2	2·7
113	Periyakulam M.T.C.	...	...	7,718	8,645	16,363	671	41·0	305	303	608	100·7	7·0	...	6·8	5·1
114	Palni ... M.T.C.	...	...	8,080	8,860	16,940	493	29·1	237	196	433	120·9	1·4	0·4	4·1	2·7
115	Ramnad ... T.C.	...	...	6,414	7,175	13,589	235	17·3	163	134	297	121·6	12·1	...	0·1	...
116	Aruppukóttai T.C.	...	...	6,131	6,542	12,673	477	37·6	73	84	157	86·9	0·2	...	2·6	0·9
117	Kilakarai ... T.C.	...	...	5,880	6,516	12,396	181	14·6	92	81	173	113·5	0·5	0·08	5·8	0·08
118	Paramagudi ... T.C.	...	...	4,966	5,035	10,001	128	12·8	82	62	144	132·3	3·4	...	6·0	...
119	Madura ... R.C.	...	...	84,372	89,383	173,755	4,515	26·0	1,607	1,634	3,241	98·4	1·2	0·1	7·3	0·2
120	Mélúr ... R.C.	...	...	71,498	77,152	148,650	3,878	26·1	1,341	1,318	2,659	101·7	1·0	0·007	1·3	0·04
121	Tirumangalam R.C.	...	...	130,162	134,458	264,620	7,238	27·3	2,217	2,101	4,318	105·5	0·4	0·1	6·8	0·3
122	Periyakulam R.C.	...	...	120,373	126,472	246,845	7,965	32·3	2,402	2,092	4,494	101·9	1·7	0·05	9·1	0·4

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									a	b	c	
		Males.	Females.	Total.							In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·3	18·3	25·5	26·8	26·1		29·7	30·8	30·3	.....	.....	Extremely unsatisfactory.	.....	More latrines are required.	A drainage scheme is now under consideration. Provision is made in the budget for some latrines. A slaughter-house was constructed and another repaired. A drain was repaired.
0·5	14·1	23·8	19·6	21·7		25·3	22·4	23·4	295 7 5	3,537 15 6	Unsatisfactory ...	.....	.....	Portions of the drains through the town have been repaired and improved. The water-supply scheme prepared by the Sanitary Engineer has been put in hand. A well was sunk and nine others repaired. Two drains and a market were repaired. A tank was repaired.
0·4	17·8	39·5	35·0	37·1		35·6	30·4	33·0	408 2 6	3,313 6 6	No system. The existing cess-pools are not daily cleaned owing to want of sufficient number of carts.	Drinking water sources, *i.e.*, the river and wells are subject to pollution of all sorts.	.....	Eight dust-bins were constructed and a public latrine was repaired.
0·7	16·3	29·3	22·1	25·6		36·3	26·1	31·0	428 2 0	2,322 8 8	No system	Bathing is permitted in a large tank used for drinking purposes on account of its sanctity.	.....	A scheme for supplying the town with water is under preparation in the Sanitary Engineer's Department. Six dust-bins were constructed and two others repaired. A slaughter-house was repaired.
0·2	9·4	19·9	22·7	21·8		20·4	15·0	17·6	1,750 0 0	1,302 0 0	No proper drains. The existing cess-pools are not daily cleaned or properly looked after.	.....	Backyards of houses are not properly kept. No public latrines. Nuisance committed on all public and private grounds.	*Nil.*
0·6	8·1	11·9	12·8	12·4		22·1	18·3	20·2	1,340 0 0	1,103 0 0	No proper drains ...	From wells and a tank which is subject to pollution.	No private latrines. The people resort to surrounding paddy fields.	*Nil.*
0·3	7·2	15·6	12·4	13·9		28·4	27·1	27·7	1,360 0 0	883 0 0	Natural	Insufficient	Unsatisfactory. There are several private latrines for females which require systematic cleaning.	*Nil.*
0·4	4·6	16·5	12·3	14·4		13·8	16·5	12·1	1,440 0 0	1,009 0	.....	.....	Never properly cleaned. Rubbish is allowed to accumulate outside of houses. Rubbish is also deposited on the river bank to fill up cuttings left by surface drainage.	*Nil.*
0·4	9·4	19·0	18·3	18·6		19·5	18·5	19·0	.....	.....	No system	Many of the wells require platform to prevent soakage of dirty water.	.....	.....
0·3	15·2	18·7	17·1	17·8		20·8	18·3	19·5	1,461 9 7	1,480 0 0	No drainage ...	.....	.....	The Village Officers were directed to look after sanitation.
0·4	8·3	17·0	15·6	16·3		18·0	16·6	17·3	.....	.....	Do. ...	Some of the wells require parapet walls, platform and drains.	.....	The defects under drainage and water-supply will be removed when funds are available.
0·4	6·6	19·9	16·5	18·2		20·8	17·7	19·2	.....	.....	No regular system ...	Wells which are the chief sources of water-supply are not provided with parapet walls, platforms and drains. Well water is further contaminated by people being allowed to dip their dirty pots into wells. Their surroundings are also generally dirty.	Cattle are kept either within houses or in backyards, houses, which are not generally kept clean. Rubbish is stored in backyards and night-soil is not removed. Vacant sites around houses are also used as latrines, &c.	People have been persuaded to provide their drinking water wells with parapet walls, &c. Rubbish heaps around habitations have also been caused to be removed as far as possible.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2		3	4	5			6		7			8	9						10			11	12	13			14
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	All causes.						a	b	c	
																				Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
	MADURA.																						RS. A. P.	RS. A. P.				
111	Madura ...	M.T.C.	...	...	43,707	43,414	87,121	2,528	29·0	1,115	1,166	2,281	95·6	0·3	0·2	4·6	2·4	0·2	18·3	25·5	26·8	26·1	29·7	30·8	30·3	.....	.....	Extremely unsatisfactory.	.....	More latrines are required.	A drainage scheme is now under consideration. Provision is made in the budget for some latrines. A slaughter-house was constructed and another repaired. A drain was repaired.
112	Dindigul ...	M.T.C.	...	...	9,984	10,131	20,115	858	42·6	238	199	437	114·6	0·2	...	4·2	2·7	0·5	14·1	23·8	19·6	21·7	25·3	22·4	23·4	295 7 5	3,537 15 6	Unsatisfactory ...	.....	.....	Portions of the drains through the town have been repaired and improved. The water-supply scheme prepared by the Sanitary Engineer has been put in hand. A well was sunk and nine others repaired. Two drains and a market were repaired. A tank was repaired.
113	Periyakulam	M.T.C.	...	...	7,718	8,645	16,363	671	41·0	305	303	608	100·7	7·0	...	6·8	5·1	0·4	17·8	39·5	35·0	37·1	35·6	30·4	33·0	408 2 6	3,313 6 6	No system. The existing cess-pools are not daily cleaned owing to want of sufficient number of carts.	Drinking water sources, *i.e.*, the river and wells are subject to pollution of all sorts.	.....	Eight dust-bins were constructed and a public latrine was repaired.
114	Palni ...	M.T.C.	...	...	8,080	8,860	16,940	493	29·1	237	196	433	120·9	1·4	0·4	4·1	2·7	0·7	16·3	29·3	22·1	25·6	36·3	26·1	31·0	428 2 0	2,322 8 8	No system	Bathing is permitted in a large tank used for drinking purposes on account of its sanctity.	.....	A scheme for supplying the town with water is under preparation in the Sanitary Engineer's Department. Six dust-bins were constructed and two others repaired. A slaughter-house was repaired.
115	Ramnad ...	T.C.	...	...	6,414	7,175	13,589	235	17·3	163	134	297	121·6	12·1	...	0·1	...	0·2	9·4	19·0	22·7	21·8	20·4	15·0	17·6	1,750 0 0	1,302 0 0	No proper drains. The existing cess-pools are not daily cleaned or properly looked after.	.....	Backyards of houses are not properly kept. No public latrines. Nuisance committed on all public and private grounds.	*Nil.*
116	Aruppukóttai	T.C.	...	...	6,131	6,542	12,673	477	37·6	73	84	157	86·9	0·2	...	2·6	0·9	0·6	8·1	11·9	12·8	12·4	22·1	18·3	20·2	1,340 0 0	1,103 0 0	No proper drains ...	From wells and a tank which is subject to pollution.	No private latrines. The people resort to surrounding paddy fields.	*Nil.*
117	Kilakarai ...	T.C.	...	...	5,880	6,516	12,396	181	14·6	92	81	173	113·5	0·5	0·08	5·8	0·08	0·3	7·2	15·6	12·4	13·9	28·4	27·1	27·7	1,560 0 0	883 0 0	Natural	Insufficient	Unsatisfactory. There are several private latrines for females which require systematic cleaning.	*Nil.*
118	Paramagudi ...	T.C.	...	...	4,966	5,035	10,001	128	12·8	82	62	144	132·3	3·4	...	6·0	...	0·4	4·6	16·5	12·3	14·4	13·8	16·5	12·1	1,440 0 0	1,009 0	.....	.....	Never properly cleaned. Rubbish is allowed to accumulate outside of houses. Rubbish is also deposited on the river bank to fill up cuttings left by surface drainage.	*Nil.*
119	Madura ...	R.C.	...	...	84,372	89,383	173,755	4,515	26·0	1,607	1,634	3,241	98·4	1·2	0·1	7·3	0·2	0·4	9·4	19·0	18·3	18·6	19·5	18·5	19·0	.....	.....	No system	Many of the wells require platform to prevent soakage of dirty water.	.....	.....
120	Mélúr ...	R.C.	...	...	71,498	77,152	148,650	3,878	26·1	1,341	1,318	2,659	101·7	1·0	0·007	1·3	0·04	0·3	15·2	18·7	17·1	17·8	20·8	18·3	19·5	1,461 9 7	1,480 0 0	No drainage ...	.....	.....	The Village Officers were directed to look after sanitation.
121	Tirumangalam	R.C.	...	...	130,162	134,458	264,620	7,238	27·3	2,217	2,101	4,318	105·5	0·4	0·1	6·8	0·3	0·4	8·3	17·0	15·6	16·3	18·0	16·6	17·3	.....	.....	Do. ...	Some of the wells require parapet walls, platform and drains.	.....	The defects under drainage and water-supply will be removed when funds are available.
122	Periyakulam	R.C.	...	...	120,373	126,472	246,845	7,965	32·3	2,402	2,092	4,494	101·9	1·7	0·05	9·1	0·4	0·4	6·6	19·9	16·5	18·2	20·8	17·7	19·2	.....	.....	No regular system ...	Wells which are the chief sources of water-supply are not provided with parapet walls, platforms and drains. Well water is further contaminated by people being allowed to dip their dirty pots into wells. Their surroundings are also generally dirty.	Cattle are kept either within houses or in backyards, houses, which are not generally kept clean. Rubbish is stored in backyards and night-soil is not removed. Vacant sites around houses are also used as latrines, &c.	People have been persuaded to provide their drinking water wells with parapet walls, &c. Rubbish heaps around habitations have also been caused to be removed as far as possible.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	MADURA.															
111	Madura ... M.T.C.	...	...	43,707	43,414	87,121	2,528	29·0	1,115	1,166	2,281	95·6	0·3	0·2	4·6	2·4
112	Dindigul ... M.T.C.	...	...	9,984	10,131	20,115	858	42·6	238	199	437	114·6	0·2	...	4·2	2·7
113	Periyakulam M.T.C.	...	...	7,718	8,645	16,363	671	41·0	305	303	608	100·7	7·0	...	6·8	5·1
114	Palni ... M.T.C.	...	...	8,080	8,860	16,940	493	29·1	237	196	433	120·9	1·4	0·4	4·1	2·7
115	Ramnad ... T.C.	...	...	6,414	7,175	13,589	235	17·3	163	134	297	121·6	12·1	...	0·1	...
116	Aruppukóttai T.C.	...	...	6,131	6,542	12,673	477	37·6	73	84	157	86·9	0·2	...	2·6	0·9
117	Kilakarai ... T.C.	...	...	5,880	6,516	12,396	181	14·6	92	81	173	113·5	0·5	0·08	5·8	0·08
118	Paramagudi... T.C.	...	...	4,966	5,035	10,001	128	12·8	82	62	144	132·3	3·4	...	6·0	...
119	Madura ... R.C.	...	...	84,372	89,383	173,755	4,515	26·0	1,607	1,634	3,241	98·4	1·2	0·1	7·3	0·2
120	Mélúr ... R.C.	...	...	71,498	77,152	148,650	3,878	26·1	1,341	1,318	2,659	101·7	1·0	0·007	1·3	0·04
121	Tirumangalam R.C.	...	...	130,162	134,458	264,620	7,238	27·3	2,217	2,101	4,318	105·5	0·4	0·1	6·8	0·3
122	Periyakulam R.C.	...	...	120,373	126,472	246,845	7,965	32·3	2,402	2,092	4,494	101·9	1·7	0·05	9·1	0·4

9					10			11	12	13			14
Deaths per 1,000 of population from					Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.			All causes.					*a*	*b*	*c*	
		Males.	Females.	Total.	Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
								Rs. A. P.	Rs. A. P.				
0·3	18·3	25·5	26·8	26·1	29·7	30·8	30·3	.....	.....	Extremely unsatisfactory.	.....	More latrines are required.	A drainage scheme is now under consideration. Provision is made in the budget for some latrines. A slaughter-house was constructed and another repaired. A drain was repaired.
0·5	14·1	23·3	19·6	21·7	25·3	22·4	23·4	295 7 5	3,537 15 6	Unsatisfactory ...	.....	.....	Portions of the drains through the town have been repaired and improved. The water-supply scheme prepared by the Sanitary Engineer has been put in hand. A well was sunk and nine others repaired. Two drains and a market were repaired. A tank was repaired.
0·4	17·8	39·5	35·0	37·1	35·6	30·4	33·0	408 2 6	3,313 6 6	No system. The existing cess-pools are not daily cleaned owing to want of sufficient number of carts.	Drinking water sources, *i.e.*, the river and wells are subject to pollution of all sorts.	.....	Eight dust-bins were constructed and a public latrine was repaired.
0·7	16·3	29·3	22·1	25·6	36·3	26·1	31·0	428 2 0	2,322 8 8	No system	Bathing is permitted in a large tank used for drinking purposes on account of its sanctity.	.....	A scheme for supplying the town with water is under preparation in the Sanitary Engineer's Department. Six dust-bins were constructed and two others repaired. A slaughter-house was repaired.
0·2	9·4	19·9	22·7	21·8	20·4	15·0	17·6	1,750 0 0	1,302 0 0	No proper drains. The existing cess-pools are not daily cleaned or properly looked after.	.....	Backyards of houses are not properly kept. No public latrines. Nuisance committed on all public and private grounds.	*Nil.*
0·6	8·1	11·9	12·8	12·4	22·1	18·3	20·2	1,340 0 0	1,103 0 0	No proper drains ...	From wells and a tank which is subject to pollution.	No private latrines. The people resort to surrounding paddy fields.	*Nil.*
0·3	7·2	15·6	12·4	13·9	28·4	27·1	27·7	1,360 0 0	883 0 0	Natural	Insufficient	Unsatisfactory. There are several private latrines for females which require systematic cleaning.	*Nil.*
0·4	4·6	16·5	12·3	14·4	13·8	16·5	12·1	1,440 0 0	1,009 0	.....	.....	Never properly cleaned. Rubbish is allowed to accumulate outside of houses. Rubbish is also deposited on the river bank to fill up cuttings left by surface drainage.	*Nil.*
0·4	9·4	19·0	18·3	18·6	19·5	18·5	19·0	.....	.....	No system	Many of the wells require platform to prevent soakage of dirty water.	.....	.....
0·3	15·2	18·7	17·1	17·8	20·8	18·3	19·5	1,461 9 7	1,480 0 0	No drainage ...	.....	.....	The Village Officers were directed to look after sanitation.
0·4	8·3	17·0	15·6	16·3	18·0	16·6	17·3	.....	.....	Do. ...	Some of the wells require parapet walls, platform and drains.	.....	The defects under drainage and water-supply will be removed when funds are available.
0·4	6·6	19·9	16·5	18·2	20·8	17·7	19·2	.....	.....	No regular system ...	Wells which are the chief sources of water-supply are not provided with parapet walls, platforms and drains. Well water is further contaminated by people being allowed to dip their dirty pots into wells. Their surroundings are also generally dirty.	Cattle are kept either within houses or in backyards, houses, which are not generally kept clean. Rubbish is stored in backyards and night-soil is not removed. Vacant sites around houses are also used as latrines, &c.	People have been persuaded to provide their drinking water wells with parapet walls, &c. Rubbish heaps around habitations have also been caused to be removed as far as possible.

No. II.—*Statement of births and deaths registered in each town and rural circle of the* *together with the sanitary defects of each circle,*

1	2	3	4	5			6		7			8				
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	MADURA—*cont.*															
123	Dindigul ... R.C.	...	...	181,508	189,349	370,857	12,206	33·2	3,450	3,086	6,536	111·1	0·4	0·02	6·9	0·4
124	Palni ... R.C.	...	...	86,086	92,024	178,110	6,962	39·1	2,131	2,029	4,160	105·0	0·2	0·1	4·6	0·3
125	Settinandal villages, &c. R.C.	...	...	587	696	1,283	33	25·7	16	20	36	80·0	...	0·8	10·9	1·6
15	Total District ...	5,024	313·1	767,466	805,852	1,573,318	48,458	33·8	15,469	14,505	29,974	106·6	0·9	0·1	6·2	0·5
	MALABAR.															
126	Tellicherry ... M.T.C.	...	...	13,100	13,531	26,631	927	34·8	349	324	673	107·7	...	...	7·5	3·1
127	Calicut ... M.T.C.	...	...	33,841	30,957	64,798	2,500	38·5	1,045	1,014	2,059	103·1	0·01	0·01	4·9	5·6
128	Palghat ... M.T.C.	...	...	19,070	20,297	39,367	1,609	40·9	564	559	1,123	100·9	0·2	...	5·8	3·6
129	Cochin ... M.T.C.	...	...	8,656	7,491	16,147	582	36·0	226	216	442	104·6	1·0	0·1	4·0	1·9
130	Cannanore ... M.T.C.	...	...	12,885	13,768	26,653	1,141	42·8	389	386	775	100·8	...	0·04	9·2	3·6

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, *and the measures taken to remedy them for the year* 1895—cont.

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·4	9·5	13·0	16·3	17·6		20·7	18·7	19·7	.....	.....	No system of drainage.	The wells in some places require parapet walls. Those that have are subject to contamination.	People commit nuisance in the streets and lanes and rubbish is thrown around houses. Vacant sites affording shelter are used as latrines in Kodaikanal, &c. The soil of Kodaikanal being porous and the drainage tending towards sources of water-supply, there is risk of these being contaminated.	Deputy Tashildars, Revenue Inspectors and the Deputy Inspector of Vaccination pay attention to the conservancy of villages during their tours. Village officers are directed to keep the villages clean.
0·5	17·7	24·8	22·0	23·4		24·0	21·3	22·8	.....	208 8 10	Do. ...	*Nil*	*Nil*	Tashildars and Revenue Inspectors during their tours instruct people to keep their houses and villages clean and not to defile drinking water. Village Officers also advise people on this matter.
...	14·8	27·3	28·7	28·1		20·4	17·2	18·7	.....	.....	.....	.....	.....	.....
0·4	10·9	20·1	18·0	19·0		21·5	19·3	20·4	.....	.....				
0·3	14·3	26·6	23·9	25·2		24·1	22·7	23·4	2,013 8 4	7,088 5 6	There are no proper drains for the town.	.....	.....	A tank, a well, some drains and a few latrines were repaired.
0·1	21·1	30·9	32·8	31·7		33·5	37·1	35·2	1,279 9 6	10,152 1 11	No regular system of drainage.	Many of the private wells are not provided with parapet walls, platforms or drains and consequently are liable to contamination. Quality of well water in the Moplah quarter of the town is as bad as ever. The dead are buried within a few yards of dwelling houses and in many instances close to drinking-water wells.	The existing number of latrines are quite insufficient. Private scavengering needs extension. The question of the disposal of refuse, street sweepings and night-soil is still unsettled. The mutton and beef slaughter-houses require masonry-built compound walls.	The council has resolved to spend Rs. 500 for experimenting with a view to determine the sufficiency or otherwise of the yield of the Manancherra tank to supply the Moplah quarter of the town. The earnest attention of the council is given to the question as to burial of dead bodies near drinking-water wells. A tank and a well were repaired, nine public latrines and 100 dust-bins constructed, two public latrines and a market repaired.
0·4	18·5	29·6	27·5	28·5		27·5	26·5	27·0	1,460 0 0	7,128 12 8	Very defective ...	.....	.....	The consideration of the drainage scheme, has been indefinitely postponed; a well was sunk and a market and a slaughter-house were constructed; four public latrines repaired.
0·2	20·2	26·1	28·8	27·4		36·2	40·3	37·7	.....	.....	No system	Quality of water bad. The surroundings of tanks are insanitary and consequently water is liable to pollution.	.....	Three wells were repaired, three latrines and a market were constructed 11 public latrines, six drains and three markets repaired.
0·2	16·1	30·2	28·0	29·1		28·8	23·4	26·1	.....	.....	Defective in old town. The existing side-channels and drains are not properly maintained. Water stagnates here and there and gives offensive smell. Sewage water flows into the streets in several places. The cess-pools in old town are rarely cleaned.	Wells situated in private compounds are exposed to contamination, being near latrines, rubbish-pits and drains.	The sanitary condition of the old town is bad. Night-soil is allowed to accumulate for years in pits which are used as latrines, so that the stench is abominable. The streets are kept filthy owing to absence of proper number of dust-bins. The streets are not properly swept. The conservancy staff is inadequate.	Old town being overcrowded and the streets narrow, proper drains cannot be laid. Provision is made in the budget to increase the strength of conservancy staff and the number of latrines and dust-bins.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8					9			10			11	12	13			14
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000				Deaths per 1,000 of population from			Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	All causes.	Males.	Females.	Total.			a In drainage.	b In water-supply.	c In domestic cleansing and conservancy.	
	MADURA—*cont.*																										
123	Dindigul ... R.C.	...	...	181,508	189,349	370,857	12,296	33·2	3,450	3,086	6,536	111·1	0·4	0·02	6·9	0·4	0·4	9·5	19·0	16·3	17·6	20·7	18·7	19·7	Rs. A. P.	Rs. A. P.	No system of drainage.	The wells in some places require parapet walls. Those that have are subject to contamination.	People commit nuisance in the streets and lanes and rubbish is thrown around houses. Vacant sites affording shelter are used as latrines in Kodaikanal, &c. The soil of Kodaikanal being porous and the drainage tending towards sources of water-supply, there is risk of these being contaminated.	Deputy Tashildars, Revenue Inspectors and the Deputy Inspector of Vaccination pay attention to the conservancy of villages during their tours. Village officers are directed to keep the villages clean.
124	Palni ... R.C.	...	...	86,086	92,024	178,110	6,962	39·1	2,131	2,029	4,160	105·0	0·2	0·1	4·6	0·3	0·5	17·7	24·8	22·0	23·4	24·0	21·3	22·8	.....	208 8 10	Do. ...	*Nil*	*Nil*	Tashildars and Revenue Inspectors during their tours instruct people to keep their houses and villages clean and not to defile drinking water. Village Officers also advise people on this matter.
125	Settinandal villages, &c. R.C.	...	...	587	696	1,283	33	25·7‰	16	20	36	80·0	...	6·8	10·9	1·6	...	14·8	27·3	28·7	28·1	20·4	17·2	18·7	.....	.....	.....	.....	.....	.....
15	Total District ...	5,024	313·1	767,466	805,852	1,573,318	48,458	33·8	15,469	14,505	29,974	106·6	0·9	0·1	6·2	0·5	0·4	10·9	20·1	18·0	19·0	21·5	19·3	20·4	.....	.....				
	MALABAR.																												
126	Tellicherry ... M.T.C.	...	...	13,100	13,531	26,631	927	34·8	349	324	673	107·7	...	...	7·5	3·1	0·3	14·3	26·6	23·9	25·2	24·1	22·7	23·4	2,013 8 4	7,088 5 6	There are no proper drains for the town.	.....	.....	A tank, a well, some drains and a few latrines were repaired.
127	Calicut ... M.T.C.	...	...	33,341	30,957	64,798	2,500	38·5	1,045	1,014	2,059	103·1	0·01	0·01	4·9	5·6	0·1	21·1	30·9	32·8	31·7	33·5	37·1	35·2	1,279 9 6	10,152 1 11	No regular system of drainage.	Many of the private wells are not provided with parapet walls, platforms or drains and consequently are liable to contamination. Quality of well water in the Moplah quarter of the town is as bad as ever. The dead are buried within a few yards of dwelling houses and in many instances close to drinking-water wells.	The existing number of latrines are quite insufficient. Private scavengering needs extension. The question of the disposal of refuse, street sweepings and night-soil is still unsettled. The mutton and beef slaughter-houses require masonry-built compound walls.	The council has resolved to spend Rs. 500 for experimenting with a view to determine the sufficiency or otherwise of the yield of the Mananchera tank to supply the Moplah quarter of the town. The earnest attention of the council is given to the question as to burial of dead bodies near drinking-water wells. A tank and a well were repaired, nine public latrines and 100 dust-bins constructed, two public latrines and a market repaired.
128	Palghat ... M.T.C.	...	...	19,070	20,297	39,367	1,609	40·9	564	559	1,123	100·9	0·2	...	5·8	3·6	0·4	18·5	29·6	27·5	28·5	27·5	26·5	27·0	1,460 0 0	7,128 12 8	Very defective ...	.....	.....	The consideration of the drainage scheme, has been indefinitely postponed; a well was sunk and a market and a slaughter-house were constructed; four public latrines repaired.
129	Cochin ... M.T.C.	...	...	8,656	7,491	16,147	582	36·0	226	216	442	104·6	1·0	0·1	4·0	1·9	0·2	20·2	26·1	28·8	27·4	36·2	40·3	37·7	.....	.....	No system	Quality of water bad. The surroundings of tanks are insanitary and consequently water is liable to pollution.	.....	Three wells were repaired, three latrines and a market were constructed 11 public latrines, six drains and three markets repaired.
130	Cannanore ... M.T.C.	...	...	12,885	13,768	26,653	1,141	42·8	389	386	775	100·8	...	0·04	9·2	3·6	0·2	16·1	30·2	28·0	29·1	28·8	23·4	26·1	.....	.....	Defective in old town. The existing side-channels and drains are not properly maintained. Water stagnates here and there and gives offensive smell. Sewage water flows into the streets in several places. The cess-pools in old town are rarely cleaned.	Wells situated in private compounds are exposed to contamination, being near latrines, rubbish-pits and drains.	The sanitary condition of the old town is bad. Night-soil is allowed to accumulate for years in pits which are used as latrines, so that the stench is abominable. The streets are kept filthy owing to absence of proper number of dust-bins. The streets are not properly swept. The conservancy staff is inadequate.	Old town being overcrowded and the streets narrow, proper drains cannot be laid. Provision is made in the budget to increase the strength of conservancy staff and the number of latrines and dust-bins.

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	MALABAR—*cont.*															
131	Chirakkal ... R.C.	...	...	138,433	145,038	283,471	7,041	24·8	2,212	1,837	4,049	120·4	...	0·02	7·8	0·9
132	Kottayam ... R.C.	...	...	82,593	85,607	168,260	4,197	24·9	1,547	1,349	2,896	114·7	...	...	10·7	1·7
133	Kurumbaranát. R.C.	...	...	151,160	152,851	304,011	5,982	19·7	1,861	1,534	3,395	121·3	0·3	0·003	8·3	0·6
134	Calicut ... R.C.	...	...	84,731	86,851	171,582	4,052	23·6	1,455	1,229	2,684	118·4	...	...	8·4	1·0
135	Ernad ... ... R.C.	...	...	169,699	169,488	339,187.	10,007	29·9	3,264	2,773	6,037	117·7	0·01	0·01	9·6	2·0
136	Ponnáni ... R.C.	...	...	222,587	226,666	449,253	7,851	22·3	3,428	3,085	6,513	111·1	0·2	0·2	4·6	2·1
137	Walavanad ... R.C.	...	...	163,996	168,338	332,334	7,851	23·6	3,037	2,653	5,690	114·5	...	0·01	9·2	2·0
138	Palghat ... R.C.	...	...	160,645	171,982	332,627	7,342	22·1	3,045	2,579	5,624	118·1	0·6	...	7·8	0·8
139	Wynaad ... R.C.	...	...	42,514	33,851	76,365	1,452	19·0	861	707	1,568	121·8	...	...	18·3	0·9
140	Cochin ... R.C.	...	...	2,872	3,116	5,988	165	27·6	56	65	121	86·1	...	...	3·0	2·2
15	Total District ...	5,585	472·1	1,306,782	1,329,892	2,636,674	63,308	24·0	23,339	20,310	43,649	114·9	0·2	0·03	8·1	1·6
	NELLORE.															
141	Nellore ... M.T.C.	...	...	14,200	14,928	29,128	911	31·3	351	270	621	130·0	...	...	5·2	0·5
142	Ongole ... M.T.C.	...	..	5,421	5,411	10,832	377	34·8	126	127	253	99·2	...	0·1	5·2	2·6
143	Gudur ... ... R.C.	...	...	59,035	57,723	116,758	2,559	21·9	783	823	1,616	95·1	...	0·03	7·7	0·2
144	Rapur ... ... R.C.	...	...	31,209	30,096	61,305	2,008	32·8	672	709	1,381	94·8	...	0 1	11·3	0·3
145	Nellore ... R.C.	...	...	84,021	84,527	168,548	3,753	22·3	1,195	1,212	2,407	98·6	...	0·06	0 92	7·2
146	Atmakúru ... R.C.	...	...	48,803	47,546	96,349	3,058	31·7	1,027	1,020	2,047	100·7	...	...	7·2	0·3
147	Kávali ... R.C.	...	...	34,179	34,697	68,876	1,065	24·2	516	571	1,087	90·4	...	0·2	11·7	0·5
148	Udayagiri ... R.C.	...	...	28,166	27,216	55,382	1,796	32·4	577	563	1,140	102·5	...	0·1	8·3	0·2
149	Kandukur ... R.C.	...	...	56,478	56,879	113,357	3,172	28·0	979	983	1,962	99·6	...	...	10·8	0·3
150	Kanigiri ... R.C.	...	...	31,013	30,053	61,066	1,611	26·4	516	532	1,048	97·0	...	0·06	9·4	0·2
151	Ongole ... R.C.	...	...	83,284	83,695	166,979	5,164	30·9	1,416	1,374	2,790	102·3	...	...	10·2	0·2
152	Zemindaries	...	...	260,585	254,192	514,777	12,068	24·6	3,678	4,093	7,771	89·9	...	0·07	8·1	0·2
													...	0·04	8·7	0·2
12	Total District ...	8,765	166·9	736,394	726,963	1,463,357	38,742	26·5	11,846	12,277	24,123	96·5	0·006	0·05	8·8	0·3
	NILGIRIS.															
153	Ootacamund ...	...	...	7,450	6,541	13,991	459	32·8	173	160	333	108·1	...	...	9·7	2·1
154	Coonoor ... M.T.C.	...	...	3,005	2,581	5,586	209	37·4	87	73	160	119·2	...	...	6·1	3·9

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont

9					10			11	12	13			14
Deaths per 1,000 of population from					Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.			All causes.					*a*	*b*	*c*	
		Males.	Females.	Total.	Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
								RS. A. P.	RS. A. P.				
0·3	5·3	16·0	12·7	14·3	18·5	15·9	17·2	.....	.....	No regular system of drainage. The scattered condition of the houses in rural parts of the district renders this impossible. In places where there are no cess-pools drainage of houses simply soaks in the ground.	Many of the wells in the compounds of houses are unprotected and form as it were a reservoir for filth which freely drains into them. All the public wells should be provided with proper masonry parapet walls, platforms and drains. Scarcity is felt during the hot season at Sultan's battery and Mepadi. The Jubilee well at Vyteri has become useless owing to faulty construction.	The Sanitary staff of the district is totally inadequate. The number of dust-bins and rubbish-carts should be increased. Domestic cleansing is not at all satisfactory. All the sweepings, refuse and cow-dung are allowed to accumulate in back-yards of houses till required for agricultural purposes. The Moplahs as a rule do not keep their houses and premises clean.	Some wells were sunk and others repaired. Three dust-bins were constructed and a drain was made. A well is in course of construction at Sultan's battery. The Jubilee well at Vyteri will soon be repaired. Provision has been made in the Budget for 1896-97 for the construction of a well at Mepadi.
0·3	4·5	18·7	15·7	17·2	16·6	14·3	15·7						
0·2	1·7	12·3	10·0	11·1	13·3	11·9	12·6						
0·3	5·9	17·2	14·1	15·6	16·8	16·9	18·5						
0·2	6·0	19·2	16·4	17·8	21·6	18·4	20·6						
0·3	7·1	15·4	13·6	14·5	20·1	17·5	18·8						
0·4	5·5	18·5	15·8	17·1	19·5	16·0	17·7						
0·3	7·4	18·8	15·0	16·9	19·6	15·9	17·7						
0·1	1·2	20·2	20·9	20·5	24·3	21·4	23·1						
0·2	14·8	19·5	20·9	20·2	25·0	22·1	23·7						
0·3	6·3	17·8	15·3	16·5	19·8	17·1	18·4	.....	.....				
0·4	15·2	24·7	18·1	21·3	25·3	19·7	22·5	.....	.....	Very defective being old fashioned and badly built. The levels are also faulty.	The majority of the wells in the town yield brackish water. The water derived from the river Penneru and irrigation channels is of indifferent quality.	A few tatty latrines are old and worn out and require replacing.	Four public latrines were erected and a few others repaired. Ten public wells were provided with parapet walls and platforms. Thirty new iron dust-bins were purchased. Four drains were repaired.
0·8	14·7	23·2	23·3	23·4	24·9	21·1	23·0	.....	.....	No system	Some of the wells have no drains to carry off spilt-water.	The surroundings of public latrines are used as places for the commission of nuisance.	Four tatty latrines and urinals were constructed and a mistry appointed for private scavenging.
0·2	5·7	13·3	14·3	13·8	13·6	13·6	13·6	...	...	There is no proper drainage system anywhere in the district.	In most of the towns and villages no tanks or wells are set apart for drinking purposes, and, consequently, they are subject to pollution. At Kanigiri, Venkatagiri and Singarayakonda watchmen are entertained to protect drinking-water reservoir, but it is doubtful whether they are of much use.	In non-union villages rubbish is stored in backyards of houses and removed to fields when required. Public latrines where they exist are not much resorted to as people prefer river beds and waste places. Old mud walls and deserted houses are also used as places of nuisance. The Police Act must be put into force to make people use public latrines.	Considerable amount was spent in removing prickly-pear. The number of dust-bins has been increased in many unions. Want of funds precluded important sanitary improvements being effected. Instructions were issued to direct owners of deserted houses to have them repaired.
0·1	10·7	21·5	23·5	22·5	22·4	23·6	23·0	...	...				
0·2	6·5	14·2	14·3	14·3	13·9	13·1	13·5	...	...				
0·2	8·5	20·6	21·4	21·1	21·6	20·6	21·1	...	...				
0·2	7·0	15·1	16·5	15·8	17·2	17·2	17·2	...	...				
0·3	9·3	20·5	20·6	20·6	19·5	20·7	20·1	...	...				
0·2	7·5	17·3	17·3	17·3	20·9	19·4	20·1	...	...				
0·1	6·7	16·6	17·7	17·2	16·6	17·1	16·8	...	...				
0·2	8·1	17·0	16·4	16·7	20·1	15·1	19·6	...	...				
0·2	6·0	14·1	16·1	15·1	13·5	13·9	13·7	...	...				
0·2	7·2	16·0	16·9	16·5	16·7	16·4	16·5	.....	.....				
0·3	11·7	23·2	24·5	23·8	22·0	24·2	23·5	.....	.....	The main sewer is defective and there are many breakages allowing sewage to escape into the lower lake which is more or less an open cess-pool.	The water from both the Marlimund and Dodabetta reservoirs is open to contamination. The water in some of the wells is inferior.	.....	A scheme for the improvement of the Marlimund and Dodabetta water supplies by the removal of forest lands and tea estates is before Government. Fourteen wells were sunk. A few dust-bins were constructed. A drain was made. Two public latrines some drains four markets and two slaughter-houses were repaired.
0·3	18·3	28·0	28·2	28·6	34·6	31·0	32·9	.....	.....	.....	The channels which distribute water to the various bungalows, hotels and bazaars are open ones and subject to pollution.	.....	A new cinerator has been constructed in the market. A few latrines, a market, a slaughter-house and drains were repaired, two market sheds were constructed.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895*—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born-dead).			Number of deaths of males to every 100 deaths of females.				
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	NILGIRIS—*cont.*															
155	Nilgiris ... R.C.	...	...	28,027	24,141	52,168	1,692	32·4	630	616	1,296	110·4	...	0·02	23·2	0·4
156	South-East Wynaad R.C.	...	...	16,003	9,017	25,020	406	16·2	355	265	620	134·0	...	...	19·2	1·8
4	Total District ...	957	101·1	54,485	42,280	96,765	2,766	28·5	1,295	1,114	2,409	116·2	...	0·01	19·2	1·2
	NORTH ARCOT.															
157	Vellore ... M.T.C.	...	...	21,188	23,536	44,724	1,611	36·0	521	535	1,056	97·4	...	1·2	7·8	3·3
158	Wállajápet ... M.T.C.	...	...	4,943	5,542	10,485	350	33·4	161	146	307	110·3	1·3	...	11·3	2·5
159	Gudiyáttám ... M.T.C.	...	...	9,224	9,521	18,745	754	40·2	210	233	443	90·1	...	0·3	10·5	1·8
160	Tirupati ... M.T.C.	...	...	6,872	7,366	14,238	432	30·3	223	190	413	117·4	0·4	...	11·4	3·
161	Kálahasti ... T.C.	...	...	5,518	6,197	11,715	242	20·6	66	70	136	94·3	0·1	...	2·6	0·1
162	Arcot ... T.C.	...	...	5,269	5,659	10,928	341	31·2	120	140	260	85·7	1·7	0·2	1·6	...
163	Ambúr ... T.C.	...	...	4,973	5,610	10,583	125	11·8	40	25	65	160·0	...	0·6	4·1	0·1

9					10			11	12	13			14
Deaths per 1,000 of population from					Mean ratio of deaths per 1,000 during previous five years.					Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.						Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	*a*	*b*	*c*	
		Males.	Females.	Total.	Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
								Rs. A. P.	Rs. A. P.				
0·1	1·1	24·2	25·5	24·8	22·0	22·9	22·9	.....	869 0 0	.....	Most of the people in Gudalur obtain their water from an unprotected road side channel open to pollution.	The Badagas throw the sweepings and rubbish just in front and on the sides of their houses. No Badaga has a latrine, however rich he may be, waste grounds being made use of as such by both sexes.	Removal of noxious vegetation, construction and repair of platforms and parapet walls, clearance of silt, protection of water-supply sources.
0·3	3·5	22·2	29·4	24·8	19·2	24·6	21·2	.....	972 0 0				
0·2	4·3	23·8	26·3	24·9	22·5	24·0	23·2	.....	.....				
0·2	11·1	24·6	22·7	23·8	26·4	23·0	24·7	.....	.....	The existing drains are imperfectly constructed and the fall is very often insufficient. There are a number of cesspits. These are rarely cleaned.	The Sooriaguntatank which supplies water to a large portion of the town and a few others are subject to contamination.	The sanitary state of the town is very unsatisfactory. Cattle are kept in backyards and manure heaped up. The existing latrines are insufficient and a good deal of fæcal matter is allowed to remain in the town.	Construction of V-shaped drains in town. Construction of two wells and repair of a few others. Construction of two new latrines. Some dust-bins were constructed and a few drains made; a drain and a slaughter-house were repaired.
0·6	13·6	32·6	26·3	29·3	30·0	27·0	28·5	403 14 0	1,612 15 8	No system. Drainage of houses either flows into street-drains and occasionally form dirty gutters or soaks in backyards.	Unsatisfactory. Quantity sometimes runs short.	Cattle are kept in houses or backyards.	A drain; some wells and a market were repaired. A market was constructed.
0·1	10·9	22·7	24·4	23·6	26·8	24·9	25·7	166 6 0	3,227 10 6	There is no drainage system.	Drinking water is obtained from excavations made in the bed of the river. The surroundings of the Municipal wells are in an insanitary condition. Some of the private wells in backyards of houses are without parapet walls and platforms, and are close to cess-pools. The springs in the river-bed are used for drinking and bathing purposes indiscriminately.	The sanitary state of the town is very bad. Sides of streets and drains are used as latrines.	A scheme for supplying the town with water is now under the consideration of the council. Four ring wells were sunk in the bed of the river. A market was constructed and a slaughter-house repaired.
0·4	13·6	32·4	25·8	29·0	33·5	28·3	30·9	848 4 0	4,296 2 1	No system. Some streets have a few roughly built granite drains which terminate blindly.	.....	.....	The drainage scheme sanctioned by Government has been postponed pending the introduction of water-supply scheme. Four wells, a latrine and a market were repaired.
0·3	8·5	12·0	11·3	11·6	15·2	12·8	14·0	59 0 0	944 0 0	Regular drains are essentially required in the main street of Kalahasti.	Fresh water wells are not generally protected by parapet walls and consequently are subject to pollution.	The streets in the villages are not kept clean.	.....
0·2	20·1	22·8	24·8	23·8	30·2	28·8	29·5	.....	.....	No proper system of drainage.	The water of the channel which runs from the river through the middle of the town passes through paddy fields and is very muddy. The tanks are roughly constructed and the water is very thick. The surroundings are not very clean.	Backyards are in some cases used as privies and the night-soil is not removed.	.....
...	1·3	8·0	4·4	6·1	11·4	9·4	10·4	.....	.....	Do. ...	River water is much contaminated. Surroundings of public wells are dirty.	Backyards are kept in a very insanitary state. Cattle are kept very often either within the house or in backyards.	.....

No. II.—*Statement of births and deaths registered in each town and rural circle of the together with the principal sanitary defects of each circle,*

1	2		3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Diarrhœa and dysentery.
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	NORTH ARCOT—*cont.*																
164	Chittoor ...	R.C.	...	...	101,938	98,248	200,186	4,772	23·3	1,325	1,321	2,646	100·3	0·1	0·1	7·2	0·1
165	Chendraziri	R.C.	...	...	51,507	48,523	100,030	2,425	24·2	658	666	1,324	98·8	0·3	0·1	6·2	0·3
166	Palmanér ...	R.C.	...	...	24,271	23,860	48,131	892	18·5	334	306	640	109·1	...	0·02	8·6	0·3
167	Gudiyáttam	R.C.	...	...	78,547	79,316	157,863	4,352	27·5	1,275	1,223	2,498	104·3	0·7	0·8	9·7	0·5
168	Vellore ...	R.C.	...	...	68,729	68,638	137,367	4,021	29·3	1,091	1,051	2,142	103·8	0·1	0·4	9·2	0·5
169	Polur ...	R.C.	...	...	69,371	70,326	139,697	4,152	29·9	1,367	1,250	2,617	109·3	0·8	0·1	7·3	0·7
170	Wandiwash	R.C.	...	...	88,932	88,787	177,719	5,207	29·3	1,650	1,510	3,160	109·3	0·2	0·1	8·4	0·4
171	Arcot	R.C.	...	...	82,190	83,758	165,948	5,486	33·0	1,592	1,615	3,207	98·6	1·5	0·1	4·4	0·4
172	Wálajápet ...	R.C.	...	...	114,741	113,889	228,630	6,341	27·7	1,940	1,819	3,759	106·6	1·1	0·1	4·2	0·4
173	Zemindaries		...	...	322,060	314,536	636,596	18,657	29·3	4,863	4,789	9,652	101·5	0·2	0·1	8·9	0·4
17	Total District ...		7,616	286·2	1,060,275	1,053,312	2,113,585	60,160	28·5	17,436	16,889	34,325	103·2	0·5	0·2	7·1	0·5
	SALEM.																
174	Salem ...	M.T.C.	...	...	32,828	34,812	67,640	2,659	39·3	712	702	1,414	101·4	0·3	0·01	6·4	1·2
175	Vániyambádi	M.T.C.	...	...	6,988	8,850	15,838	839	53·0	222	232	454	95·7	...	0·2	11·6	0·8
176	Tiruppattúr	M.T.C.	...	...	7,721	8,742	16,463	754	45·8	212	186	398	114·0	...	...	10·7	0·8

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9					10			11	12	13			14
of population from					Mean ratio of deaths per 1,000 during previous five years.					Principal sanitary defects of circle.			
Injuries.	All other causes.	All causes. Males.	All causes. Females.	All causes. Total.	Males.	Females.	Total.	Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	*a* In drainage.	*b* In water-supply.	*c* In domestic cleansing and conservancy.	Measures taken for sanitary improvement of circle.
								RS. A. P.	RS. A. P.				
0·5	5·1	12·9	13·4	13·1	17·9	17·9	17·9	5 0 0	2,675 0 0	No proper system of drainage.	.....	The sweepings of houses and dung are generally stored in backyards and removed to fields during cultivating season.	.....
0·4	5·9	12·8	13·7	13·2	16·0	15·8	15·9	31 0 0	1,454 0 0	No drainage system.	.....	*Nil* ...	.....
0·4	4·0	13·8	12·8	13·3	16·1	17·1	16·6	10 0 0	863 0 0	Do. ...	Neither wells nor tanks are set apart for drinking purposes. Some of the wells have no parapet walls and drains.	The sweepings of houses and dung are stored in backyards of houses and removed to fields during cultivating season.	Village officer's attention is drawn by the Tahsildar to any sanitary defects in the course of his tour.
0·4	3·7	16·2	15·4	15·8	17·5	15·7	16·6	.....	829 0 0	Do. ...	Ponds and wells which are the chief sources of water-supply are used both for drinking and washing purposes and their surroundings are generally dirty.	*Nil* ...	Do.
0·3	5·2	15·9	15·3	15·6	18·4	17·2	17·8	93 0 0	2,038 0 0	Most of the villages have no drains.	Water of the villages adjoining Javadi Hills is considered to be unhealthy as people get fever especially in the rainy season.	*Nil* ...	*Nil.*
0·3	9·6	19·7	17·7	18·7	19·8	18·8	19·3	3 0 0	826 0 0	No system of drainage in villages.	Scarcity of water is felt in Javadi Hills.	The sweepings of houses and dung are stored in backyards and removed to fields during cultivating season.	Village officers are instructed to keep villages clean.
0·3	13·4	18·5	17·0	17·8	20·1	19·9	20·0	6 0 0	689 0 0	Do. ...	Ponds which are the chief sources of supply are not conserved. They are consequently subject to pollution.	Cattle are picketted in the verandahs of dwelling houses and rubbish is stored in backyards.	*Nil.*
0·4	12·5	19·3	19·4	19·3	21·4	20·8	21·1	47 0 0	2,299 0 0	Do. ...	*Nil* ...	Rubbish is stored in backyards and in front of houses.	Villagers are instructed to keep villages clean.
0·3	10·3	16·8	15·9	16·4	19·7	19·0	19·3	76 0 0	2,418 0 0	Do. ...	Some of the drinking water wells are not provided with parapet walls.	The sweepings of houses and dung are stored in backyards and removed to fields during cultivating season.	Do.
0·4	5·1	15·1	15·2	15·1	19·3	19·7	19·5	.....	.....	.....	.....	.....	.....
0·4	7·5	16·4	16·0	16·2	19·4	18·6	19·0						
0·1	12·9	21·7	20·1	20·9	25·7	23·3	24·5	789 6 10	20,648 8 2	No system ...	The river—one of the drinking water sources—is polluted with sewage and washing.	.....	The water-supply scheme is under consideration of the council. Three latrines were constructed and 15 others repaired. A market was constructed and another repaired. A slaughter-house was constructed. A tank and 28 wells repaired.
0·3	16·4	31·8	26·2	28·7	35·4	28·8	31·8	669 2 0	2,861 15 8	No system. Cess-pits abound which are seldom cleaned out.	The river—one of the sources of drinking water—is subject to pollution. Most of the private wells are near cess-pits.	.....	Twelve dust-bins were constructed.
0·2	12·7	27·5	21·3	24·2	29·4	25·3	27·2	806 2 0	3,617 1 11	Very indifferent; cess-pools abound, which are seldom cleaned.	.....	.....	Two latrines and ten dust-bins were constructed. Private scavengering was extended.

No. II.—*Statement of births and deaths registered in each town and rural circle of the together with the principal sanitary defects of each circle,*

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	SALEM—*cont.*															
177	Sendamangalam T.C.	...	...	6,416	6,938	13,354	218	16·3	59	63	122	93·6	...	...	0·7	...
178	Rásipuram ... T.C.	...	...	5,119	5,420	10,539	278	26·4	55	65	120	84·6	...	...	...	...
179	Salem ... R.C.	...	...	166,338	172,421	338,759	11,077	32·7	2,785	2,735	5,520	101·8	0·3	0·04	7·5	0·1
180	Atur ... R.C.	...	...	89,211	93,991	183,202	5,534	30·1	1,584	1,636	3,220	96·8	0·3	0·1	9·9	0·3
181	Námakkal R.C.	...	...	138,698	147,988	286,686	8,692	30·3	2,616	2,635	5,251	99·3	0·2	0·04	7·4	0·2
182	Tiruchengódu R.C.	...	...	123,072	125,595	248,667	8,329	33·5	2,199	2,083	4,282	105·5	0·1	0·04	9·6	0·2
183	Hosúr ... R.C.	...	...	76,954	78,759	155,693	4,460	28·6	1,445	1,546	2,991	93·5	...	0·03	7·7	0·2
184	Krishnagiri R.C.	...	...	75,399	76,717	152,116	4,532	29·8	1,158	1,113	2,271	104·0	...	0·1	5·8	0·5
185	Dharmapuri R.C.	...	...	87,559	90,861	178,420	6,074	34·1	1,552	1,437	2,989	108·0	...	0·2	4·9	0·5
186	Tiruppattúr R.C.	...	...	77,067	79,228	156,295	4,862	31·2	1,392	1,330	2,722	104·7	0·3	0·2	9·3	0·3
187	Uttangarai R.C.	...	...	67,829	70,283	138,112	4,284	31·0	1,571	1,456	3,027	107·9	0·01	0·4	11·8	0·4
14	Total District ...	7,529	260·6	961,199	1,000,585	1,961,784	62,592	31·9	17,562	17,219	34,781	102·0	0·1	0·1	8·0	0·4
	SOUTH ARCOT.															
188	Cuddalore ... M.T.C.	...	...	23,026	23,999	47,025	1,748	37·1	508	512	1,020	99·2	1·0	0·3	5·8	2·3
189	Chidambaram M.T.C.	...	...	9,077	9,557	18,634	447	24·0	351	305	656	115·8	11·6	0·4	10·2	2·0
190	Porto Novo ... T.C.	...	...	6,179	7,866	14,045	199	14·2	73	81	154	90·1	1·3	0·4	1·4	0·1
191	Tiruvannámalai T.C.	...	...	5,970	6,178	12,148	130	10·7	55	47	102	117·0	0·3	0·2	5·3	...
192	Cuddalore ... R.C.	...	...	145,706	144,202	289,908	8,427	29·0	3,067	2,934	6,001	104·5	1·3	0·1	5·0	0·4
193	Villupuram... R.C.	...	...	151,872	149,818	301,690	10,573	35·0	3,331	3,183	6,514	104·6	0·3	0·5	4·4	0·3
194	Chidambaram R.C.	...	...	123,014	126,555	249,569	8,816	35·3	4,145	3,889	8,034	106·6	8·7	0·4	5·9	0·3
195	Tindivanam R.C.	...	...	159,076	156,918	315,994	11,039	35·0	3,109	2,795	5,904	111·2	0·5	0·1	4·3	0·8
196	Kallakurchi R.C.	...	...	119,209	120,970	240,179	7,286	30·3	2,531	2,436	4,967	103·9	1·0	0·2	13·7	0·2
197	Tirukkóyilúr R.C.	...	...	128,831	128,284	257,115	9,841	38·3	3,462	3,330	6,792	104·0	1·4	0·5	8·0	0·3
198	Tiruvannámalai R.C.	...	...	97,284	95,954	193,238	6,043	31·2	1,854	1,674	3,528	110·7	0·3	0·3	11·2	0·6
199	Vriddhachalam R.C.	...	...	109,611	113,180	222,791	6,535	29·3	2,743	2,839	5,582	96·6	2·4	0·4	10·0	0·4
12	Total District ...	5,217	414·5	1,078,855	1,083,481	2,162,336	71,084	32·8	25,229	24,025	49,254	105·0	2·0	0·3	7·3	0·5
	SOUTH CANARA.															
200	Mangalore ... M.T.C.	...	...	21,168	19,452	40,620	1,197	29·5	543	512	1,055	106·1	...	...	7·5	2·7

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9						10			11	12	13			14
of population from			All causes.			Mean ratio of deaths per 1,000 during previous five years.					Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.		Males.	Females.	Total.	Males.	Females.	Total.	Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	*a*	*b*	*c*	
											In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·2	8·2		9·2	9·0	9·1	9·0	9·2	9·3			No drainage system anywhere in the district. Cess-pools exist in large villages, but generally nothing is done till they become filled up when sometimes they are cleaned and sometimes covered and fresh ones opened; where house-drains join the street side-drains, pools of mud usually form and the sewage soaks into the soil.	Fairly good, but in some places the river and step well supply is always subject to pollution.	The public latrines generally speaking are not properly looked after and kept clean. In the absence of toties, these latrines are left to the care of pigs. Where latrines are kept clean, females resort to them freely. In smaller places sanitation languishes from want of sufficient supervision.	Sanitation has received attention. Ten wells were sunk and 6 latrines were constructed, and a few others repaired. Here and there wells and drains have been repaired.
0·2	11·1		10·7	12·0	11·4	15·2	14·4	14·8						
0·4	7·8		16·7	15·9	16·3	18·1	16·5	17·3						
0·3	8·7		17·8	17·4	17·6	21·2	19·6	20·4						
0·3	10·2		18·9	17·8	18·3	19·4	18·0	18·7	324 3 0	2,234 11 0				
0·5	6·8		17·8	16·6	17·2	19·3	18·0	18·6	16 4 0	1,322 12 9				
0·3	10·4		18·8	19·6	19·2	19·0	18·5	18·7	176 14 9	2,027 11 4				
0·2	8·3		15·4	14·5	14·9	16·9	16·3	16·6						
0·2	11·0		17·7	15·8	16·8	16·8	14·9	15·8						
0·4	6·9		18·1	16·8	17·4	21·7	21·4	21·5						
0·3	9·0		23·2	20·7	21·9	23·5	20·7	22·1						
0·3	8·8		18·2	17·2	17·7	19·7	18·3	19·0						
0·4	11·9		22·0	21·3	21·7	21·2	19·6	20·4	.....	.....	The masonry drains in old town being deprived of the chunam coating, sewage is being absorbed by the bricks or finds its way into the ground through the crevices.	Water obtained from the river Gudilum and public and private wells is of indifferent quality.	Streets, lanes, fields, waste lands and river banks are used as latrines owing partly to paucity of latrines and partly to the large and scattered area comprised within municipal limits. Private scavengering is still backward.	The council has decided to entertain a Chief Sanitary Inspector to supervise the work of the Conservancy staff, which is at present slack and neglected. Fifty-five dust-bins were constructed and 6 latrines repaired.
0·6	10·4		38·6	31·9	35·2	31·0	29·7	30·3	562 13 4	4,857 15 1	There is no regular system of drainage.	The surroundings and inlets of four tanks said to be reserved for drinking purposes and watched are subject to contamination from fæcal matter, &c. The tanks are fed by the Coleroon through open irrigation channels.		Two public latrines were constructed and a market repaired; a trained Sanitary Inspector was entertained. A number of ruined masonry dust-bins were replaced by portable iron ones, 3 hand night-soil carts were purchased. Private scavengering was extended to a slight extent.
0·1	7·7		11·8	10·3	11·0	15·5	15·2	15·3			No regular system. Natural in some and in others far from satisfactory. Drainage of houses flows into the backyards or streets where it either evaporates or soaks in the soil. Dirty pools along side of streets and backyards of houses are frequently to be seen.	In rural parts the sources of water-supply are often subject to pollution. Many villages have but one source of water-supply, often a tank or a pond fed by surface drainage affording a most suitable nidus for the growth and development of microbe organisms. Bunds of rivers and tanks are frequently made use of as latrines. The surroundings of wells are in some cases filthy and the water they yield is brackish.	In most of the villages rubbish and dung are stored either in backyards or in streets near houses which during rains gives forth unwholesome odour. In wet villages these accumulations of filth cause similar inconvenience. Rank and noxious vegetation grows in abundance.	In more important villages side-channels are dug which are daily drained. A few ponds are reserved in some places for drinking purposes and watched at the expense of Local Fund Boards, whilst in others they are taken care of by village heads and any one found polluting the water is prosecuted and punished by the Tahsildar or Magistrate.
0·5	2·1		9·2	7·6	8·4	15·5	11·9	13·7						
0·2	13·7		21·0	20·3	20·7	22·4	20·8	21·6						
0·3	15·8		21·9	21·3	21·6	25·8	24·2	25·0						
0·4	16·5		33·7	30·7	32·2	27·8	25·8	26·8						
0·4	12·6		19·5	17·8	18·7	22·9	21·3	22·1	.....	.....				
0·2	5·4		21·2	20·1	20·7	19·0	21·1	20·1						
0·4	15·8		26·9	25·9	26·4	26·1	24·8	25·5						
0·6	5·2		19·0	17·4	18·2	20·3	19·0	19·7						
0·3	11·5		25·0	25·0	25·0	22·7	21·0	21·8						
0·3	12·3		23·4	22·1	22·7	23·4	21·8	22·6						
0·3	14·5		25·6	26·3	26·0	23·2	24·6	23·9	2,146 4 9	7,558 0 4	Defective	The quality of drinking water is suspicious in some wells, their surroundings being bad.	.....	Four public latrines were constructed and seven others repaired. Three wells were sunk and two drains made. A few drains, three markets and a slaughter-house were also repaired.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year* 1895—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	SOUTH CANARA—*cont.*															
201	Mangalore ... R.C.	...	...	115,802	122,172	237,974	6,773	28·4	2,451	2,239	4,690	109·5	0·1	0·1	6·9	1·1
202	Kasaragod ... R.C.	...	...	137,596	143,059	280,655	8,127	28·9	2,304	2,222	4,526	103·7	...	0·04	6·4	1·0
203	Uppinangadi R.C.	...	...	60,612	58,192	118,804	3,692	31·0	1,561	1,423	2,984	109·7	0·02	0·1	13·5	1·2
204	Udipi ... R.C.	...	...	118,714	134,985	253,699	8,054	31·7	2,614	2,334	4,948	112·0	0·1	0·3	6·8	1·2
205	Kundapur ... R.C.	...	...	55,078	65,172	120,250	3,855	32·0	1,452	1,222	2,674	118·8	0·3	0·1	13·1	1·9
6	Total District ...	3,902	269·6	508,970	543,032	1,052,002	31,698	30·1	10,925	9,952	20,877	109·8	0·1	0·1	8·2	1·3
	TANJORE.															
206	Tanjore ... M.T.C.	...	...	25,870	28,388	54,258	1,606	29·6	717	670	1,387	107·0	1·5	0·2	5·6	5·4
207	Kumbakónam M.T.C.	...	...	26,440	27,814	54,254	1,793	33·0	838	856	1,694	97·9	1·0	0·2	6·8	3·6
208	Máyavaram M.T.C.	...	...	11,526	12,228	23,754	793	33·4	317	305	622	104·0	0·7	0·2	5·4	2·1
209	Negapatam ... M.T.C.	...	...	26,668	31,905	58,573	1,902	32·5	843	900	1,743	93·7	0·1	...	8·9	2·3

9					10			11	12	13			14
Proportion of population from					Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
		All causes.								a	b	c	
Injuries.	All other causes.	Males.	Females.	Total.	Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
								RS. A. P.	RS. A. P.				
0·4	11·1	21·2	18·3	19·7	19·1	16·8	17·9	22 0 0	805 0 0	Natural. The adoption of artificial means for improving the drainage of some parts may be necessary if a railway is built.	There is scarcity of water in many places in and near Bantvál during the hot months. A bad type of fever for which Bantvál is notorious may possibly be due to this.	*Nil*	Conservancy establishments are maintained in towns and large villages where markets, &c., are held. These require increase in some parts which is being attended to as fast as Local Funds permit. Steps are being taken to provide deep wells.
0·2	8·4	16·7	15·5	16·1	18·0	15·8	16·9	1 0 0	824 0 0	*Nil*	No defects	*Nil*	.....
0·3	10·0	25·3	24·4	25·1	27·6	26·6	27·1	2 0 0	410 0 0	*Nil*	Puttond is a place where the want of water-supply is felt in dry weather.	*Nil*	Wells are provided wherever necessary. In large villages scavengers are employed for cleaning streets and removing rubbish and filth.
0·4	10·7	22·0	17·3	19·5	24·7	20·0	22·2	13 0 0	907 0 0	*Nil*	*Nil*	Conservancy arrangements are not all that could be desired.	Endeavours are being made to effect improvements in respect of conservancy arrangements.
0·4	6·4	26·4	18·7	22·2	31·4	25·0	28·0	...	507 0 0	*Nil*	*Nil*	Do. do. ...	Do.
0·4	9·7	21·4	18·3	19·8	23·6	19·7	21·1	...	...				
0·2	12·7	27·7	23·6	25·6	31·0	28·8	29·9	2,045 0 0	11,111 0 0	A great many of the streets are without drains of any kind.	.....	The sanitary condition of the streets and lanes is very unsatisfactory, owing to the existence of contract system of conservancy. The masonry latrines are built on a very antiquated plan and are not regularly cleaned. They are consequently not freely used. The number of night-soil carts is not sufficient. The present rubbish depot is situated in a very inconvenient locality.	The Vennár water-supply scheme was completed and opened for the public. A well was sunk, a drain was made, and 2 drains, 2 markets and a slaughter-house repaired.
0·2	19·4	31·7	30·8	31·2	33·4	31·6	32·5	2,084 10 2	17,438 9 8	Defective, there is no street drainage for the town. The condition of cesspools is very unsatisfactory.	The number of drinking water wells is insufficient. None of the wells are provided with drawing apparatus. People consequently get upon the parapet walls to draw water and thus contaminate the water. Arrangement should be made for a purer water-supply for drinking and domestic purposes.	Some of the latrines are rather small and the existing number is insufficient. The urinals are used as latrines also.	Two latrines and 40 dust-bins were erected; ten wells were sunk, and two tanks and five wells repaired. A market was also repaired.
0·1	17·7	27·5	24·9	26·2	31·2	28·0	29·6	719 3 6	...	There is no system of drainage for the town.	Quality of water not good. The wells are shallow and contaminated with subsoil water. The surroundings of tanks conserved for drinking purposes are not kept clean.	.....	Three wells were sunk and a market was repaired. Private scavengering was extended.
0·4	18·1	31·6	28·2	29·8	32·3	28·8	30·5	2,617 5 11	21,683 8 7	Do. do. ...	Some of the wells in the crowded parts of the town do not have good surroundings. None of the sources, wells and tanks have such enclosures as would prevent people from polluting water during nights. The open channels that supply the tanks are abundantly contaminated with fœcal matter.	Sanitary condition is unsatisfactory. A good deal of nuisance occurs around each latrine, particularly in the case of latrines for males. A large number of the masonry dust-bins are in ruins.	Three latrines were constructed and three tanks and two wells repaired.

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895*—cont.

1	2		3	4	5			6		7			8				
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	TANJORE—*cont.*																
210	Mannárgudi	M.T.C.	...	...	9,704	10,688	20,392	769	37·7	294	254	548	115·7	0·1	0·1	6·4	3·2
211	Tiruválúr ...	T.C.															
212	Tanjore ...	R.C.	...	...	6,063												
213	Kumbakónam	R.C.	...	...	172,425	6,871	12,934	342	26·5	183	182	365	100·5	0·4	0·2	2·5	1·3
214	Máyavaram...	R.C.	...	...	156,320	183,596	356,021	9,305	26·1	4,054	4,064	8,118	99·7	2·1	0·1	2·1	0·2
215	Shiyali ...	R.C.	...	...	105,172	167,030	325,350	10,281	31·8	3,953	3,919	7,872	100·9	1·3	0·2	1·9	0·2
216	Nannilam ...	R.C.	...	...	57,586	115,805	220,977	7,219	32·6	2,743	2,800	5,543	97·9	1·3	0·8	2·6	0·5
217	Negapatam ...	R.C.	...	...	100,250	62,215	119,801	3,901	32·5	1,358	1,397	2,755	97·2	1·9	0·5	1·6	0·3
218	Mannárgudi	R.C.	...	...	68,944	78,232	215,905	6,418	29·7	2,635	2,781	5,416	94·8	0·7	0·3	2·2	0·3
219	Tirutturaippúndi	R.C.	...	...	80,143	148,177	167,033	3,773	25·5	1,706	1,737	3,443	98·2	0·4	0·2	1·5	0·1
220	Pattukkóttai	R.C.	...	...	87,890	86,890	180,293	4,965	29·7	1,725	1,825	3,550	94·5	0·6	0·05	1·2	0·1
					130,539	92,493	271,359	5,014	27·8	1,861	2,018	3,879	92·2	0·3	0·1	1·1	0·2
						140,820		6,089	24·6	2,244	2,244	4,488	100·0	0·1	0·1	1·0	0·1
15	Total District ...		3,709	600·4	1,065,450	1,161,631	2,227,081	64,770	29·1	25,471	25,952	51,423	98·1	1·0	0·2	2·3	0·5
	TINNEVELLY.																
221	Tinnevelly ...	M.T.C.	...	...	11,752	13,004	24,756	883	35·7	386	407	793	94·8	2·4	0·04	4·6	4·6
222	Palamcottah	M.T.C.	...	...	8,808	9,804	18,612	624	33·5	259	240	499	107·9	3·1	0·2	4·1	1·6
223	Tuticorin ...	M.T.C.	...	...	13,624	11,340	24,964	786	31·5	409	373	782	109·6	0·8	0·04	10·0	6·3
224	Srivilliputtúr.	M.T.C.	...	...	14,367	15,174	29,541	784	26·5	255	260	515	98·0	0·8	0·2	5·9	1·4
225	Kulasékarapatnam	T.C.	...	...	7,012	8,898	15,910	445	27·9	231	249	480	92·7	6·8	0·2	7·4	0·9
226	Virudupatti ...	T.C.	...	...	6,547	7,528	14,075	261	18·5	85	72	157	118·0	0·1	...	4·7	0·8

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9									10			11	12	13			14
Deaths per 1,000 of population from									Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvements of circle.
Injuries.	All other causes.	All causes.												*a*	*b*	*c*	
		Males.	Females.	Total.					Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
												RS. A. P.	RS. A. P.				
0·5	16·6	30·3	23·8	26·9	31·2	27·1	29·1					327 12 0	4,218 6 7	.....	.....	.....	Thirty-six wells were sunk; some tanks, wells, and markets were repaired.
0·2	23·7	30·2	26·5	28·2	21·9	19·2	20·5							There are no drains except in Tiruvadi, Vallam, Tranquebar and they are constructed on an obsolete pattern and are of very little use as there is not a sufficient fall. In most villages there are small cess-pools without any impermeable lining material to prevent soakage into the soil.	The Pattukotta Taluq is the worst off for good water. The channels and rivers which supply the tanks with water are subject to pollution. The whole drainage of the country through which the rivers flow passes into them.	Very little attention is paid to the proper disposal of the night-soil in any part of the district, as masses of human excreta are found lying about the streets and lanes. Backyards of houses are in a deplorable condition. They are used as latrines and night-soil collected in them.	Four wells were sunk and a few tanks and wells were repaired. Some dust-bins were also constructed.
0·2	18·1	23·5	22·1	22·8	26·2	24·4	25·2										
0·2	20·5	25·3	23·4	24·3	31·3	29·5	30·4										
0·3	19·6	26·6	24·2	25·1	28·2	25·8	27·0										
0·3	18·4	23·6	22·4	23·0	27·5	25·1	26·3										
0·4	21·2	26·3	24·0	25·1	30·8	27·5	29·1					...	...				
0·2	20·8	24·7	21·9	23·2	29·2	26·6	27·9										
0·2	19·0	21·5	21·0	21·2	25·1	24·3	24·7										
0·3	19·5	21·2	21·8	21·5	23·3	22·1	22·6										
0·1	15·1	17·2	15·9	16·5	16·4	15·0	15·7										
0·2	18·8	23·9	22·3	23·0	26·8	24·8	25·8										
0·3	20·1	32·8	30·3	32·0	35·3	32·3	33·8					947 1 6	6,109 1 6	The drainage of the town is defective. Owing to want of proper fall to flush the drains the sewage in some drains remains stagnant.	The canals which form one of the drinking-water sources are being defiled in every way as they run through the town.	The backyards are generally in an insanitary state as rubbish is collected in pits and sometimes thrown into private latrines and stored up for a number of months. The masonry latrines need repair. None of the latrines have roofs and consequently the contents find their way into the channels during rainy season.	The drainage and water-supply schemes are under contemplation. Twelve dust-bins were constructed and five latrines repaired. Measures have been adopted by the Municipality to prevent people from polluting the channels. Thirty-two wells were repaired. Twelve dust-bins were constructed. A drain was made. Five public latrines and two markets repaired.
0·2	17·6	29·4	24·5	26·8	30·3	25·8	27·9					287 0 0	2,853 12 0	No system	The channel, one of the drinking water source, is subject to pollution throughout its course.	.....	Steps are being taken to prevent the washing of clothing, cattle, &c., in the channel. Some drains were repaired. A well is being sunk.
0·3	13·9	30·0	32·9	31·3	28·4	30·8	29·6					...	...	.....	.....	.....	No improvement noticed since last report. A tank and eleven wells were repaired; two public latrines and twenty dust-bins constructed; a drain was made, eighteen public latrines and a drain repaired.
0·4	9·4	17·7	17·4	17·4	...	...	...					191 12 0	2,410 3 9	There are no pucka built masonry drains in this Municipality.	No tank is reserved for drinking purposes. One of the tanks from which drinking water is partly obtained is used for bathing purposes also.	.....	The tank being temple property bathing which is considered a religious duty could not be prevented.
0·1	14·7	32·9	28·1	30·1	34·4	24·5	28·7					.....	515 0 0	No system	Some of the drinking-water wells have no proper drains and platforms, and the spilt water percolates into the wells.	Backyards of houses are used to store rubbish, cow-dung, &c., in.	.....
0·3	5·2	13·0	9·5	11·1	14·0	11·3	12·6					60 0 0	2,561 0 0	Do.	Ni...	Backyards and private grounds adjoining houses are filled with rubbish heaps and cow-dung.	.....

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle, and the measures taken to remedy them for the year 1895*—cont.

1	2	3	4	5			6		7			8				
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	TANJORE—*cont.*															
210	Mannárgudi M.T.C.	...	...	9,704	10,688	20,392	769	37·7	294	254	548	115·7	0·1	0·1	6·4	3·2
211	Tiruválúr T.C.	...	...	6,063	6,871	12,934	342	26·5	183	182	365	100·5	0·4	0·2	2·5	1·3
212	Tanjore ... R.C.	...	...	172,425	183,596	356,021	9,305	26·1	4,054	4,064	8,118	99·7	2·1	0·1	2·1	0·2
213	Kumbakónam R.C.	...	...	156,320	167,030	323,350	10,281	31·8	3,953	3,919	7,872	100·9	1·3	0·2	1·3	0·2
214	Máyavaram... R.C.	...	...	105,172	115,805	220,977	7,219	32·6	2,743	2,800	5,543	97·9	1·3	0·8	2·6	0·5
215	Shiyali ... R.C.	...	...	57,586	62,215	119,801	3,901	32·5	1,358	1,397	2,755	97·2	1·9	0·5	1·6	0·3
216	Nannilam ... R.C.	...	...	109,250	115,655	215,905	6,418	29·7	2,635	2,781	5,416	94·8	0·7	0·3	2·2	0·3
217	Negapatam ... R.C.	...	...	68,944	79,233	148,177	3,773	25·5	1,706	1,737	3,443	98·2	0·4	0·2	1·6	0·1
218	Mannárgudi R.C.	...	...	80,143	86,890	167,033	4,965	29·7	1,725	1,825	3,550	94·5	0·6	0·05	1·2	0·1
219	Tirutturaippúndi R.C.	...	...	87,800	92,493	180,293	5,014	27·8	1,861	2,018	3,879	92·2	0·3	0·1	1·1	0·2
220	Pattukkóttai R.C.	...	...	130,539	140,820	271,359	6,689	24·6	2,244	2,244	4,488	100·0	0·1	0·1	1·9	0·1
15	Total District ...	3,709	600·4	1,065,450	1,161,631	2,227,081	64,770	29·1	25,471	25,952	51,423	98·1	1·0	0·2	2·3	0·5
	TINNEVELLY.															
221	Tinnevelly ... M.T.C.	...	...	11,752	13,004	24,756	883	35·7	386	407	793	94·8	2·4	0·04	4·6	4·6
222	Palamcottah M.T.C.	...	...	8,808	9,804	18,612	624	33·5	259	240	499	107·9	3·1	0·2	4·1	1·6
223	Tuticorin ... M.T.C.	...	...	13,624	11,340	24,964	786	31·5	409	373	782	109·6	0·8	0·04	10·0	6·3
224	Srivilliputtúr. M.T.C.	...	...	14,367	15,174	29,541	784	26·5	255	260	515	98·0	0·1	0·2	5·9	1·4
225	Kulasékarapatnam T.C.	...	...	7,012	8,898	15,910	445	27·9	231	249	480	92·7	6·8	0·2	7·4	0·9
226	Virudupatti ... T.C.	...	...	6,547	7,528	14,075	261	18·5	85	72	157	118·0	0·1	...	4·7	0·8

9						10			11	12	13			14
Deaths per 1,000 of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvements of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·5	16·6	30·3	23·8	26·9		31·2	27·1	29·1	327 12 0	4,218 6 7	.....	.....	.....	Thirty-six wells were sunk; some tanks, wells, and markets were repaired.
0·2	23·7	30·2	26·5	28·2		21·9	19·2	20·5	...	...	There are no drains except in Tiruvadi, Vallam, Tranquebar and they are constructed on an obsolete pattern and are of very little use as there is not a sufficient fall. In most villages there are small cess-pools without any impermeable lining material to prevent soakage into the soil.	The Pattukotta Taluq is the worst off for good water. The channels and rivers which supply the tanks with water are subject to pollution. The whole drainage of the country through which the rivers flow passes into them.	Very little attention is paid to the proper disposal of the night-soil in any part of the district, as masses of human excreta are found lying about the streets and lanes. Backyards of houses are in a deplorable condition. They are used as latrines and night-soil collected in them.	Four wells were sunk and a few tanks and wells were repaired. Some dust-bins were also constructed.
0·2	18·1	23·5	22·1	22·8		26·2	24·4	25·2						
0·2	20·5	25·3	23·4	24·3		31·3	29·5	30·4						
0·3	19·6	26·0	24·2	25·1		28·2	25·8	27·0						
0·3	18·4	23·6	22·4	23·0		27·5	25·1	26·3						
0·4	21·2	26·3	24·0	25·1		30·8	27·5	29·1						
0·2	20·8	24·7	21·9	23·2		29·2	26·6	27·9						
0·2	19·0	21·5	21·0	21·2		25·1	24·3	24·7						
0·3	19·5	21·2	21·8	21·5		23·3	22·1	22·6						
0·1	15·1	17·2	15·9	16·5		16·4	15·0	15·7						
0·2	18·8	23·9	22·3	23·0		26·8	24·8	25·8						
0·3	20·1	32·8	31·3	32·0		35·3	32·3	33·8	947 1 6	6,109 1 6	The drainage of the town is defective. Owing to want of proper fall to flush the drains the sewage in some drains remains stagnant.	The canals which form one of the drinking-water sources are being defiled in every way as they run through the town.	The backyards are generally in an insanitary state as rubbish is collected in pits and sometimes thrown into private latrines and stored up for a number of months. The masonry latrines need repair. None of the latrines have roofs and consequently the contents find their way into the channels during rainy season.	The drainage and water-supply schemes are under contemplation. Twelve dust-bins were constructed and five latrines repaired. Measures have been adopted by the Municipality to prevent people from polluting the channels. Thirty-two wells were repaired. Twelve dust-bins were constructed. A drain was made. Five public latrines and two markets repaired.
0·2	17·6	29·4	24·5	26·8		30·3	25·8	27·9	287 0 0	2,853 12 0	No system	The channel, one of the drinking water source, is subject to pollution throughout its course.	.....	Steps are being taken to prevent the washing of clothing, cattle, &c., in the channel. Some drains were repaired. A well is being sunk.
0·3	13·9	30·0	32·9	31·3		28·4	30·8	29·6	...	...	.....	.....	.....	No improvement noticed since last report. A tank and eleven wells were repaired; two public latrines and twenty dust-bins constructed; a drain was made, eighteen public latrines and a drain repaired.
0·4	9·4	17·7	17·4	17·4		...	...	...	191 12 0	2,410 3 9	There are no pucka built masonry drains in this Municipality.	No tank is reserved for drinking purposes. One of the tanks from which drinking water is partly obtained is used for bathing purposes also.	.....	The tank being temple property bathing which is considered a religious duty could not be prevented.
0·1	14·7	32·9	28·1	30·1		34·4	24·5	28·7	.....	515 0 0	No system	Some of the drinking-water wells have no proper drains and platforms, and the spilt water percolates into the wells.	Backyards of houses are used to store rubbish, cow-dung, &c., in.	.....
0·3	5·2	13·0	9·5	11·1		14·0	11·3	12·6	60 0 0	2,561 0 0	Do.	Ni...	Backyards and private grounds adjoining houses are filled with rubbish heaps and cow-dung.	.....

No. II.—*Statement of births and deaths registered in each town and rural circle of the together with the principal sanitary defects of each circle,*

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	TINNEVELLY—*cont.*															
227	Viravanallúr ... T.C.	...	...	6,504	7,447	13,951	212	15·2	139	125	264	111·2	2·8	...	0·5	...
228	Rajapálaiyam ... T.C.	...	...	6,607	6,694	13,301	478	35·9	78	69	147	113·0	0·07	0·07	0·07	...
229	Tenkási ... ... T.C.	...	...	6,151	6,710	12,861	494	38·4	234	233	467	100·4	9·4	...	5·9	2·3
230	Sivakási ... ... T.C.	...	...	5,788	6,396	12,184	563	46·2	244	207	451	117·9	0·3	...	7·1	1·6
231	Káyalpatnam ... T.C.	...	...	4,404	7,060	11,464	560	48·8	213	279	492	76·3	0·3	0·1	13·0	...
232	Kalladakurchi ... T.C.	...	...	5,230	5,866	11,096	385	34·7	206	158	364	130·4	6·8	...	1·9	...
233	Ottappidáram ... R.C.	...	...	155,341	161,649	316,990	7,894	24·9	3,279	3,012	6,291	108·8	0·8	0·05	5·5	0·6
234	Srivaikundam ... R.C.	...	...	125,196	135,090	260,196	8,255	31·7	4,084	3,699	7,783	110·4	6·3	0·2	3·8	0·5
235	Tinnevelly ... R.C.	...	...	68,436	72,816	141,252	4,951	35·0	1,913	1,887	3,800	101·3	2·4	0·1	3·7	0·9
236	Srivilliputtúr ... R.C.	...	...	75,244	77,009	152,253	4,315	28·3	1,706	1,604	3,310	106·3	0·4	...	2·3	0·4
237	Sankaranayinárkoyil ... ... R.C.	...	...	104,061	105,152	* 209,213	6,396	30·6	2,369	2,281	4,641	103·4	0·4	0·02	2·9	0·3
238	Nángunéri ... R.C.	...	...	84,402	90,008	174,410	5,563	31·9	2,442	2,217	4,659	110·1	4·8	0·01	3·2	0·3
239	Ambásamudram R.C.	...	...	75,776	82,776	158,552	4,915	30·9	2,288	2,102	4,390	108·8	3·2	0·006	6·7	1·8
240	Sáttúr ... ... R.C.	...	...	77,688	80,358	158,046	4,847	30·7	1,973	1,954	3,927	100·9	0·9	0·02	7·0	0·5
241	Tenkási ... ... R.C.	...	...	70,284	71,791	142,075	4,007	28·2	2,017	1,719	3,736	116·3	2·1	0·08	4·8	1·3
21	Total District ...	5,387	355·1	933,222	982,480	1,915,702	57,618	30·1	24,801	23,147	47,948	107·1	2·4	0·1	4·2	0·8

* Excludes 4,585 the population of Aracchippatti village which has been clubbed with the Srivilliputtur municipality.

Madras Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9						10			11	12	13			14
of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									Rs. A. P.	Rs. A. P.				
0·2	15·3	21·3	16·7	18·8		21·5	19·2	20·3	.....	720 0 0	No system	The platforms of drinking-water wells are not sloping and spacious enough. The Kelakulam tank has no parapet wall.	All the backyards are filled with rubbish accumulations mixed with fœcal matter.	.....
0·2	10·6	11·8	10·3	11·0		14·7	11·9	13·3	.....	1,096 0 0	Do.	Some of the drinking-water wells have no proper drains. People bathe and wash their clothes in or near them.	Backyards are generally dirty with rubbish heaps, cattle-dung, &c.	.....
0·3	18·4	38·0	36·2	36·3		41·2	35·0	38·0	.....	1,034 0 0	Do.	The river water which is also used for drinking purposes is not free from contamination. The surroundings of certain wells are not clean, and a few of them require proper drains.	Several backyards contain manure heaps. Private scavengering system is not in force. Most of the houses have no cess-pools.	.....
0·8	27·2	42·1	32·3	37·0		37·1	32·0	34·5	200 0 0	1,471 0 0	The sewage in many of the drains has not free flow owing to the want of proper fall and accumulation of rubbish in them.	Some of the drinking-water wells require proper drains.	Backyards are filled with rubbish heaps, ashes and fœcal matter. Refuse water of several houses in lanes runs out in the sides of the lanes or stagnates. The existing cess-pools are shallow pits and not properly constructed nor emptied as often as they ought to be.	.....
...	29·5	48·3	39·5	42·9		43·1	28·4	35·7	.....	365 0 0	No system	People freely pollute the wells by bathing and washing clothes in their immediate vicinity.	Backyards have no drains and the refuse water soaks into the soil. Rubbish heaps are met with in them.	.....
0·1	24·0	39·4	26·9	32·8		35·7	25·4	30·3	.....	920 0 0	Many of the streets have no drains or side-cuttings, and, consequently, rain water collects in pools and stagnates.	The water of the river and channel which is chiefly used for drinking purposes is not free from contamination.	Backyards have no drains. No cess-pools. Refuse water either soaks into the soil or stagnates in the sides of streets or lanes. The manure heaps are allowed to remain in backyards for several months in the year.	.....
0·3	12·6	21·1	18·6	19·8		22·4	21·4	21·9	.....	.....	Natural, there being no system to carry away rain water. In certain conserved villages the main streets are provided with side-cuttings which are cleared at the commencement of the rainy weather.	The river Tambrapurni, its tributaries and its channels which form the chief source of water-supply for all the towns and villages on their banks are polluted in every way by people bathing and washing their clothes and cattle, &c. People in other villages and towns who depend on rain-fed tanks for their water-supply suffer the same inconvenience. The wells in rural circles generally require drains and platforms, and their surroundings are unclean with stagnant water.	The backyards of houses in all rural circles are very dirty with heaps of rubbish, litter, cowdung, ashes and even fœcal matter. They have generally no drains to carry away refuse water which is allowed to run in the streets or lanes or soak into the soil or stagnate in pools.	.....
0·2	18·9	32·6	27·4	29·9		27·5	23·6	25·5						
0·3	19·3	37·9	25·9	26·9		27·1	24·5	25·8						
0·5	18·1	22·7	20·8	21·7		22·6	20·2	21·4						
0·2	18·4	22·7	21·7	22·2		18·8	17·8	18·3	.....	.....				
0·2	18·2	29·0	24·6	26·7		25·6	22·2	23·9						
0·4	15·5	30·2	25·3	27·6		28·4	24·7	26·4						
0·4	16·0	25·4	24·3	24·8		21·9	20·7	21·3						
0·4	17·6	28·7	23·9	26·2		24·6	23·0	23·8						
0·3	16·8	26·6	23·5	25·0		24·4	22·0	23·2	.....	.....	.....	.....	.....	.....

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras*
together with the principal sanitary defects of each circle,

1	2	3	4	5			6		7			8				
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	TRICHINOPOLY.															
242	Trichinopoly M.T.C.	...	...	43,576	46,090	89,666	2,083	23·2	1,114	997	2,111	111·7	3·2	0·1	7·4	3·7
243	Srirangam ... M.T.C.	...	...	10,238	11,394	21,632	744	34·4	377	349	726	108·0	3·2	...	6·9	2·3
244	Trichinopoly ... R.C.	...	...	119,143	129,418	248,561	7,508	30·2	2,681	2,595	5,276	103·3	1·1	0·1	5·2	0·2
245	Musiri ... ... R.C.	...	...	133,852	148,763	282,615	8,690	30·7	3,009	3,051	6,060	98·6	0·01	0·2	4·1	0·2
246	Kulittalai ... R.C.	...	...	118,900	124,785	243,685	6,034	24·8	1,840	1,969	3,839	92·0	0·2	0·01	3·9	0·1
247	Perambalúr ... R.C.	...	...	94,627	100,377	195,004	6,452	33·0	2,309	2,374	4,683	97·2	0·4	0·1	6·0	0·2
248	Udaiyárpálaiyam R.C.	...	...	98,773	102,757	201,530	6,766	33·5	2,752	2,814	5,566	97·8	1·7	0·2	6·5	0·2
249	Zamíndaries	...	...	43,926	45,107	89,033	2,200	24·7	873	875	1,748	99·8	0·9	0·1	3·6	0·2
8	Total District ...	3,631	377·8	663,035	708,691	1,371,726	40,477	29·5	14,955	15,054	30,009	99·3	0·9	0·1	5·2	0·4
	VIZAGAPATAM.															
250	Vizagapatam. M.T.C.	...	...	16,477	17,484	33,961	1,193	35·1	503	482	985	104·3	...	09·1	8·5	10·3
251	Bimlipatam. M.T.C.	...	...	4,639	5,057	9,696	302	31·1	110	117	227	94·0	...	...	5·4	4·9
252	Vizianagram. M.T.C.	...	...	14,805	15,930	30,735	847	27·6	421	364	785	115·6	...	0·1	11·4	2·2
253	Anakápalle. M.T.C.	...	...	8,482	8,519	17,001	593	34·9	271	190	461	142·6	...	...	8·3	3·6
254	Bobbili ... T.C.	...	...	6,971	7,477	14,448	440	30·4	125	136	261	91·9	...	...	13·4	0·1
255	Súlúr ... T.C.	...	...	5,983	6,927	12,910	146	11·3	83	50	133	166·0	...	...	6·6	3·3
256	Palkonda ... T.C.	...	...	4,869	5,495	10,364	281	27·1	150	137	287	116·8	...	1·6	16·3	0·6

Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9								10		11	12	13			14
Deaths per 1,000 of population from								Mean ratio of deaths per 1,000 during previous five years.		Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
			All causes.									a	b	c	
Injuries.	All other causes.	Males.	Females.	Total.	Males.	Females.	Total.					In drainage.	In water-supply.	In domestic cleansing and conservancy.	
0·3	8·8	25·5	21·6	23·5	30·2	27·8	29·0			Rs. A. P. 9,964 5 9	Rs. A. P. 30,879 0 9	There is no system of drainage in the towns. The existing side-drains for rain water serve also as receptacles for house water and rubbish.	All the channels which feed the tanks set apart for drinking purposes are open and liable to pollution.	The existing number of public latrines is insufficient. The staff employed for the removal of night-soil and rubbish of the town is inadequate. The supervising agency is also insufficient.	The question of draining the town properly is postponed till the water-supply scheme which is in progress is accomplished. A drain was repaired and improvement to water-supply effected. Government has asked the Sanitary Engineer to state whether the present wells for the supply of water to Trichinopoly can be utilized for Srirangam also and what will be the approximate cost of a water-supply scheme for the town. A well was sunk. Four public latrines were constructed. A market was repaired.
0·4	20·7	36·8	30·6	32·5	33·3	30·0	31·5	.....	.....	.....	.....	No system	Neither tanks nor wells are reserved in this Municipality for drinking purposes.	.....	
0·2	16·4	22·5	20·0	21·2	25·9	23·9	24·9	.....	.....	.....	.....	No system. Main streets are provided with side-drains for removal of storm water. House drains lead into cess-pools under the roadway or fall into the open side-drains, empty themselves into the streets and form stagnant puddles.	The quality of the water is fair, but all open channels are liable to pollution from the habits of the people. The tanks which are rain-fed suffer likewise from surface contamination. Bathing and washing are tolerated even in the tanks which are said to be conserved for drinking purposes. The open channels are liable to great pollution in every place. Wells are usually without platforms or parapet walls.	Domestic cleansing is very defective. No proper means exist. Ventilation very defective. Backyards in most houses are stored with manure and other rubbish. Cattle allowed to remain in the verandahs and backyards of houses. The house drain runs into a pit outside and there stagnates into a cess-pool.	Whenever practicable tanks are set apart for drinking purposes and a watchman appointed to guard against pollution.
0·4	16·5	22·5	20·5	21·4	21·3	19·5	20·4								
0·3	11·2	15·5	16·0	15·7	13·1	12·3	12·7								
0·3	17·0	24·4	23·6	24·0	23·7	22·4	23·0								
0·3	18·7	27·8	27·3	27·6	28·7	26·9	27·7								
0·3	8·5	19·8	19·4	19·6	35·3	32·8	34·0	.....	.....			.....	.....	.....	.....
0·3	15·0	22·5	21·2	21·9	23·8	22·1	22·9	.....	.....						
0·3	9·7	30·5	27·7	29·0	29·3	24·6	26·9	.....	.....			No system	Indifferent. Wells and tanks more or less open to pollution.	.....	Some latrines and dust-bins were constructed. A few latrines and drains were repaired. Two wells were sunk and six others repaired. Three night-soil carts were purchased.
0·4	12·7	23·7	23·1	23·4	28·2	28·4	28·3	.....	.....			.....	.....	.....	.....
0·3	11·5	28·4	22·8	25·5	25·5	20·5	23·0	.....	.....			There is no regular system.	Quantity insufficient.	.....	Two latrines and a number of dust-bins were constructed. Three wells were sunk and six others repaired. Two drains were made and five others repaired.
0·5	14·7	31·9	22·3	27·1	28·5	23·5	25·9	250 10 0			2,610 8 9	There is no regular system. Drainage of houses soaks in backyards.	Many of the private wells in backyards of houses are in very bad condition and so built as to permit of the filtering back therein of polluted water.	The surroundings of latrines are made use as places of nuisance. This is due to laxity on the part of those responsible to charge people for such offences.	Two cineraters were constructed and some latrines repaired. A well was sunk.
0·3	4·3	17·9	18·2	18·1	17·8	15·6	16·7	.....	.....			.....	.....	.....	.....
0·2	0·2	13·9	7·2	10·3	21·9	14·7	18·4	.....	.....			.....	.....	.....	.....
0·1	9·1	30·8	24·9	27·7	22·7	18·1	20·4	7 0 0			1,160 0 0	Only two streets are provided with cut-stone drains.	One of the drinking-water tanks requires to be cleared of the large accumulation of silt. It is full of weeds and lotus which decay and spoil the water.	.....	Drainage will be extended when funds permit. Funds will be allotted in due course for the repair of the tank.

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle and the measures taken to remedy them for the year 1895*—cont.

1	2	3	4	5			6		7			8	Deaths per 1,000			
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.					
	VIZAGAPATAM—*cont.*															
257	Pârvatipuram... T.C.	...	...	4,711	5,342	10,053	274	27·2	147	135	282	108·9	...	...	16·1	3·0
258	Sarvasiddhi ... R.C.	...	...	74,984	76,503	151,487	4,729	31·2	1,567	1,465	3,032	106·9	0·006	0·04	18·5	0·4
259	Narasapatnam or Golgonda ... R.C.	...	...	56,898	56,601	113,499	3,366	29·9	1,062	980	2,042	108·4	...	0·08	16·5	0·3
260	Anakâpalle ... R.C.	...	...	63,345	64,144	127,489	3,726	29·2	1,160	1,053	2,213	110·2	...	0·06	16·2	0·3
261	Vizagapatam ... R.C.	...	...	28,657	28,074	56,681	1,421	25·1	588	569	1,157	103·5	...	0·1	18·4	0·2
262	Viravalli ... R.C.	...	...	94,033	94,690	188,723	4,687	24·8	1,794	1,571	3,365	114·2	...	0·04	17·2	0·1
263	Bimlipatam ... R.C.	...	...	48,512	47,100	95,612	2,492	26·1	927	889	1,816	104·3	...	0·03	18·6	0·1
264	Srungavarapukotah ... R.C.	...	...	61,847	62,092	123,939	3,438	27·7	1,233	1,162	2,395	106·1	...	0·02	18·5	0·1
265	Vizianagram ... R.C.	...	...	62,716	63,138	125,854	2,701	21·4	1,136	1,054	2,190	107·8	...	0·2	16·0	0·2
266	Gajapatinagaram ... R.C.	...	...	54,797	55,311	110,108	3,734	33·9	1,488	1,489	2,977	99·9	...	0·3	24·3	0·2
267	Chipurupalle... R.C.	...	...	71,844	74,032	145,876	3,271	22·4	1,330	1,158	2,488	114·8	...	0·1	14·9	0·1
268	Sûlûru ... R.C.	...	...	30,159	31,990	62,149	1,342	21·6	716	621	1,337	115·3	...	0·02	20·7	0·2
269	Bobbili ... R.C.	...	...	53,400	53,805	107,205	2,656	24·8	1,198	1,202	2,400	99·6	...	0·1	20·8	0·5
270	Palkonda ... R.C.	...	...	89,747	91,801	181,548	4,821	26·5	2,251	2,211	4,462	101·8	...	0·4	22·5	0·4
271	Pârvatipuram. R.C.	...	...	42,380	43,140	85,520	2,092	24·4	1,236	1,087	2,323	113·7	0·3	0·1	24·8	0·6
22	Total District ...	4,619	420·5	900,206	914,652	1,814,858	48,552	26·7	19,496	18,122	37,618	107·6	0·01	0·1	18·2	0·6
92	Total of Town Circles in the Presidency.	...	...	1,235,693	1,291,082	2,526,775	84,984	33·6	34,962	33,776	68,738	103·5	0·8	0·1	8·3	2·2
179	Total of Rural Circles in the Presidency.	...	...	15,377,810	15,661,257	31,039,067	891,588	28·7	302,065	287,896	589,981	104·9	0·6	0·2	8·5	0·5
271	Grand Total for the Presidency.	124,943	269·7	16,613,503	16,952,339	33,565,842	976,572	29·1	337,047	321,672	658,719	104·8	0·6	0·1	8·3	0·7

M.T.C. indicates Municipal Town Circle, T.C. indicates Non-Municipal Town Circle or Rural Town Circle,
R.C. indicates Rural Circle.

9							10			11	12	13			14
Proportion of population from							Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.										a	b	c	
		Males.	Females.	Total.								Indrainage.	In water-supply.	In domestic cleansing and conservancy.	
										RS. A. P.	RS. A. P.				
0·1	8·8	31·8	25·6	28·0	24·1	16·8	20·4	.....	.....	.....	.....	.....	.....	.....	
0·2	1·1	20·9	19·1	20·0	18·2	16·4	17·3	.....	.....	Drainage of houses bad.	In most of the villages no watchmen are appointed to guard drinking water sources.	There are no latrines in any of the villages.	.....		
0·3	0·8	18·6	17·3	17·9	18·5	16·1	17·3	.....	242 0 0	Do. do. ...	No provision made to prevent contamination of drinking water sources.	Do. do. ...	.....		
0·3	0·6	18·3	16·4	17·4	16·3	14·3	15·3	.....	290 0 0	Do. do. ...	Do. do. ...	Do. do. ...	.....		
0·5	1·2	20·5	20·3	20·4	16·3	16·5	16·4	1 0 0	505 1 11	No system	.....	People do not keep the surroundings of their houses clean.	.....		
0·3	0·2	19·1	16·6	17·8	15·9	13·9	14·9	.....	360 0 0	Drainage of houses bad.	Watchman are not entertained in many villages to prevent drinking water sources from pollution.	There are no latrines in any of the villages.	.....		
0·2	0·7	19·3	18·8	19·0	14·6	13·2	13·9	.....	141 0 0	No system. Side channels exist in some of the villages.	.....	Manure is allowed to accumulate in backyards of houses.	Attempts are being made to stop the practice of storing manure in backyards.		
0·3	0·4	19·9	18·7	19·3	15·9	14·9	15·4	5 0 0	737 15 8	.....	.....	.....	.....		
0·1	0·9	18·1	16·7	17·4	12·8	12·6	12·7	.....	240 0 6	No system. Side channels exist in some of the villages.	.....	The villagers store manure in the back or front yards of houses to be eventually removed to fields.	Steps are being taken to prevent people from storing manure in or near houses.		
0·4	1·8	27·1	26·9	27·0	16·1	15·5	15·8	.....	408 0 0	Cut-stone drains exist in the Union village. In some of the rural villages there are mere side channels.	.....	.....	Ten pot wells and a big pond were dug in the bed of Gajapatinagaram river for the villagers, &c. The beds of two tanks were repaired.		
0·2	1·7	18·5	15·7	17·0	14·3	13·4	13·8	.....	1,143 0 0	Side channels exist in some of the villages, while in others drainage is natural.	.....	Rubbish is stored in backyards of houses.	Four hand carts were purchased.		
0·2	0·4	23·7	19·4	21·5	16·7	14·5	15·6	.....	1,084 0 0	No regular system ...	.....	The surroundings of houses are kept in a very insanitary condition.	.....		
0·2	0·8	23·4	22·3	22·4	14·4	13·2	13·8	.....	.....	No system. Side channels exist.	.....	Do. do. ...	.....		
0·2	1·1	25·1	24·1	24·6	16·3	14·9	15·6	.....	1,202 0 0	Do. do. ...	.....	Rubbish is stored in backyards of houses to be used as manure for fields.	.....		
0·2	1·1	29·1	25·2	27·1	18·8	16·1	17·4	.....	1,346 0 0	Side-drains exist in some villages without stone bottom. The sewage consequently percolates in the soil underneath.	.....	Private wells have neither platforms nor drains. Sweepings are allowed to accumulate in compounds of houses for days together. Latrines in houses are not daily cleaned.	.....		
0·2	1·6	21·6	19·8	20·7	16·6	15·	15·8	.....	.....						
0·3	14·8	28·3	26·2	27·2	29·7	37·9	28·8	.....	.....						
0·3	9·1	19·6	18·4	19·0	20·6	19·5	19·9	.....	.....						
0·3	9·6	20·3	19·0	19·6	21·3	19·9	20·6	.....	.....						

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras together with the principal sanitary defects of each circle*

1	2	3	4	5			6		7			8				
Serial Number.	District and town or rural circle.	Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
				Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	VIZAGAPATAM—*cont.*															
257	Párvatipuram... T.C.	...	...	4,711	5,342	10,053	274	27·2	147	135	282	108·9	...	...	16·1	3·0
258	Sarvasiddhi ... R.C.	...	...	74,984	76,503	151,487	4,729	31·2	1,567	1,465	3,032	106·9	0·006	0·04	18·5	0·4
259	Narasapatnam or Golgonda ... R.C.	...	...	56,898	56,601	113,499	3,366	29·9	1,062	980	2,042	108·4	...	0·08	16·5	0·3
260	Anakápalló ... R.C.	...	...	63,345	64,144	127,489	3,726	29·2	1,160	1,053	2,213	110·2	...	0·06	16·2	0·3
261	Vizagapatam ... R.C.	...	...	28,637	28,074	56,681	1,421	25·1	588	560	1,157	105·5	...	0·1	18·4	0·2
262	Viravalli ... R.C.	...	...	94,033	94,690	188,723	4,687	24·8	1,794	1,571	3,365	114·2	...	0·04	17·2	0·1
263	Bimlipatam ... R.C.	...	...	48,512	47,100	95,612	2,492	26·1	927	889	1,816	104·3	...	0·03	18·0	0·1
264	Srungavarapu-kotah ... R.C.	...	...	61,847	62,092	123,939	3,438	27·7	1,233	1,162	2,395	106·1	...	0·02	18·5	0·1
265	Vizianagram ... R.C.	...	...	62,716	63,138	125,854	2,701	21·4	1,136	1,054	2,190	107·8	...	0·2	16·0	0·2
266	Gajapatinaga-ram ... R.C.	...	...	54,797	55,311	110,108	3,734	33·9	1,488	1,489	2,977	99·9	...	0·3	24·3	0·2
267	Chipurupalle... R.C.	...	...	71,844	74,032	145,876	3,271	22·4	1,330	1,158	2,488	114·8	...	0·1	14·9	0·1
268	Súlúru ... R.C.	...	...	30,159	31,990	62,149	1,342	21·6	716	621	1,337	115·3	...	0·02	20·7	0·2
269	Bobbili ... R.C.	...	...	53,400	53,805	107,205	2,656	24·8	1,198	1,202	2,400	99·6	...	0·1	20·8	0·5
270	Palkonda ... R.C.	...	...	89,747	91,801	181,548	4,821	26·5	2,251	2,211	4,462	101·8	...	0·4	22·5	0·4
271	Párvatipuram. R.C.	...	...	42,380	43,140	85,520	2,092	24·4	1,236	1,087	2,323	113·7	0·3	0·1	24·8	0·6
22	Total District ...	4,619	420·5	900,206	914,652	1,814,858	48,552	26·7	19,496	18,122	37,618	107·6	0·01	0·1	18·2	0·6
92	Total of Town Circles in the Presidency.	...	...	1,235,693	1,291,082	2,526,775	84,984	33·6	34,962	33,776	68,738	105·5	0·8	0·1	8·3	2·2
179	Total of Rural Circles in the Presidency.	...	...	15,377,810	15,661,257	31,039,067	891,588	28·7	302,085	287,896	589,981	104·9	0·6	0·2	8·3	0·5
271	Grand Total for the Presidency.	124,943	260·7	16,613,503	16,952,339	33,565,842	976,572	29·1	337,047	321,672	658,719	104·8	0·6	0·1	8·3	0·7

M.T.C. indicates Municipal Town Circle, T.C. indicates Non-Municipal Town Circle or Rural Town Circle,
R.C. indicates Rural Circle.

Presidency and the receipts and expenditure in each circle from and on conservancy, and the measures taken to remedy them for the year 1895—cont.

9						10			11	12	13			14
of population from						Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.									*a*	*b*	*c*	
		Males.	Females.	Total.		Males.	Females.	Total.			In drainage.	In water-supply.	In domestic cleansing and conservancy.	
									RS. A. P.	RS. A. P.				
0·1	8·8	31·8	25·6	28·0		24·1	16·8	20·4	.....	.....	.....	.....	.....	.....
0·2	1·1	20·9	19·1	20·0		18·2	16·4	17·3	.....	.....	Drainage of houses bad.	In most of the villages no watchmen are appointed to guard drinking water sources.	There are no latrines in any of the villages.	.....
0·3	0·8	18·6	17·3	17·9		18·5	16·1	17·3	.....	242 0 0	Do. do. ...	No provision made to prevent contamination of drinking water sources.	Do. do. ...	.....
0·3	0·6	18·3	16·4	17·4		16·3	14·3	15·3	.....	290 0 0	Do. do. ...	Do. do. ...	Do. do. ...	.....
0·5	1·2	20·5	20·3	20·4		16·3	16·5	16·4	1 0 0	505 1 11	No system	.....	People do not keep the surroundings of their houses clean.	.....
0·3	0·2	19·1	16·6	17·8		15·9	13·9	14·9	.....	360 0 0	Drainage of houses bad.	Watchman are not entertained in many villages to prevent drinking water sources from pollution.	There are no latrines in any of the villages.	.....
0·2	0·7	19·3	18·8	19·0		14·6	13·2	13·9	.....	141 0 0	No system. Side channels exist in some of the villages.	.....	Manure is allowed to accumulate in backyards of houses.	Attempts are being made to stop the practice of storing manure in backyards.
0·3	0·4	19·9	18·7	19·3		15·9	14·9	15·4	5 0 0	737 15 8	.....	.....	.....	.....
0·1	0·9	18·1	16·7	17·4		12·8	12·6	12·7	.....	240 0 0	No system. Side channels exist in some of the villages.	.....	The villagers store manure in the back or front yards of houses to be eventually removed to fields.	Steps are being taken to prevent people from storing manure in or near houses.
0·4	1·8	27·1	26·9	27·0		16·1	15·5	15·8	.....	408 0 0	Cut-stone drains exist in the Union village. In some of the rural villages there are mere side channels.	.....	.....	Ten pot wells and a big pond were dug in the bed of Gajapatinagaram river for the villagers, &c. The beds of two tanks were repaired.
0·2	1·7	18·5	15·7	17·0		14·3	13·4	13·8	.....	1,143 0 0	Side channels exist in some of the villages, while in others drainage is natural.	.....	Rubbish is stored in backyards of houses.	Four hand carts were purchased.
0·2	0·4	23·7	19·4	21·5		16·7	14·5	15·6	.....	1,084 0 0	No regular system ...	.....	The surroundings of houses are kept in a very insanitary condition.	.....
0·2	0·8	22·4	22·3	22·4		14·4	13·2	13·8	.....	.....	No system. Side channels exist.	.....	Do. do. ...	.....
0·2	1·1	25·1	24·1	24·6		16·3	14·9	15·6	.....	1,202 0 0	Do. do. ...	.....	Rubbish is stored in backyards of houses to be used as manure for fields.	.....
0·2	1·1	29·1	25·2	27·1		18·8	16·1	17·4	.....	1,346 0 0	Side-drains exist in some villages without stone bottom. The sewage consequently percolates in the soil underneath.	.....	Private wells have neither platforms nor drains. Sweepings are allowed to accumulate in compounds of houses for days together. Latrines in houses are not daily cleaned.	.....
0·2	1·6	21·6	19·8	20·7		16·6	14·[illegible]	15·8	.....	.....				
0·3	14·8	28·3	26·2	27·2		29·7	27·9	28·8	.....	.....				
0·3	9·1	19·6	18·4	19·0		20·6	19·2	19·9	.....	.....				
0·3	9·6	20·3	19·0	19·6		21·3	19·9	20·6	.....	.....				

APPENDIX D.

No. II.—*Statement of births and deaths registered in each town and rural circle of the Madras Presidency and the receipts and expenditure in each circle from and on conservancy, together with the principal sanitary defects of each circle and the measures taken to remedy them for the year 1895—cont.*

1	2		3	4	5			6		7			8				
Serial Number.	District and town or rural circle.		Area in square miles.	Average population per square mile.	Population (exclusive of Europeans and Eurasians) for which returns were received.			Births.		Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of deaths of males to every 100 deaths of females.	Deaths per 1,000			
					Males.	Females.	Total.	Total number.	Birth-rate per 1,000 of population.	Males.	Females.	Total.		Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.
	VIZAGAPATAM—*cont.*																
257	Párvatipuram...	T.C.	...	...	4,711	5,342	10,053	274	27·2	147	135	282	108·9	...	...	16·1	3·0
258	Sarvasiddhi ...	R.C.	...	...	74,084	76,503	151,487	4,729	31·2	1,567	1,465	3,032	106·9	0·006	0·04	18·3	0·4
259	Narasapatnam or Golgonda ...	R.C.	...	...	56,898	56,601	113,499	3,366	29·9	1,062	980	2,042	108·4	...	0·08	16·5	0·3
260	Anakápallé ...	R.C.	...	...	63,345	64,144	127,489	3,726	29·2	1,160	1,053	2,213	110·2	...	0·06	16·2	0·3
261	Vizagapatam ...	R.C.	...	...	28,657	28,074	56,681	1,421	25·1	588	569	1,157	103·5	...	0·1	18·4	0·2
262	Viravalli ...	R.C.	...	...	94,033	94,690	188,723	4,687	24·8	1,794	1,571	3,365	114·2	...	0·04	17·2	0·1
263	Bimlipatam ...	R.C.	...	...	48,512	47,100	95,612	2,492	26·1	927	889	1,816	104·3	...	0·03	18·0	0·1
264	Srungavarapu-kotah ...	R.C.	...	...	61,847	62,092	123,939	3,438	27·7	1,233	1,162	2,395	106·1	...	0·02	18·5	0·1
265	Vizianagram ...	R.C.	...	...	62,716	63,138	125,854	2,701	21·4	1,136	1,054	2,190	107·8	...	0·2	16·0	0·2
266	Gajapatinagaram ...	R.C.	...	...	54,797	55,311	110,108	3,734	33·9	1,488	1,489	2,977	99·9	...	0·3	24·3	0·2
267	Chipurupalle...	R.C.	...	...	71,844	74,032	145,876	3,271	22·4	1,330	1,158	2,488	114·8	...	0·1	14·2	0·1
268	Súlúru ...	R.C.	...	...	30,159	31,990	62,149	1,342	21·6	716	621	1,337	115·3	...	0·02	20·7	0·2
269	Bobbili ...	R.C.	...	...	53,400	53,805	107,205	2,656	24·8	1,198	1,202	2,400	99·6	...	0·1	20·8	0·5
270	Palkonda ...	R.C.	...	...	89,747	91,801	181,548	4,821	26·5	2,251	2,211	4,462	101·8	...	0·4	22·5	0·4
271	Párvatipuram.	R.C.	...	...	42,380	43,140	85,520	2,092	24·4	1,236	1,087	2,323	113·7	0·3	0·1	24·8	0·6
22	Total District ...		4,619	420·5	900,206	914,652	1,814,858	48,552	26·7	19,496	18,122	37,618	107·6	0·01	0·1	18·2	0·6
92	Total of Town Circles in the Presidency.		...	...	1,235,693	1,291,082	2,526,775	84,984	33·6	34,962	33,776	68,738	105·5	0·8	0·1	8·3	2·2
179	Total of Rural Circles in the Presidency.		...	...	15,377,810	15,661,257	31,039,067	891,588	28·7	302,085	287,896	589,981	104·9	0·6	0·2	8·3	0·5
271	Grand Total for the Presidency.		124,943	269·7	16,613,503	16,952,339	33,565,842	976,572	29·1	337,047	321,672	658,719	104·8	0·6	0·1	8·3	0·7

M.T.C. indicates Municipal Town Circle. T.C. indicates Non-Municipal Town Circle or Rural Town Circle.
R.C. indicates Rural Circle.

9							10			11	12	13			14
Deaths per 1,000 of population from							Mean ratio of deaths per 1,000 during previous five years.			Net receipt of each circle under conservancy.	Net expenditure in each circle under conservancy.	Principal sanitary defects of circle.			Measures taken for sanitary improvement of circle.
Injuries.	All other causes.	All causes.										*a*	*b*	*c*	
		Males.	Females.	Total.	Males.	Females.	Total.					Indrainage.	In water-supply.	In domestic cleansing and conservancy.	
										RS. A. P.	RS. A. P.				
0·1	8·8	31·8	25·6	28·0	24·1	16·8	20·4	.....		.....		.....	.....	.....	.....
0·2	1·1	20·9	19·1	20·0	18·2	16·4	17·3	.....		.....		Drainage of houses bad.	In most of the villages no watchmen are appointed to guard drinking water sources.	There are no latrines in any of the villages.	.....
0·3	0·8	18·6	17·3	17·9	18·5	16·1	17·3	.....		242 0 0		Do. do. ...	No provision made to prevent contamination of drinking water sources.	Do. do. ...	.....
0·3	0·6	18·3	16·4	17·4	16·3	14·3	15·3	.....		290 0 0		Do. do. ...	Do. do. ...	Do. do. ...	.....
0·5	1·2	20·5	20·3	20·4	16·3	16·5	16·4	1 0 0		505 1 11		No system	.....	People do not keep the surroundings of their houses clean.	.....
0·3	0·2	19·1	16·6	17·8	15·9	13·9	14·9	.....		360 0 0		Drainage of houses bad.	Watchman are not entertained in many villages to prevent drinking water sources from pollution.	There are no latrines in any of the villages.	.....
0·2	0·7	19·3	18·8	19·0	14·6	13·2	13·9	.....		141 0 0		No system. Side channels exist in some of the villages.	.....	Manure is allowed to accumulate in backyards of houses.	Attempts are being made to stop the practice of storing manure in backyards.
0·3	0·4	19·9	18·7	19·3	15·9	14·9	15·4	5 0 0		737 15 8		.....	.....	.....	.....
0·1	0·9	18·1	16·7	17·4	12·8	12·6	12·7	.....		240 0 0		No system. Side channels exist in some of the villages.	.....	The villagers store manure in the back or front yards of houses to be eventually removed to fields.	Steps are being taken to prevent people from storing manure in or near houses.
0·4	1·8	27·1	26·9	27·0	16·1	15·5	15·8	.....		408 0 0		Cut-stone drains exist in the Union village. In some of the rural villages there are mere side channels.	.....	.....	Ten pot wells and a big pond were dug in the bed of Gajapatinagaram river for the villagers, &c. The beds of two tanks were repaired.
0·2	1·7	18·5	15·7	17·0	14·3	13·4	13·8	.....		1,143 0 0		Side channels exist in some of the villages, while in others drainage is natural.	.....	Rubbish is stored in backyards of houses.	Four hand carts were purchased.
0·2	0·4	23·7	19·4	21·5	16·7	14·5	15·6	.....		1,084 0 0		No regular system ...	.....	The surroundings of houses are kept in a very insanitary condition.	.....
0·2	0·8	22·4	22·3	22·4	14·4	13·2	13·8	.....		.....		No system. Side channels exist.	.....	Do. do. ...	.....
0·2	1·1	25·1	24·1	24·6	16·3	14·9	15·6	.....		1,202 0 0		Do. do. ...	.....	Rubbish is stored in backyards of houses to be used as manure for fields.	.....
0·2	1·1	29·1	25·2	27·1	18·8	16·1	17·4	.....		1,346 0 0		Side-drains exist in some villages without stone bottom. The sewage consequently percolates in the soil underneath.	.....	Private wells have neither platforms nor drains. Sweepings are allowed to accumulate in compounds of houses for days together. Latrines in houses are not daily cleaned.	.....
0·2	1·6	21·6	19·8	20·7	16·6	14·[illegible]	15·8	.....		.....					
0·3	14·8	28·3	26·2	27·2	29·7	27·[illegible]	28·8	.....		.....					
0·3	9·1	19·6	18·4	19·0	20·6	19·[illegible]	19·[illegible]	.....		.....					
0·3	9·6	20·3	19·0	19·6	21·3	19·9	20·6	.....		.....					

No. III.—*Deaths registered in the districts of the Madras Presidency during each month of the year* 1895.

1	2	3												4
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
1	Anantapur	857	663	868	845	1,047	1,006	1,084	1,065	1,045	993	1,015	1,180	11,668
2	Bellary	1,372	1,247	1,419	1,316	1,586	1,750	2,064	2,128	1,822	1,345	1,276	1,485	18,810
3	Chingleput	2,742	2,011	1,892	1,601	1,774	1,986	2,158	2,267	2,653	2,619	2,329	2,865	26,897
4	Coimbatore	3,236	2,965	3,744	2,929	2,845	2,566	2,693	2,651	2,755	2,678	3,143	3,475	35,680
5	Cuddapah	2,289	1,906	2,365	2,208	2,134	1,856	2,053	2,281	2,316	2,262	2,386	2,603	26,659
6	Ganjám	1,917	1,539	1,898	1,712	2,398	2,035	2,184	2,590	2,674	2,362	2,142	2,328	25,779
7	Gódávari	3,008	2,580	2,388	1,969	2,971	2,865	3,547	4,432	4,624	4,299	3,612	3,969	40,264
8	Kistna	2,285	1,850	2,186	1,951	2,845	2,520	3,089	3,167	4,007	2,875	3,105	3,287	33,167
9	Kurnool	1,297	1,071	1,319	1,311	1,448	1,280	1,484	1,762	1,504	1,463	1,311	1,581	16,840
10	Madras	1,418	1,108	1,157	1,098	1,215	1,231	1,296	1,918	1,873	1,490	1,257	1,504	16,565
11	Madura	3,590	2,456	2,308	2,270	2,103	1,966	2,557	2,268	2,155	2,368	2,816	3,117	29,974
12	Malabar	3,061	3,094	3,225	3,391	4,386	4,519	4,757	4,474	3,586	3,226	2,839	3,021	43,649
13	Nellore	2,203	2,034	1,971	1,941	2,104	2,150	1,855	2,036	1,919	1,858	1,908	2,144	24,123
14	Nilgiris	159	145	188	229	230	329	278	210	163	137	156	185	2,409
15	North Arcot	3,727	2,801	2,482	2,250	2,390	2,415	2,702	2,959	2,962	3,078	3,212	3,347	34,325
16	Salem	2,842	2,332	2,727	2,867	3,083	2,747	2,802	2,934	2,917	2,983	3,124	3,423	34,781
17	South Arcot	4,477	3,382	3,415	3,066	3,655	3,873	5,041	4,761	4,115	4,225	4,542	4,702	49,254
18	South Canara	1,959	1,674	1,702	1,303	1,462	1,775	2,075	2,097	1,825	1,652	1,414	1,939	20,877
19	Tanjore	4,815	4,288	4,006	3,351	3,756	3,839	4,409	4,144	4,439	4,623	4,729	5,024	51,423
20	Tinnevelly	5,459	3,652	3,391	2,878	2,953	3,570	4,359	3,590	3,353	4,292	4,857	5,594	47,948
21	Trichinopoly	3,026	2,564	2,234	1,925	2,246	2,157	2,495	2,495	2,395	2,434	2,740	3,298	30,009
22	Vizagapatam	3,224	2,487	3,021	2,243	3,369	2,803	3,050	3,775	3,979	3,449	2,806	3,412	37,618
	Total, Madras Presidency	58,963	47,849	49,906	44,654	52,000	51,238	58,032	60,011	59,081	56,713	56,719	63,553	658,719
	Ratio of deaths per 1,000 in each month	1·8	1·4	1·5	1·3	1·5	1·5	1·7	1·8	1·8	1·7	1·7	1·9	19·6

No. IV.—*Deaths * registered according to age in the districts of the Madras Presidency during the year* 1895.

1	2	3		4		5		6		7		8		9		10		11		12	
Number.	Districts.	Under 1 year.		1 to 4.		5 to 9.		10 to 14.		15 to 19.		20 to 29.		30 to 39.		40 to 49.		50 to 59.		60 and upwards.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Anantapur	1,446	1,242	747	633	328	287	171	144	141	285	461	815	594	591	674	435	665	473	789	747
2	Bellary	2,529	2,189	1,413	1,464	614	523	277	211	272	402	850	1,205	1,012	930	1,034	654	732	674	921	904
3	Chingleput	4,756	4,062	1,854	1,913	542	554	303	289	327	492	718	1,187	927	963	1,129	829	1,138	956	1,923	2,035
4	Coimbatore	4,972	4,388	2,105	2,047	913	766	584	474	610	591	1,381	1,679	1,817	1,656	1,724	1,348	1,825	1,582	2,464	2,754
5	Cuddapah	3,198	2,650	1,060	1,029	536	544	329	299	344	596	1,207	1,834	1,555	1,515	1,862	1,417	1,778	1,476	1,681	1,749
6	Ganjám	2,987	2,500	1,622	1,553	694	642	493	406	510	596	1,137	1,240	1,267	1032	1,352	929	1,341	1,209	2,019	2,250
7	Gódávari	3,980	3,515	3,281	3,296	1,309	1,219	670	579	785	1,151	1,932	2,103	2,049	1,423	1,884	1,263	1,906	1,569	2,996	3,354
8	Kistna	4,701	4,074	2,480	2,367	858	683	475	452	542	913	1,246	1,512	1,171	1,123	1,129	799	1,217	1,023	3,101	3,301
9	Kurnool	2,103	1,883	1,163	1,187	460	430	263	244	222	329	853	1,062	971	889	973	633	826	682	834	893
10	Madras	2,831	2,345	1,158	1,236	319	322	166	185	147	232	510	708	522	548	561	451	557	485	1,478	1,804
11	Madura	3,774	3,337	2,075	1,956	780	692	426	363	437	435	1,202	1,333	1,504	1,334	1,623	1,349	1,677	1,517	1,971	2,189
12	Malabar	3,637	2,909	3,794	3,587	1,380	1,188	726	610	825	878	2,230	2,228	2,642	1,971	2,399	1,403	2,056	1,434	3,620	4,102
13	Nellore	2,918	2,431	1,961	1,845	996	1,074	672	770	486	558	524	593	583	651	813	754	1,108	1,194	1,785	2,407
14	Nilgiris	304	307	284	223	59	50	34	31	39	33	132	131	179	105	109	63	72	71	83	100
15	North Arcot	4,524	3,839	2,517	2,433	826	744	467	486	506	743	1,094	1,612	1,423	1,508	1,781	1,397	1,734	1,437	2,574	2,690
16	Salem	5,555	4,893	2,383	2,503	784	757	439	386	439	571	1,088	1,564	1,561	1,495	1,680	1,363	1,687	1,518	1,946	2,366
17	South Arcot	7,163	6,425	4,498	4,347	1,248	1,234	718	550	676	824	1,486	2,029	1,819	1,661	2,200	1,549	2,197	1,915	3,224	3,401
18	South Canara	2,960	2,422	1,283	1,164	448	432	237	225	331	387	908	1,105	1,028	862	1,113	695	901	798	1,716	1,862
19	Tanjore	7,353	5,996	2,977	2,717	1,005	1,038	642	608	704	1,175	1,636	2,564	1,929	2,087	2,327	1,999	2,402	2,239	4,426	5,529
20	Tinnevelly	5,642	4,908	3,907	3,778	1,429	1,271	969	802	810	865	1,805	2,005	2,074	1,806	2,346	1,605	2,425	2,000	3,454	4,107
21	Trichinopoly	3,849	3,453	2,342	2,293	765	667	392	345	372	554	828	1,255	1,069	1,131	1,277	1,068	1,445	1,296	2,616	2,892
22	Vizagapatam	3,987	3,548	3,237	3,111	1,157	1,062	718	519	689	807	1,559	1,829	1,919	1,449	1,909	1,398	1,915	1,864	2,406	2,535
	Total, Madras Presidency	85,129	73,316	48,081	46,482	17,450	16,179	10,101	8,981	10,214	13,417	24,787	31,533	29,615	26,730	31,899	23,401	31,604	27,512	48,097	54,061
	† Ratio per mille of population	150·2	123·3	24·2	22·2	7·3	6·8	5·4	5·5	7·2	9·8	8·8	9·8	12·2	10·9	18·0	13·7	30·3	25·2	53·4	49·4

* Exclusive of Europeans, Eurasians, and born dead.
† Worked on the total population as per census of ~~1891~~ 1891 including Europeans and Eurasians.

No. V.—*Deaths registered according to Classes in the districts of the Madras Presidency during the year* 1895.

1	2	3					4					5				
Number.	Districts.	Population for which returns were received.					Number of deaths registered.					Ratio of deaths per 1,000 of population.				
		Native Christians	Muhammadans.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadans.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadans.	Hindus	Other classes.	Total.
1	Anantapur	1,378	51,946	673,667	328	* 727,319	20	586	11,060	2	11,668	14·5	11·3	16·4	6·1	16·0
2	Bellary	3,468	87,025	798,516	1,476	* 890,485	60	1,674	17,076	...	18,810	17·3	19·2	21·4	...	21·1
3	Chingleput	15,944	27,235	1,156,365	357	1,199,901	157	328	26,409	3	26,897	9·8	12·0	22·8	8·4	22·4
4	Coimbatore	14,638	43,947	1,945,010	316	2,003,911	206	684	34,787	3	35,680	14·1	15·6	17·9	9·5	17·8
5	Cuddapah	9,374	119,564	1,142,727	56	1,271,721	138	2,119	24,402	...	26,659	14·7	17·7	21·6	...	20·9
6	Ganjám	2,410	5,514	1,888,424	52	1,896,400	10	97	25,672	...	25,779	4·1	17·6	13·6	...	13·6
7	Gódávari	8,140	41,042	2,028,605	71	2,077,858	147	689	39,428	...	40,264	18·0	16·8	19·4	...	19·4
8	Kistna	67,966	108,567	1,678,333	158	1,855,024	466	1,285	31,473	3	33,167	6·0	11·8	18·7	19·0	17·9
9	Kurnool	22,584	97,416	697,616	44	817,660	252	1,821	14,767	...	16,840	11·1	18·7	21·2	...	20·6
10	Madras	25,599	53,184	358,997	595	436,375	797	2,150	13,615	3	16,565	33·8	40·4	37·9	5·0	38·0
11	Madura	42,298	73,465	1,457,460	95	1,573,318	542	1,346	28,086	...	29,974	12·8	18·3	19·3	...	19·0
12	Malabar	42,372	759,242	1,834,284	776	2,636,674	930	13,071	29,634	14	43,649	21·9	17·2	16·1	18·0	16·5
13	Nellore	46,797	78,185	1,337,979	396	1,463,357	91	589	23,443	...	24,123	1·9	7·5	17·5	...	16·5
14	Nilgiris	8,594	4,600	83,531	40	96,765	163	144	2,102	...	2,409	19·0	31·3	25·2	...	24·9
15	North Arcot	14,101	95,239	1,996,116	8,129	2,113,585	78	1,121	33,110	16	34,325	5·5	11·8	16·6	2·0	16·2
16	Salem	17,631	61,505	1,882,409	209	1,961,784	199	971	33,611	...	34,781	11·3	15·8	17·8	...	17·7
17	South Arcot	54,326	58,661	2,043,679	5,670	2,162,336	584	718	47,902	50	49,254	10·7	12·2	23·4	8·8	22·7
18	South Canara	70,902	108,261	862,573	10,266	1,052,002	1,156	1,728	17,806	187	20,877	16·3	16·0	20·6	18·2	19·8
19	Tanjore	84,338	119,864	2,022,300	579	2,227,081	1,618	2,478	47,326	1	51,423	19·2	20·7	23·4	1·7	23·0
20	Tinnevelly	145,569	95,951	1,674,150	32	1,915,702	3,124	2,541	42,283	...	47,948	21·5	26·5	25·2	...	25·0
21	Trichinopoly	69,410	38,271	1,264,037	8	1,371,726	1,253	618	28,138	...	30,009	18·0	16·1	22·2	...	21·9
22	Vizagapatam	2,017	20,355	1,792,417	69	1,814,858	42	187	37,389	...	37,618	20·8	9·2	20·9	...	20·7
	Total, Madras Presidency.	767,886	2,140,039	30,619,195	29,722	33,565,842	11,973	36,945	609,519	282	658,719	15·6	17·2	19·9	9·5	19·6

* Populations of the districts of Bellary and Anantapur are altered owing to the transfer from the former to the latter of certain villages of Rayadrug taluk containing a population of 19,176.

No. VI.—*Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1895.

1	2	3	4	5	6	7	8					9	10	11							
Number.	Districts and towns.	Population for which returns were received.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.					All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.							
							Suicides		Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.			Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.	From all causes.	
							Males.	Females.												For the year.	Mean of previous 5 years.
	*A.—Districts.**																				
1	Anantapur	710,071	71	354	1,968	199	17	32	147	36	232	8,612	11,436	0·1	0·5	2·8	0·3	0·3	12·1	16·1	20·7
2	Bellary	772,714	1,674	527	6,080	492	25	24	136	29	214	7,149	16,136	2·2	0·7	7·9	0·6	0·3	9·2	20·9	23·9
3	Chingleput	1,145,218	695	62	7,293	2,111	29	27	264	110	430	14,598	25,189	0·6	0·05	6·4	1·8	0·4	12·7	21·9	22·7
4	Coimbatore	1,934,926	1,803	48	13,714	798	66	53	307	109	535	16,888	33,786	0·9	0·02	7·1	0·4	0·3	8·7	17·4	18·3
5	Cuddapah	1,254,510	172	214	20,039	466	62	84	403	118	607	4,530	26,088	0·1	0·2	16·0	0·4	0·5	3·6	20·8	23·6
6	Ganjam	1,836,324	330	329	19,231	790	33	44	189	65	331	3,326	24,337	0·2	0·2	10·4	0·4	0·2	1·8	13·2	11·4
7	Gódávari	1,928,969	...	180	19,277	967	62	90	262	98	512	16,222	37,158	...	0·1	10·0	0·5	0·3	8·4	19·3	19·2
8	Kistna	1,761,898	...	65	12,009	329	70	93	262	79	504	17,776	30,683	...	0·03	6·8	0·2	0·3	10·1	17·4	21·6
9	Kurnool	782,650	238	461	11,898	127	19	40	180	70	309	2,917	15,950	0·3	0·6	15·2	0·2	0·4	3·7	20·4	27·3
10	Madura	1,384,120	1,079	84	8,869	406	46	60	319	138	563	14,443	25,444	0·8	0·1	6·4	0·3	0·4	10·4	18·4	19·8
11	Malabar	2,463,078	404	86	20,398	3,574	78	46	367	158	649	13,466	38,577	0·2	0·03	8·3	1·4	0·3	5·5	15·7	17·6
12	Nellore	1,423,397	10	72	12,584	314	4	10	254	14	282	9,987	23,249	0·007	0·05	8·8	0·2	0·2	7·0	16·3	16·4
13	Nilgiris	77,188	...	1	1,693	63	...	..	11	3	14	145	1,916	...	0·01	21·9	0·8	0·2	1·9	24·8	22·3
14	North Arcot	1,992,167	1,112	380	14,106	805	41	47	494	149	731	14,511	31,645	0·5	0·2	7·1	0·4	0·4	7·3	15·9	18·3
15	Salem	1,837,950	295	177	14,883	665	44	53	334	172	603	15,650	32,273	0·2	0·1	8·1	0·3	0·3	8·5	17·5	18·3
16	South Arcot	2,070,484	4,020	622	15,340	883	41	24	417	244	726	25,731	47,322	1·9	0·3	7·4	0·4	0·4	12·4	22·8	22·7
17	South Canara	1,011,382	84	114	8,330	1,234	78	23	222	59	382	9,678	19,822	0·1	0·1	8·2	1·2	0·4	9·6	19·6	21·0
18	Tanjore	2,002,916	2,075	502	3,526	430	26	35	244	169	474	38,057	45,064	1·0	0·3	1·8	0·2	0·2	19·0	22·5	25·4
19	Tinnevelly	1,712,987	4,156	111	7,612	1,188	49	79	334	74	536	28,934	42,537	2·4	0·1	4·4	0·7	0·3	16·9	24·8	22·8
20	Trichinopoly	1,260,428	816	168	6,252	227	30	25	209	144	408	19,301	27,172	0·6	0·1	5·0	0·2	0·3	15·3	21·5	22·4
21	Vizagapatam	1,675,899	30	214	31,595	438	38	27	254	76	395	1,525	34,197	0·01	0·1	18·9	0·3	0·2	0·9	20·4	15·3
	Total, Rural districts	31,039,067	19,064	4,771	256,607	16,506	858	916	5,909	2,114	9,497	283,446	589,981	0·6	0·2	8·3	0·5	0·3	9·1	19·0	19·2

* Exclusive of B.—Towns.

No. III.—*Deaths registered in the districts of the Madras Presidency during each month of the year* 1895.

Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.
1	Anantapur	857	663	868	845	1,047	1,006	1,084	1,065	1,045	993	1,015	1,180	11,668
2	Bellary	1,372	1,247	1,419	1,316	1,586	1,750	2,064	2,128	1,822	1,345	1,276	1,485	18,810
3	Chingleput	2,742	2,011	1,892	1,601	1,774	1,986	2,158	2,267	2,553	2,619	2,329	2,865	26,897
4	Coimbatore	3,336	2,965	3,744	2,929	2,845	2,566	2,693	2,651	2,755	2,678	3,143	3,475	35,680
5	Cuddapah	2,289	1,906	2,365	2,208	2,134	1,856	2,053	2,281	2,316	2,262	2,386	2,603	26,659
6	Ganjám	1,917	1,539	1,898	1,712	2,398	2,035	2,184	2,590	2,674	2,362	2,142	2,328	25,779
7	Gódávari	3,008	2,580	2,388	1,969	2,971	2,865	3,547	4,432	4,624	4,299	3,612	3,969	40,264
8	Kistna	2,285	1,850	2,186	1,951	2,845	2,520	3,089	3,167	4,007	2,875	3,105	3,287	33,167
9	Kurnool	1,297	1,071	1,319	1,311	1,448	1,280	1,484	1,769	1,504	1,465	1,311	1,581	16,840
10	Madras	1,418	1,108	1,157	1,098	1,215	1,231	1,296	1,918	1,873	1,490	1,257	1,504	16,565
11	Madura	3,590	2,456	2,308	2,270	2,103	1,966	2,557	2,268	2,155	2,368	2,816	3,117	29,974
12	Malabar	3,061	3,084	3,225	3,391	4,386	4,519	4,757	4,474	3,586	3,226	2,839	3,091	43,649
13	Nellore	2,203	2,034	1,971	1,941	2,104	2,150	1,855	2,036	1,919	1,858	1,908	2,144	24,123
14	Nilgiris	159	145	188	229	230	329	278	210	163	137	156	185	2,409
15	North Arcot	3,727	2,801	2,482	2,250	2,390	2,415	2,702	2,959	2,962	3,078	3,212	3,347	34,325
16	Salem	2,842	2,332	2,727	2,867	3,083	2,747	2,802	2,934	2,917	2,983	3,124	3,423	34,781
17	South Arcot	4,477	3,382	3,415	3,066	3,655	3,875	5,041	4,761	4,115	4,225	4,542	4,702	49,254
18	South Canara	1,959	1,674	1,702	1,303	1,462	1,775	2,075	2,097	1,825	1,652	1,414	1,939	20,877
19	Tanjore	4,815	4,288	4,006	3,351	3,756	3,839	4,409	4,144	4,439	4,623	4,729	5,024	51,423
20	Tinnevelly	5,459	3,652	3,391	2,878	2,953	3,570	4,359	3,590	3,353	4,292	4,857	5,594	47,948
21	Trichinopoly	3,026	2,564	2,234	1,925	2,246	2,157	2,495	2,495	2,395	2,434	2,740	3,298	30,009
22	Vizagapatam	3,224	2,487	3,021	2,243	3,369	2,803	3,950	3,775	3,979	3,449	2,806	3,412	37,618
	Total, Madras Presidency ...	58,963	47,849	49,966	44,654	52,000	51,238	58,032	60,011	59,081	56,713	56,719	63,353	658,719
	Ratio of deaths per 1,000 in each month ...	1·8	1·4	1·5	1·3	1·5	1·5	1·7	1·8	1·8	1·7	1·7	1·9	19·6

No. IV.—*Deaths * registered according to age in the districts of the Madras Presidency during the year* 1895.

Number.	Districts.	Under 1 year.		1 to 4.		5 to 9.		10 to 14.		15 to 19.		20 to 29.		30 to 39.		40 to 49.		50 to 59.		60 and upwards.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Anantapur	1,446	1,242	747	633	328	287	171	144	141	285	461	815	594	591	674	435	665	473	789	747
2	Bellary	2,529	2,189	1,413	1,464	614	523	277	211	272	402	850	1,205	1,012	930	1,034	654	732	674	921	904
3	Chingleput	4,756	4,062	1,854	1,915	542	534	303	289	327	492	718	1,187	927	963	1,129	829	1,138	956	1,923	2,035
4	Coimbatore	4,972	4,388	2,105	2,047	913	766	584	474	610	591	1,381	1,679	1,817	1,656	1,724	1,348	1,825	1,582	2,464	2,754
5	Cuddapah	3,198	2,650	1,960	1,929	536	544	329	299	344	596	1,207	1,834	1,555	1,515	1,862	1,417	1,778	1,476	1,681	1,749
6	Ganjám	2,987	2,500	1,622	1,553	694	642	493	406	510	596	1,137	1,240	1,267	1032	1,352	929	1,341	1,209	2,019	2,250
7	Gódávari	3,980	3,515	3,281	3,296	1,309	1,219	670	579	785	1,151	1,932	2,103	2,049	1,423	1,884	1,263	1,966	1,569	2,996	3,354
8	Kistna	4,701	4,074	2,480	2,367	858	683	475	452	542	913	1,246	1,512	1,171	1,123	1,129	799	1,217	1,023	3,101	3,301
9	Kurnool	2,103	1,883	1,103	1,187	460	430	263	244	222	329	853	1,062	971	889	973	633	826	682	834	893
10	Madras	2,831	2,345	1,158	1,236	319	322	166	185	147	232	510	708	522	548	561	451	557	485	1,478	1,804
11	Madura	3,774	3,337	2,075	1,956	780	692	426	363	437	435	1,202	1,353	1,504	1,334	1,623	1,349	1,677	1,517	1,971	2,189
12	Malabar	3,637	2,909	3,794	3,587	1,380	1,188	726	610	825	878	2,230	2,228	2,642	1,971	2,399	1,403	2,056	1,434	3,620	4,102
13	Nellore	2,018	2,431	1,961	1,845	906	1,074	672	770	486	558	524	593	583	651	813	754	1,108	1,194	1,785	2,407
14	Nilgiris	304	307	284	223	59	50	34	31	39	33	132	131	179	105	109	63	72	71	83	109
15	North Arcot	4,524	3,839	2,517	2,433	826	744	457	486	506	743	1,094	1,612	1,423	1,508	1,781	1,397	1,734	1,437	2,574	2,699
16	Salem	5,555	4,893	2,383	2,303	784	757	439	386	439	571	1,088	1,564	1,561	1,495	1,689	1,363	1,687	1,518	1,946	2,366
17	South Arcot	7,163	6,425	4,498	4,347	1,248	1,234	718	550	676	824	1,486	2,029	1,819	1,661	2,200	1,549	2,197	1,915	3,224	3,401
18	South Canara	2,960	2,422	1,283	1,164	448	432	237	225	331	387	908	1,105	1,028	862	1,113	695	901	798	1,716	1,862
19	Tanjore	7,353	5,996	2,977	2,717	1,005	1,038	642	608	704	1,175	1,636	2,564	1,929	2,087	2,327	1,999	2,402	2,239	4,426	5,529
20	Tinnevelly	5,642	4,908	3,907	3,778	1,429	1,271	900	802	810	865	1,805	2,005	2,074	1,806	2,346	1,605	2,425	2,000	3,454	4,107
21	Trichinopoly	3,849	3,453	2,342	2,293	765	667	392	345	372	554	828	1,255	1,069	1,131	1,277	1,068	1,445	1,296	2,616	2,892
22	Vizagapatam	3,987	3,548	3,237	3,111	1,157	1,062	718	519	689	807	1,559	1,829	1,919	1,449	1,909	1,398	1,915	1,864	2,406	2,535
	Total, Madras Presidency	35,199	73,316	48,081	46,482	17,450	16,179	10,101	8,981	10,214	13,417	24,787	31,533	29,615	26,730	31,899	23,401	31,604	27,512	48,097	54,061
	† Ratio per mille of population	150·2	123·3	24·2	22·2	7·3	6·8	5·4	5·5	7·2	9·8	8·8	9·8	12·2	10·9	18·0	13·7	30·3	25·2	53·4	49·4

* Exclusive of Europeans, Eurasians, and born dead.
† Worked on the total population as per census of ~~1881~~ 1891 including Europeans and Eurasians.

No. V.—*Deaths registered according to Classes in the districts of the Madras Presidency during the year* 1895.

Number.	Districts.	Population for which returns were received.					Number of deaths registered.					Ratio of deaths per 1,000 of population.				
		Native Christians.	Muhammadans.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadans.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadans.	Hindus	Other classes.	Total.
1	Anantapur	1,378	51,946	673,667	328	* 727,319	20	586	11,060	2	11,668	14·5	11·3	16·4	6·1	16·0
2	Bellary	3,468	87,025	798,516	1,476	* 890,485	60	1,674	17,076	...	18,810	17·3	19·2	21·4	...	21·1
3	Chingleput	15,944	27,235	1,156,365	357	1,159,901	157	328	26,409	3	26,897	9·8	12·0	22·8	8·4	22·4
4	Coimbatore	14,638	43,947	1,945,010	316	2,003,911	206	684	34,787	3	35,680	14·1	15·6	17·9	9·5	17·8
5	Cuddapah	9,374	119,564	1,142,727	56	1,271,721	138	2,119	24,402	...	26,659	14·7	17·7	21·6	...	20·9
6	Ganjám	2,410	5,514	1,888,424	52	1,896,400	10	97	25,672	...	25,779	4·1	17·6	13·6	...	13·6
7	Gódávari	8,140	41,042	2,028,605	71	2,077,858	147	689	39,428	...	40,264	18·0	16·8	19·4	...	19·4
8	Kistna	67,966	108,567	1,678,333	158	1,855,024	406	1,285	31,473	3	33,167	6·0	11·8	18·7	19·0	17·9
9	Kurnool	22,584	97,416	697,616	44	817,660	252	1,821	14,767	...	16,840	11·1	18·7	21·2	...	20·6
10	Madras	23,599	53,184	358,997	595	436,375	797	2,159	13,615	3	16,565	33·8	40·4	37·9	5·0	38·0
11	Madura	42,298	73,465	1,457,460	95	1,573,318	542	1,346	28,086	...	29,974	12·8	18·3	19·3	...	19·0
12	Malabar	42,372	759,242	1,834,284	776	2,636,674	930	13,071	29,634	14	43,649	21·9	17·2	16·1	18·0	16·5
13	Nellore	46,797	78,185	1,337,979	396	1,463,357	91	589	23,443	...	24,123	1·9	7·5	17·5	...	16·5
14	Nilgiris	8,594	4,600	83,531	40	96,765	163	144	2,102	...	2,409	19·0	31·3	25·2	...	24·9
15	North Arcot	14,101	95,239	1,996,116	8,129	2,113,585	78	1,121	33,110	16	34,325	5·5	11·8	16·6	2·0	16·2
16	Salem	17,661	61,505	1,882,409	209	1,961,784	199	971	33,611	...	34,781	11·3	15·8	17·8	...	17·7
17	South Arcot	54,326	58,661	2,043,679	5,670	2,162,336	584	718	47,902	50	49,254	10·7	12·2	23·4	8·8	22·7
18	South Canara	70,902	108,261	862,573	10,266	1,052,002	1,156	1,728	17,806	187	20,877	16·3	16·0	20·6	18·2	19·8
19	Tanjore	84,338	119,864	2,022,300	579	2,227,081	1,618	2,478	47,326	1	51,423	19·2	20·7	23·4	1·7	23·0
20	Tinnevelly	145,569	95,951	1,674,150	32	1,915,702	3,124	2,541	42,283	...	47,948	21·5	26·5	25·2	...	25·0
21	Trichinopoly	69,410	38,271	1,264,037	8	1,371,726	1,253	618	28,138	...	30,009	18·0	16·1	22·2	...	21·9
22	Vizagapatam	2,017	20,355	1,792,417	69	1,814,858	42	187	37,389	...	37,618	20·8	9·2	20·9	...	20·7
	Total, Madras Presidency.	767,886	2,149,039	30,619,195	29,722	33,565,842	11,973	36,945	609,519	282	658,719	15·6	17·2	19·9	9·5	19·6

* Populations of the districts of Bellary and Anantapur are altered owing to the transfer from the former to the latter of certain villages of Rayadrug taluk containing a population of 19,176.

No. VI.—*Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1895.

Number.	Districts and towns.	Population for which returns were received.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries. Suicides. Males.	Suicides. Females.	Injuries. Wounds and accidents.	Injuries. Snake-bite and killed by wild beasts.	Injuries. Total.	All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population. Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes.	From all causes. For the year.	From all causes. Mean of previous 5 years.
	*A.—Districts.**																				
1	Anantapur	710,071	71	354	1,968	199	17	32	147	36	232	8,612	11,436	0·1	0·5	2·8	0·3	0·3	12·1	16·1	20·7
2	Bellary	772,714	1,674	527	6,080	492	25	24	136	29	214	7,149	16,136	2·2	0·7	7·9	0·6	0·3	9·2	20·9	23·9
3	Chingleput	1,145,218	695	62	7,293	2,111	29	27	264	110	430	14,598	25,189	0·6	0·05	6·4	1·8	0·4	12·7	21·9	22·7
4	Coimbatore	1,934,926	1,803	48	13,714	798	66	53	307	109	535	16,888	33,786	0·9	0·02	7·1	0·4	0·3	8·7	17·4	18·3
5	Cuddapah	1,254,510	172	214	20,039	466	62	84	403	118	667	4,530	26,088	0·1	0·2	16·0	0·4	0·5	3·6	20·8	22·6
6	Ganjám	1,836,324	330	329	19,231	790	33	44	189	65	331	3,326	24,337	0·2	0·2	10·4	0·4	0·2	1·8	13·2	11·4
7	Gódávari	1,928,969	...	180	19,277	967	62	90	262	98	512	16,222	37,158	...	0·1	10·0	0·5	0·3	8·4	19·3	19·2
8	Kistna	1,761,898	...	65	12,009	329	70	93	262	79	504	17,776	30,683	...	0·03	6·8	0·2	0·3	10·1	17·4	21·6
9	Kurnool	782,650	238	461	11,898	127	19	40	180	70	309	2,917	15,950	0·3	0·6	15·2	0·2	0·4	3·7	20·4	27·3
10	Madura	1,384,120	1,079	84	8,869	406	46	60	319	135	563	14,443	25,444	0·8	0·1	6·4	0·3	0·4	10·4	18·4	19·8
11	Malabar	2,463,078	404	86	20,308	3,574	78	46	367	158	649	13,466	38,577	0·2	0·03	8·3	1·4	0·3	5·5	15·7	17·6
12	Nellore	1,423,397	10	72	12,584	314	4	10	254	14	282	9,987	23,249	0·007	0·05	8·8	0·2	0·2	7·0	16·3	16·4
13	Nilgiris	77,188	...	1	1,613	63	...	..	11	3	14	145	1,916	...	0·01	21·9	0·8	0·2	1·9	24·8	22·3
14	North Arcot	1,992,167	1,112	380	14,106	805	41	47	494	149	731	14,511	31,645	0·5	0·2	7·1	0·4	0·4	7·3	15·9	18·3
15	Salem	1,837,950	295	177	14,883	665	44	53	334	172	603	15,650	32,273	0·2	0·1	8·1	0·3	0·3	8·5	17·5	18·3
16	South Arcot	2,070,484	4,020	622	15,340	883	41	24	417	244	726	25,731	47,322	1·9	0·3	7·4	0·4	0·4	12·4	22·8	22·7
17	South Canara	1,011,382	84	114	8,330	1,234	78	23	222	59	382	9,678	19,822	0·1	0·1	8·2	1·2	0·4	9·6	19·6	21·0
18	Tanjore	2,002,916	2,075	502	3,526	430	26	35	244	169	474	38,057	45,064	1·0	0·3	1·8	0·2	0·2	19·0	22·5	25·4
19	Tinnevelly	1,712,987	4,156	111	7,612	1,188	49	79	334	74	536	28,934	42,537	2·4	0·1	4·4	0·7	0·3	16·9	24·8	22·8
20	Trichinopoly	1,260,428	816	168	6,252	227	30	25	209	144	408	12,301	27,172	0·6	0·1	5·0	0·2	0·3	15·3	21·5	22·4
21	Vizagapatam	1,675,690	30	214	31,595	438	38	27	254	76	395	1,525	34,197	0·01	0·1	18·9	0·3	0·2	0·9	20·4	15·3
	Total, Rural districts	31,039,067	19,064	4,771	256,697	16,506	858	916	5,309	2,114	9,497	283,446	589,981	0·6	0·2	8·3	0·5	0·3	9·1	19·0	19·9

* Exclusive of B.—Towns.

No. VI.—*Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1895—cont.

1	2		3	4	5	6	7	8						9	10	11							
								Injuries.								Ratio of deaths per 1,000 of population.							
								Suicides.														From all causes.	
Number.	Districts and towns.		Population for which returns were received.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes	For the year.	Mean of previous 5 years.
	B.—Towns—																						
1	Anantapur.	M.T.C. Anantapur.	6,973	...	4	51	1	...	...	5	...	5	54	115	...	0·6	7·3	0·1	0·7	7·8	16·5	23·8
2		T.C. Tadpatri ...	10,275	...	2	...	1	...	...	1	...	1	113	117	...	0·2	...	0·1	0·1	11·0	11·4	15·4
3	Bellary.	M.T.C. Bellary ...	57,780	53	1	488	115	1	...	35	2	38	809	1,504	0·9	0·02	8·4	2·0	0·7	14·0	26·0	27·5
4		M.T.C. Adoni ...	26,216	2	...	236	2	2	...	3	...	5	375	620	0·1		2·0	0·1	0·2	14·3	23·7	
5		T.C. Hospet ...	12,569	9	...	129	...	1	1	...	...	2	8	148	0·7	...	9·0	0·1	0·2	0·6	11·5	27·1
6		T.C. Kumpli ...	10,528	40	1	226	...	1	2	4	...	7	1	276	3·8	0·1	10·0	...	0·2	14·3	23·7	
7		T.C. Rayadrug ...	10,378	...	...	96	...	...	...	1	...	1	29	126	...	...	21·5	0·1	0·6	0·6	11·5	15·3
8	Chingleput.	M.T.C. Conjeeveram.	42,543	75	11	360	156	4	8	2	...	14	812	1,428	1·8	0·2	8·5	3·7	0·3	19·1	33·6	31·2
9		T.C. St. Thomas' Mount.	12,140	1	3	90	22	...	...	1	...	1	163	280	0·1	0·3	7·4	1·8	0·1	13·4	23·1	9·9
10	Coimbatore.	M.T.C. Coimbatore.	46,007	...	12	325	131	4	3	13	1	21	799	1,288	...	0·3	7·1	2·8	0·4	17·4	28·0	28·4
11		M.T.C. Erode ...	12,238	...	...	66	30	...	1	3	2	6	198	300	...	...	5·4	2·4	0·5	16·2	24·5	28·5
12		M.T.C. Karúr ...	10,740	1	2	114	82	...	...	5	1	6	101	306	0·1	0·2	10·6	7·6	0·6	9·4	28·5	31·2
13	Cuddapah.	M.T.C. Cuddapah.	17,211	...	2	314	29	1	1	6	3	11	215	571	...	0·1	18·3	1·7	0·6	12·5	33·2	39·3
14	Ganjám.	M.T.C. Chicacole ...	18,204	...	...	173	62	...	...	1	2	3	232	470	...	...	9·5	3·4	0·2	12·7	25·8	22·3
15		M.T.C. Berhampur.	25,493	...	1	200	81	...	1	1	1	3	332	617	...	0·04	7·9	3·2	0·1	13·0	24·2	26·0
16		M.T.C. Parlákimedi.	16,379	...	2	156	46	...	...	...	...	...	151	355	...	0·1	9·6	2·8	...	9·2	21·7	21·1
17	Godávari.	M.T.C. Cocanada ...	40,068	...	18	106	86	2	3	6	...	11	471	692	...	0·5	2·6	2·1	0·3	11·8	17·3	22·5
18		M.T.C. Rajahmundry.	28,279	...	25	276	146	1	1	17	2	21	452	920	...	0·9	9·7	5·2	0·7	16·0	32·5	29·2
19		M.T.C. Ellore ...	29,296	...	13	113	54	1	3	9	...	13	447	640	...	...	...	...	...	...	...	...
20		T.C. Pithápuram ...	13,731	...	...	12	3	...	...	...	...	...	91	106	...	0·4	3·9	1·8	0·4	15·3	21·8	24·3
21		T.C. Peddápuram ...	13,652	...	...	69	1	2	2	...	...	4	334	408	...	...	0·9	0·2	...	6·6	7·7	9·9
22		T.C. Samalkot ...	13,409	...	...	67	1	...	...	1	...	1	7	76	...	...	5·0	0·1	0·3	24·5	29·9	21·6
23		T.C. Dowlaishweram	10,454	...	...	...	...	1	2	5	...	8	256	264	...	...	5·0	0·1	0·1	6·5	5·7	14·2
24	Kistna.	M.T.C. Masulipatam.	38,667	...	1	254	79	2	1	15	1	19	709	1,062	...	...	...	...	0·7	24·5	25·2	31·3
25		M.T.C. Guntúr ...	23,267	...	32	174	29	...	1	26	...	27	360	616	...	0·03	6·6	2·0	0·5	18·4	27·5	27·3
26		M.T.C. Bezwada ...	20,611	...	...	129	60	1	2	11	3	17	365	571	...	1·3	7·5	1·3	0·9	15·5	26·5	27·7
27		T.C. Chirala ...	10,581	...	...	64	5	1	2	2	...	5	161	235	...	...	6·3	2·9	0·8	17·7	27·7	32·5
28	Kurnool.	M.T.C. Kurnool ...	24,306	46	2	327	25	...	...	2	2	4	338	742	1·9	0·1	13·4	1·0	0·2	15·2	22·2	24·6
29		T.C. Nandyal ...	10,704	2	1	120	1	1	1	2	1	5	19	148	0·2	0·1	11·2	0·1	0·5	13·9	30·5	32·6
30	M.T.C. Madras		436,375	115	3	6,179	2,149	10	4	155	2	171	7,948	16,565	0·3	0·006	14·2	4·9	0·4	18·2	38·0	43·2
31	Madura.	M.T.C. Madura ...	87,121	27	13	403	213	5	4	18	3	30	1,595	2,281	0·3							
32		M.T.C. Dindigul ...	20,115	4	...	84	54	...	...	10	...	10	285	437	0·2	0·2	4·6	2·4	0·3	18·3	26·1	30·3
33		M.T.C. Periyakulam.	16,363	115	...	111	84	...	1	5	...	6	292	608	7·0	...	4·2	2·7	0·5	14·1	21·7	23·4
34		M.T.C. Palni ...	16,940	23	7	69	46	1	...	10	1	12	276	433	1·4	0·4	4·1	2·7	0·7	16·3	25·6	31·0
35		T.C. Ramnad ...	13,589	164	...	2	...	1	1	1	...	3	128	297	12·1	...	0·1	...	0·2	9·4	21·8	17·6
36		T.C. Aruppukóttai.	12,673	3	...	33	11	...	4	4	...	8	102	157	0·2	...	2·6	0·9	0·6	8·1	12·4	20·2
37		T.C. Kilakarai ...	12,396	6	1	72	1	...	...	4	...	4	89	173	0·5	0·08	5·8	0·08	0·3	7·2	13·9	27·7
38		T.C. Paramagudi ...	10,001	34	...	60	...	...	...	3	1	4	46	144	3·4	...	6·0	...	0·4	4·6	14·4	12·1
39	Malabar.	M.T.C. Tellicherry.	26,631	...	...	202	82	1	1	7	...	9	380	673	...	...	7·5	3·1	0·3	14·3	25·2	23·4
40		M.T.C. Calicut ...	64,798	1	1	318	366	1	...	4	...	5	1,368	2,059	0·01	0·01	4·9	5·6	0·1	21·1	31·7	35·2
41		M.T.C. Palghat ...	39,367	8	...	228	144	...	1	9	5	15	728	1,123	0·2	...	5·8	3·6	0·4	18·5	28·5	27·0
42		M.T.C. Cochin ...	16,147	16	1	65	30	...	...	3	...	3	327	442	1·0	0·1	4·0	1·9	0·2	20·2	27·4	37·7
43		M.T.C. Cannanore.	26,653	...	1	245	95	1	...	2	1	4	430	775	...	0·04	9·2	3·6	0·2	16·1	29·1	26·1
44	Nellore.	M.T.C. Nellore ...	29,128	...	...	152	16	1	2	5	3	11	442	621	...	...	5·2	0·5	0·4	15·2	21·3	22·5
45		M.T.C. Ongole ...	10,832	...	1	56	28	...	...	8	1	9	159	253	...	0·1	5·2	2·6	0·8	14·7	23·4	23·0
46	Nilgiris.	M.T.C. Ootacamund.	13,991	...	...	135	30	...	1	3	...	4	164	333	...	...	9·7	2·1	0·3	11·7	23·8	23·5
47		M.T.C. Coonoor ...	5,586	...	...	34	22	...	...	2	...	2	102	160	...	...	6·1	3·9	0·3	18·3	28·6	32·9
48	North Arcot.	M.T.C. Vellore ...	44,724	...	53	349	146	2	1	6	1	10	498	1,056	...	1·2	7·8	3·3	0·2	11·1	23·6	24·7
49		M.T.C. Walajapet.	10,485	14	...	118	26	...	...	5	1	6	143	307	1·3	...	11·3	2·5	0·6	13·6	29·3	28·5
50		M.T.C. Gudiyattam.	18,745	...	6	197	34	...	...	1	...	1	205	443	...	0·3	10·5	1·8	0·1	10·9	23·6	23·7
51		M.T.C. Tirupati ...	14,238	5	...	164	45	2	1	3	...	6	193	413	0·4	...	11·4	3·2	0·4	13·3	29·0	30·9
52		T.C. Kálahasti ...	11,715	1	...	31	11	...	1	3	...	4	99	136	0·1	...	2·6	0·1	0·3	8·5	29·0	30·9
53		T.C. Arcot ...	10,928	19	2	17	...	...	...	2	...	2	220	260	1·7	0·2	1·6	...	0·2	20·1	11·6	14·0
54		T.C. Ambúr ...	10,583	...	7	43	1	...	...	...	...	...	14	65	...	0·6	4·1	0·1	...	1·3	6·1	10·4
55	Salem.	M.T.C. Salem ...	67,640	17	1	436	82	1	...	6	1	8	870	1,414	0·3	0·01	6·4	1·2	0·1	12·9	20·9	24·5
56		M.T.C. Vániyambádi.	15,338	...	3	175	13	...	...	3	1	4	259	454	...	0·2	11·0	0·8	0·3	16·4	28·7	31·8
57		M.T.C. Tiruppattúr.	16,463	...	...	173	13	...	1	2	...	3	209	398	...	...	10·5	0·8	0·2	12·7	24·2	27·2
58		T.C. Shendamangalam.	13,354	...	...	10	...	...	...	3	...	3	109	122	...	...	0·7	...	0·2	8·2	9·1	9·3
59		T.C. Rásipuram ...	10,539	...	...	...	1	1	1	...	...	2	117	120	...	...	...	0·1	0·2	11·1	11·4	14·8
60	South Arcot.	M.T.C. Cuddalore.	47,025	49	15	274	108	3	...	9	5	17	557	1,020	1·0	0·3	5·8	2·3	0·4	11·9	21·7	20·4
61		M.T.C. Chidambaram.	18,634	216	7	190	38	...	...	9	2	11	194	656	11·6	0·4	10·2	2·0	0·6	10·4	35·2	30·3
62		T.C. Porto Novo ...	14,045	18	5	20	2	...	...	...	1	1	108	154	1·3	0·4	1·4	0·1	0·1	7·7	11·0	15·3
63		T.C. Tiruvannámalai.	12,148	4	2	65	...	...	...	6	...	6	25	102	0·3	0·2	5·3	...	0·5	2·1	8·4	13·7
64	South Canara.	M.T.C. Mangalore.	40,620	...	...	305	149	...	...	11	1	12	589	1,055	...	...	7·5	3·7	0·3	14·5	26·0	23·9

No. VI.—*Deaths registered from Different Causes in the districts and towns of the Madras Presidency during the year* 1895—cont.

1	2	3	4	5	6	7	8					9	10	11							
							Injuries.							Ratio of deaths per 1,000 of population.							
							Suicides.													From all causes.	
Number.	Districts and towns.	Population for which returns were received.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Males.	Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.	Injuries.	All other causes	For the year.	Mean of previous 5 years.
	B.—Towns—cont.																				
65	Tanjore. M.T.C. Tanjore ...	54,258	80	11	306	294	...	...	12	...	12	684	1,387	1·5	0·2	5·6	5·4	0·2	12·7	25·6	29·9
66	M.T.C. Kumbakónam.	54,254	55	11	371	193	...	...	11	1	12	1,052	1,694	1·0	0·2	6·8	3·6	0·2	19·4	31·2	32·5
67	M.T.C. Máyavaram.	23,754	17	5	128	50	...	...	...	2	2	420	622	0·7	0·2	5·4	2·1	0·1	17·7	26·2	29·6
68	M.T.C. Negapatam	58,573	7	...	517	137	1	...	19	2	22	1,060	1,743	0·1	...	8·9	2·3	0·4	18·1	29·8	30·5
69	M.T.C. Mannárgudi.	20,392	3	2	130	65	...	...	7	3	10	338	548	0·1	0·1	6·4	3·2	0·5	16·6	26·9	29·1
70	T.C. Tiruválúr ...	12,934	6	2	32	16	1	...	...	1	2	307	365	0·4	0·2	2·5	1·2	0·2	23·7	28·2	20·5
71	Tinnevelly. M.T.C. Tinnevelly.	24,756	60	1	114	114	...	2	3	1	6	498	793	2·4	0·04	4·6	4·6	0·3	20·1	32·0	33·8
72	M.T.C. Palamcottah.	18,612	58	4	76	30	...	1	2	...	3	328	499	3·1	0·2	4·1	1·6	0·2	17·6	26·8	27·9
73	M.T.C. Tuticorin ...	24,964	19	1	250	157	...	...	7	...	7	348	782	0·8	0·04	10·0	6·3	0·3	13·9	31·3	29·6
74	M.T.C. Sriviliputtúr	29,541	2	4	176	43	1	...	2	...	3	278	515	0·1	0·2	5·9	1·4	0·4	9·4	17·4	...
75	T.C. Kulasékarapatnam.	15,910	109	3	118	15	...	...	...	...	...	233	480	6·8	0·2	7·4	0·9	0·1	14·7	30·1	28·7
76	T.C. Virudupatti ...	14,075	1	...	67	12	1	...	2	...	3	214	264	2·8	...	0·5	...	0·2	15·3	18·8	20·3
77	T.C. Viravanallur .	13,951	40	...	7	...	...	...	3	...	3	141	147	0·07	0·07	0·07	...	0·2	10·6	11·0	13·3
78	T.C. Rajahpalaiyam.	15,301	1	1	1	...	...	3	...	1	4	237	467	9·4	...	5·9	2·3	0·3	18·4	36·3	38·0
79	T.C. Tenkási ...	12,861	121	...	76	29	1	...	2	1	4	237	467	9·4	...	5·9	2·3	0·3	18·4	36·3	38·0
80	T.C. Nivakási ...	12,184	3	...	86	20	1	...	4	...	5	332	451	0·3	...	7·1	1·6	0·8	27·2	37·0	34·5
81	T.C. Kayalpatnam .	11,464	4	1	149	...	...	...	...	...	...	302	491	0·3	0·1	13·0	...	...	29·5	42·9	35·7
82	T.C. Kalladakurchi.	11,096	75	...	22	...	...	...	...	...	...	408	492	0·3	0·1	13·0	...	...	29·5	42·9	35·7
83	Trichinopoly. M.T.C. Trichinopoly.	89,666	290	8	662	331	1	1	26	5	33	787	2,111	3·2	0·1	7·4	3·7	0·3	8·8	23·5	29·0
84	M.T.C. Srirangam.	21,632	69	...	150	50	...	...	5	3	8	449	726	3·2	...	6·9	2·3	0·4	20·7	33·5	31·5
85	Vizagapatam. M.T.C. Vizagapatam.	33,961	...	5	287	348	1	...	9	5	15	330	985	...	0·01	8·5	10·3	0·5	9·7	29·9	26·9
86	M.T.C. Bimlipatam.	9,696	...	...	52	48	1	...	2	1	4	123	227	...	...	5·4	4·9	0·4	12·7	23·4	28·3
87	M.T.C. Vizianagram.	30,735	...	2	352	68	...	...	8	2	10	353	785	...	0·1	11·4	2·2	0·3	11·5	25·5	23·0
88	M.T.C. Anakápalle	17,001	...	...	151	52	...	2	5	1	8	250	461	...	...	8·3	3·6	0·5	14·7	27·1	25·9
89	T.C. Bobbili ...	14,448	...	...	194	1	...	1	3	...	4	62	261	...	...	13·4	0·1	0·3	4·3	18·1	16·7
90	T.C. Sáluru ...	12,910	...	...	85	43	...	...	2	...	2	3	133	...	...	6·6	3·3	0·2	0·2	10·3	18·4
91	T.C. Palkonda ...	10,364	...	17	169	6	...	1	...	...	1	94	287	...	1·6	16·3	0·6	0·1	9·1	27·7	20·4
92	T.C. Párvatipuram.	10,053	...	...	162	30	...	...	1	...	1	89	282	...	...	16·1	3·0	0·1	8·8	28·0	20·4
	Total, Towns ...	2,526,775	2,108	340	20,640	7,431	65	74	639	82	860	37,359	68,738	0·8	0·1	8·3	2·9	0·3	14·8	27·2	28·8
	Total, Rural districts ...	31,039,067	19,064	4,771	256,697	16,506	858	916	5,609	2,114	9,497	283,446	589,981	0·6	0·2	8·3	0·5	0·3	9·1	19·0	19·9
	Total, Madras Presidency.	33,565,842	21,172	5,111	277,337	23,937	923	990	6,248	2,196	10,357	320,805	658,719	0·6	0·1	8·3	0·7	0·3	9·6	19·6	20·6

No. VII.—*Deaths registered from Cholera in the districts of the Madras Presidency during each month of the year* 1895.

Number.	Districts.	3 Circles of registration. Number in each district.	3 Circles of registration. Number from which deaths from cholera were reported.	4 Villages. Number in each district.	4 Villages. Number from which deaths from cholera were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Males.	Females.	Total.	7 Ratio of deaths per 1,000 of population. Males.	Females.	Total.	8 Mean ratio per 1,000 for previous 5 years.
1	Anantapur ...	*19	2	941	5	...	...	...	...	...	...	6	22	33	10	...	...	37	34	71	0·1	0·1	0·1	1·7
2	Bellary ...	14	12	819	141	...	...	...	...	10	250	484	460	351	70	48	18	980	818	1,778	2·1	1·9	2·0	1·2
3	Chingleput ...	8	8	2,134	159	490	139	16	2	1	...	1	28	67	22	5	...	406	365	771	0·7	0·6	0·6	1·4
4	Coimbatore ...	13	9	1,478	153	232	278	787	359	110	7	1	9	1	...	...	...	969	835	1,804	1·0	0·8	1·9	1·7
5	Cuddapah ...	12	2	1,276	10	...	...	...	...	...	17	79	37	39	...	...	...	95	77	172	0·1	0·1	0·1	1·9
6	Ganjám ...	8	4	6,037	42	1	1	...	...	...	...	...	15	22	13	113	165	161	169	330	0·2	0·2	0·2	0·1
7	Gódávari ...	18	...	2,603	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·6
8	Kistna ...	16	...	1,848	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1·9
9	Kurnool ...	10	6	802	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·1
10	Madras ...	1	1	1	1	66	8	5	...	...	...	21	159	49	55	2	...	...	...	...	...	...	...	1·6
11	Madura ...	15	14	1,078	149	557	107	97	217	51	42	42	165	70	29	64	14	773	682	1,455	1·0	0·8	0·9	2·7
12	Malabar ...	15	7	2,245	48	48	66	42	88	74	91	14	...	...	6	...	...	209	220	429	0·2	0·2	0·2	1·5
13	Nellore ...	12	1	1,793	2	7	3	...	...	...	...	...	...	...	...	...	...	5	5	10	0·006	0·006	0·006	0·5
14	Nilgiris ...	4	...	52	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·3
15	North Arcot ...	17	13	4,328	168	687	347	85	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0·3
16	Salem ...	14	7	3,811	57	109	39	36	96	4	18	4	2	3	5	13	13	626	525	1,151	0·6	0·5	0·5	1·5
17	South Arcot ...	12	12	2,897	515	787	432	207	191	265	446	1,047	633	168	37	71	1	174	138	312	0·2	0·1	0·1	1·6
18	South Canara.	6	4	1,277	19	...	...	15	6	35	17	11	...	...	...	...	83	2,281	2,026	4,307	2·1	1·9	2·0	2·6
19	Tanjore ...	15	15	3,550	332	610	576	390	121	92	132	248	50	9	1	2	12	42	42	84	0·1	0·1	0·1	0·4
20	Tinnevelly ...	21	21	1,538	481	545	235	335	242	190	396	591	518	235	536	630	398	1,188	1,055	2,243	1·1	0·9	1·0	3·8
21	Trichinopoly.	8	8	1,502	164	393	306	173	34	8	12	114	114	18	2	1	...	2,458	2,191	4,649	2·6	2·2	2·4	2·4
22	Vizagapatam.	22	2	2,668	3	...	...	...	...	1	...	...	...	...	...	4	25	629	546	1,175	0·9	0·8	0·9	2·9
																		21	9	30	0·02	0·01	0·01	0·3
	Total, Madras Presidency...	271	148	44,678	2,456	4,552	2,537	2,186	1,366	919	1,429	2,666	2,026	1,026	795	954	716	11,262	9,910	21,172	0·7	0·6	0·6	1·7

* Increase due to the formation of a new taluk of Kalyandrug.

No. IX.—*Deaths registered from Fevers in the Districts of the Madras Presidency during each month of the year* 1895.

Number.	Districts.	3 Circles of registration. Number in each district.	3 Circles of registration. Number from which deaths from fevers were reported.	4 Villages. Number in each district.	4 Villages. Number from which deaths from fevers were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Males.	Females.	Total.	7 Ratio of deaths per 1,000 of population. Males.	Females.	Total.	8 Mean ratio per 1,000 for previous 5 years.
1	Anantapur ...	*10	9	941	383	141	120	150	153	205	175	168	166	169	156	207	209	986	1,633	2,619	2·7	2·9	2·8	4·1
2	Bellary ...	14	14	819	616	635	531	710	593	683	650	707	705	805	784	648	761	3,793	3,950	7,743	6·3	6·6	6·5	6·2
3	Chingleput ...	8	8	2,134	1,459	560	531	487	490	588	677	608	659	583	527	494	602	3,682	3,573	7,255	8·1	8·2	8·1	9·6
4	Coimbatore ...	13	13	1,478	1,075	1,178	1,239	1,387	1,201	1,160	1,039	1,138	1,111	1,061	1,052	1,257	1,396	7,344	6,875	14,219	7·5	6·7	7·1	7·1
5	Cuddapah ...	12	12	1,276	1,199	1,814	1,505	1,947	1,805	1,629	1,389	1,460	1,696	1,709	1,701	1,764	1,934	10,280	10,073	20,353	15·9	16·1	16·0	16·5
6	Ganjám ...	8	7	6,037	3,217	1,543	1,253	1,541	1,345	1,833	1,517	1,598	1,966	2,057	1,829	1,543	1,735	10,262	9,558	19,760	11·1	9·8	10·4	8·9
7	Gódávari ...	18	17	2,603	870	1,714	1,201	1,174	938	1,382	1,372	1,678	2,017	2,324	2,122	1,846	2,132	10,221	9,699	19,920	10·0	9·2	9·6	8·3
8	Kistna ...	16	16	1,848	932	890	702	904	768	1,161	949	1,100	1,011	1,465	1,257	1,246	1,197	6,306	6,029	12,335	15·2	14·9	15·1	19·6
9	Kurnool ...	10	10	802	742	1,003	829	1,110	1,042	1,101	933	1,074	1,139	1,047	1,010	957	1,100	6,306	6,029	12,345	15·2	14·9	15·1	19·6
10	Madras ...	1	1	1	1	520	374	403	380	498	490	473	678	755	563	491	554	2,919	3,260	6,179	13·4	14·9	14·2	14·0
11	Madura ...	15	13	1,078	129	141	46	56	75	52	58	60	48	66	54	88	71	381	434	815	0·5	0·5	0·5	0·7
12	Malabar ...	15	15	2,245	293	227	255	278	287	543	618	573	521	340	231	220	138	2,269	2,031	4,291	1·7	1·5	1·6	1·7
13	Nellore ...	12	12	1,793	180	23	33	21	19	38	21	42	27	33	24	39	36	180	178	358	0·2	0·2	0·3	0·4
14	Nilgiris ...	4	4	52	20	9	7	8	20	12	9	14	7	9	7	5	8	62	53	115	1·1	1·3	1·2	1·5
15	North Arcot ...	17	14	4,328	485	101	82	77	66	65	65	50	77	71	73	85	89	410	364	774	0·4	0·4	0·4	0·5
16	Salem ...	14	13	3,811	304	68	60	54	38	44	56	...	108	80	93	91	90	531	480	1,031	0·5	0·4	0·5	0·6
17	South Arcot ...	12	11	2,897	378	126	70	70	54	67	102	102	80	157	142	102	135	754	629	1,383	1·5	1·2	1·3	1·5
18	South Canara.	6	6	1,277	405	113	93	75	89	54	70	110	106	107	116	124	117	409	376	1,185	0·6	0·5	0·5	0·8
19	Tanjore ...	15	15	3,550	224	154	143	82	67	75	104	102	106	80	180	202	236	815	793	1,608	0·9	0·8	0·8	0·8
20	Tinnevelly ...	21	17	1,538	274	251	149	82	67	75	104	102	106	80	180	202	236	815	793	1,608	0·9	0·8	0·8	0·8
21	Trichinopoly.	8	8	1,502	117	71	65	60	45	105	103	96	154	114	93	52	76	529	505	1,034	0·6	0·6	0·6	0·4
22	Vizagapatam.	22	22	2,668	145	57	50	36	38	42	32	38	60	63	60	62	62	350	258	608	0·5	0·4	0·4	0·5
	Total, Madras Presidency..	271	258	44,678	5,423	2,023	1,576	1,487	1,370	1,774	1,980	2,263	2,769	2,583	2,094	2,006	2,012	12,513	11,424	23,937	0·7	0·7	0·7	0·8

* Increase due to the formation of a new taluk of Kalyandrug.

No. VIII.—*Deaths registered from Small-pox in the districts of the Madras Presidency during each month of the year* 1895.

Number.	Districts.	3 Circles of registration. Number in each district.	3 Circles of registration. Number from which deaths from small-pox were reported.	4 Villages. Number in each district.	4 Villages. Number from which deaths from small-pox were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Males.	Females.	Total.	7 Number of deaths among children. Under 1 year.	Under 12 years.	8 Ratio of deaths per 1,000 of population. Males.	Females.	Total.	9 Mean ratio per 1,000 for previous 5 years.
1	Anantapur ...	*10	9	941	78	19	11	14	35	27	18	24	31	38	25	49	69	178	182	360	149	211	0·5	0·5	0·5	0·4
2	Bellary ...	14	10	819	129	80	77	77	60	51	47	52	36	31	7	12	19	266	263	529	229	300	0·6	0·6	0·6	0·6
3	Chingleput ...	8	8	2,134	43	13	6	10	7	7	5	4	2	3	5	7	7	42	34	76	21	39	0·1	0·1	0·1	0·6
4	Coimbatore ...	13	12	1,478	23	8	...	8	10	5	1	5	2	4	1	6	12	26	36	62	16	30	0·03	0·03	0·03	0·4
5	Cuddapah ...	12	12	1,276	93	8	16	11	12	18	12	21	17	51	11	25	34	109	107	216	32	49	0·2	0·2	0·2	0·6
6	Ganjám ...	8	7	6,037	156	20	13	28	10	24	25	30	22	36	32	39	53	148	184	332	46	174	0·2	0·2	0·2	0·4
7	Gódávari ...	18	14	2,603	86	19	14	26	19	32	37	17	34	16	12	4	6	125	111	236	17	22	0·1	0·1	0·1	0·2
8	Kistna ...	16	13	1,848	41	5	6	6	7	17	5	5	3	2	16	25	1	48	50	98	5	27	0·05	0·05	0·05	1·8
9	Kurnool ...	10	10	802	113	38	23	10	30	36	23	36	52	47	37	42	99	241	223	464	110	213	0·6	0·6	0·6	1·8
10	Madras ...	1	1	1	1	...	1	...	...	1	...	...	...	...	...	...	...	5	...	5	...	...	0·006	...	0·006	0·1
11	Madura ...	15	10	1,078	45	8	4	18	1	18	5	21	7	4	7	11	...	46	59	105	31	46	0·1	0·1	0·1	1·1
12	Malabar ...	15	8	2,245	28	10	33	2	8	2	...	1	5	2	11	9	6	47	42	89	...	...	0·04	0·03	0·03	2·6
13	Nellore ...	12	9	1,793	45	4	4	4	11	8	3	2	3	7	11	8	8	39	34	73	26	25	0·05	0·05	0·05	0·3
14	Nilgiris ...	4	1	52	1	...	...	...	...	...	...	...	1	...	...	...	...	1	...	1	1	...	0·02	...	0·01	0·5
15	North Arcot ...	17	14	4,328	225	23	23	32	36	20	27	36	37	41	45	52	82	225	223	448	80	171	0·2	0·2	0·2	1·0
16	Salem ...	14	11	3,811	79	7	6	8	43	16	20	14	12	11	15	7	22	86	95	181	51	66	0·1	0·1	0·1	1·0
17	South Arcot ...	12	12	2,897	189	50	34	55	46	52	26	41	55	77	64	71	80	315	336	651	125	232	0·3	0·3	0·3	1·6
18	South Canara.	6	5	1,277	45	4	8	14	17	10	5	10	8	27	6	5	...	62	52	114	22	13	0·1	0·1	0·1	1·6
19	Tanjore ...	15	14	3,550	184	36	54	65	79	77	48	46	53	22	26	12	15	254	279	533	79	252	0·2	0·2	0·2	0·5
20	Tinnevelly ...	21	15	1,538	76	27	12	13	6	13	10	6	11	11	6	5	6	69	57	126	15	38	0·1	0·1	0·1	0·3
21	Trichinopoly.	8	7	1,502	45	20	23	27	20	12	12	26	29	5	1	3	1	89	87	176	20	46	0·1	0·1	0·1	0·3
22	Vizagapatam.	22	17	2,668	67	16	53	41	20	22	5	35	33	12	16	8	3	133	105	238	36	72	0·1	0·1	0·1	0·4
	Total, Madras Presidency...	271	219	44,678	1,792	415	421	469	477	468	334	380	450	427	354	401	515	2,552	2,559	5,111	1,111	1,966	0·1	0·1	0·1	0·9

* Increase due to the formation of a new taluk of Kalyandrug.

No. X.—*Deaths registered from Dysentery and Diarrhœa in the Districts of the Madras Presidency during each month of the year* 1895.

Number.	Districts.	3 Circles of registration. Number in each district.	3 Circles of registration. Number from which deaths from dysentery and diarrhœa were reported.	4 Villages. Number in each district.	4 Villages. Number from which deaths from dysentery and diarrhœa were reported.	5 January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	6 Total. Males.	Females.	Total.	7 Ratio of deaths per 1,000 of population. Males.	Females.	Total.	8 Mean ratio per 1,000 for previous 5 years.
1	Anantapur ...	*10	10	941	94	33	32	24	37	37	62	72	87	72	49	53	52	317	293	610	0·7	0·7	0·7	0·3
2	Bellary ...	14	13	819	158	226	170	164	127	109	146	159	223	266	223	215	261	1,220	1,069	2,289	2·6	1·8	1·9	2·7
3	Chingleput ...	8	8	2,134	874	113	61	102	73	85	120	78	58	97	91	87	76	530	511	1,041	0·5	0·5	0·5	0·6
4	Coimbatore ...	13	15	1,478	276	46	36	41	30	38	29	46	42	46	40	55	48	282	213	495	0·4	0·3	0·4	0·5
5	Cuddapah ...	12	12	1,276	205	44	39	49	42	103	72	118	133	135	102	91	51	560	419	979	0·6	0·4	0·5	0·3
6	Ganjám ...	8	7	6,037	347	33	59	64	53	93	102	126	242	182	129	103	72	639	619	1,258	0·6	0·6	0·6	0·4
7	Gódávari ...	18	17	2,603	327	33	21	23	33	25	25	51	68	140	32	32	34	243	259	502	0·3	0·3	0·3	0·4
8	Kistna ...	16	16	1,848	110	9	21	23	33	11	10	12	15	16	24	20	8	11	94	59	153	0·2	0·1	0·2	0·4
9	Kurnool ...	10	10	802	87	10	12	4	11	10	12	15	16	24	20	8	11	94	59	153	0·2	0·1	0·2	0·4
10	Madras ...	1	1	1	1	175	144	117	88	100	109	164	388	346	204	156	158	1,042	1,107	2,149	4·8	5·1	4·9	2·3
11	Madura ...	15	13	1,078	129	141	46	56	75	52	58	60	48	66	54	88	71	381	434	815	0·5	0·5	0·5	0·7
12	Malabar ...	15	15	2,245	293	227	255	278	287	543	618	573	521	340	231	220	138	2,269	2,031	4,291	1·7	1·5	1·6	1·7
13	Nellore ...	12	12	1,793	180	23	33	21	19	38	21	42	27	33	24	39	36	180	178	358	0·2	0·2	0·3	0·4
14	Nilgiris ...	4	4	52	20	9	7	8	20	12	9	14	7	9	7	5	8	62	53	115	1·1	1·3	1·2	1·5
15	North Arcot ...	17	14	4,328	485	101	82	77	66	65	65	50	77	71	73	85	89	410	364	774	0·4	0·4	0·4	0·5
16	Salem ...	14	13	3,811	304	68	60	54	38	44	56	...	108	80	93	91	90	531	480	1,031	0·5	0·4	0·5	0·6
17	South Arcot ...	12	11	2,897	378	126	70	70	54	67	102	102	80	157	142	102	135	754	629	1,383	1·5	1·2	1·3	1·5
18	South Canara.	6	6	1,277	405	113	93	75	89	54	70	110	106	107	116	124	117	409	376	1,185	0·6	0·5	0·5	0·8
19	Tanjore ...	15	15	3,550	224	154	143	82	67	75	104	102	106	80	180	202	236	815	793	1,608	0·9	0·8	0·8	0·8
20	Tinnevelly ...	21	17	1,538	274	251	149	82	67	75	104	102	106	80	180	202	236	815	793	1,608	0·9	0·8	0·8	0·8
21	Trichinopoly.	8	8	1,502	117	71	65	60	45	105	103	96	154	114	93	52	76	529	505	1,034	0·6	0·6	0·6	0·4
22	Vizagapatam.	22	22	2,668	145	57	50	36	38	42	32	38	60	63	60	62	62	350	258	608	0·5	0·4	0·4	0·5
	Total, Madras Presidency..	271	258	44,678	5,423	2,023	1,576	1,487	1,370	1,774	1,980	2,263	2,769	2,583	2,094	2,006	2,012	12,513	11,424	23,937	0·7	0·7	0·7	0·8

* Increase due to the formation of a new taluk of Kalyandrug.

No. XI.—*Births registered according to Months and Classes in the districts of the Madras Presidency during the year* 1895.

1	2	3												4	5					6				
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Births.	Births registered according to classes.					Ratio of births per mille of population.				
															Christians. Native	Muhammadans.	Hindus.	Other classes.	Total.	Christians. Native	Muhammadans.	Hindus.	Other classes.	Total.
1	Anantapur	1,521	1,273	1,481	1,647	1,970	1,974	2,098	2,036	1,935	2,080	1,897	1,849	21,761	22	1,451	20,284	4	21,761	16·0	27·9	30·1	12·2	29·9
2	Bellary	2,134	2,060	2,638	2,514	3,015	3,029	3,136	2,333	2,691	2,788	2,499	2,404	31,841	118	3,283	28,440	...	31,841	34·0	37·7	35·6	...	35·7
3	Chingleput	3,355	2,669	2,759	2,886	3,608	3,749	4,378	4,569	4,862	4,956	4,194	4,111	46,096	337	596	45,162	1	46,096	21·1	21·9	39·0	2·8	38·4
4	Coimbatore	4,432	3,995	4,665	4,505	5,111	4,568	5,267	5,039	5,378	5,194	5,348	4,801	58,303	356	993	56,948	6	58,303	24·3	22·6	29·3	19·0	29·1
5	Cuddapah	2,434	2,396	2,752	2,989	3,102	2,857	3,126	3,243	3,581	3,428	3,466	3,132	36,506	286	3,763	32,457	...	36,506	30·5	31·5	28·4	...	28·7
6	Ganjám	2,565	2,158	2,631	2,663	2,809	2,737	3,028	3,167	3,371	2,995	2,446	2,353	32,923	23	51	32,849	...	32,923	9·5	9·2	17·4	...	17·3
7	Gódávari	3,652	3,384	3,039	2,877	4,005	4,577	4,889	5,277	4,818	4,777	4,617	4,684	50,596	188	773	49,635	...	50,596	23·1	18·8	24·5	...	24·3
8	Kistna	3,817	3,154	3,646	3,796	5,512	5,740	6,448	5,924	6,800	5,794	6,273	5,451	62,355	1,147	3,267	57,931	10	62,355	16·9	30·0	34·5	63·3	33·6
9	Kurnool	1,658	1,593	1,944	2,158	2,539	2,601	2,650	2,673	2,615	2,586	2,227	2,161	27,405	572	3,217	23,616	...	27,405	25·3	33·0	33·8	...	33·5
10	Madras	1,281	1,160	1,398	1,338	1,451	1,499	1,689	1,828	1,866	1,851	1,601	1,599	18,561	981	2,400	15,177	3	18,561	41·6	45·1	42·3	5·0	42·5
11	Madura	3,874	3,733	4,055	3,993	3,904	3,676	4,685	3,932	3,968	4,176	4,145	4,317	48,458	1,139	1,948	45,370	1	48,458	26·9	26·5	31·1	1·0	30·8
12	Malabar	4,788	4,911	5,194	5,453	5,975	5,967	6,179	5,455	5,150	5,289	4,653	4,294	63,308	1,292	19,192	42,819	5	63,308	30·5	25·3	23·3	6·4	24·0
13	Nellore	3,124	2,857	2,859	2,992	3,033	3,121	3,239	3,528	3,604	3,701	3,522	3,162	38,742	347	1,287	37,108	...	38,742	7·4	16·5	27·7	...	26·5
14	Nilgiris	200	235	253	256	238	256	262	229	224	233	193	187	2,766	251	96	2,419	...	2,766	29·2	20·9	28·9	...	28·5
15	North Arcot	4,570	3,952	4,062	4,138	4,429	4,875	6,044	6,117	5,817	5,972	5,106	5,078	60,160	164	2,184	57,793	19	60,160	11·6	22·9	28·9	2·3	28·5
16	Salem	4,490	4,131	4,824	5,044	5,227	4,928	6,126	5,638	5,929	5,900	5,479	4,876	62,592	328	1,857	60,407	...	62,592	18·6	30·2	32·1	...	31·9
17	South Arcot	4,640	3,655	4,192	4,270	5,272	5,959	7,748	7,647	7,925	7,551	6,353	5,872	71,084	1,189	1,268	68,584	43	71,084	21·9	21·6	33·5	7·6	32·8
18	South Canara	2,708	2,504	2,954	2,785	2,944	3,091	3,169	2,530	2,130	2,120	2,084	2,679	31,698	2,035	2,666	26,775	222	31,698	28·7	24·6	31·0	21·6	30·1
19	Tanjore	4,421	4,017	4,681	4,701	4,926	4,681	5,599	6,416	7,698	6,955	5,752	5,523	64,770	2,075	3,230	59,464	1	64,770	24·6	27·1	29·4	1·7	29·1
20	Tinnevelly	4,666	4,146	4,651	4,612	4,676	4,692	4,972	4,840	4,925	5,396	5,108	4,934	57,618	3,572	3,151	50,894	1	57,618	24·5	32·8	30·4	3·1	30·1
21	Trichinopoly	3,084	2,876	3,281	3,275	3,277	3,172	3,837	3,572	3,650	3,693	3,426	3,334	40,477	2,073	897	37,507	...	40,477	29·9	23·4	29·7	...	29·5
22	Vizagapatam	3,601	3,015	3,426	3,536	3,964	4,235	4,623	5,044	4,665	4,449	4,056	3,978	48,552	39	213	48,300	...	48,552	19·3	10·5	26·9	...	26·7
	Total, Madras Presidency ...	71,015	63,874	71,385	72,428	80,987	81,984	93,192	91,597	93,002	91,884	84,445	80,779	976,572	18,534	57,783	899,939	316	976,572	24·1	26·9	29·4	10·6	29·1
	Ratio per mille of population ...	2·1	1·9	2·1	2·2	2·4	2·5	2·8	2·7	2·8	2·7	2·5	2·4	29·1										

No. XII.—*Births and Deaths registered among Europeans and Eurasians from different causes in each district of the Madras Presidency and the number of born dead among all classes during the year* 1895.

| 1 | 2 | 3 | | | 4 | | 5 | | 6 | | 7 | | | 8 | | | | | | | | | | | | | | |

Return showing the Births and Deaths registered in the

Districts.	Municipal towns.	Population according to Census of 1891.	Births. Class. Europeans.	Eurasians.	Native Christians.	Hindus.	Muhammadans.	Other Classes.	Total births. M.	F.	Total.	Deaths. Class. Europeans.	Eurasians.	Native Christians.	Hindus.	Muhammadans.	Other Classes.	Total deaths. M.	F.	Total.
Ganjám ...	Chicacole ...	18,241	...	1	5	382	8	...	203	193	396	...	1	2	446	28	...	238	233	471
	Berhampur ...	25,633	1	...	14	586	18	1	308	312	620	2	1	6	574	34	3	355	265	620
	Parlakimedi ...	16,390	...	...	1	512	14	...	268	259	527	...	...	...	349	6	...	189	166	355
Vizagapatam.	Vizagapatam ...	34,487	8	24	9	1,100	84	...	585	640	1,225	5	25	17	884	84	...	517	498	1,015
	Bimlipatam ...	9,827	1	2	2	297	3	...	158	147	305	2	1	2	215	10	...	111	119	230
	Vizianagram ...	30,881	...	...	1	820	26	...	451	396	847	...	...	1	760	24	...	421	364	785
	Anakápalle ...	17,010	...	...	1	590	2	...	326	267	593	...	...	...	456	5	...	271	190	461
Gódávari ...	Cocanada ...	40,553	1	7	6	770	34	...	403	415	818	1	9	2	661	28	...	364	337	701
	Rajahmundry ...	28,397	...	3	6	919	62	1	551	440	991	...	2	6	862	50	1	486	435	921
	Ellore ...	29,382	1	1	6	684	118	...	432	378	810	...	3	13	536	91	...	344	299	643
Kistna ...	Masulipatam ...	38,809	4	...	15	1,130	145	...	658	636	1,294	...	2	9	932	121	...	557	507	1,064
	Guntúr ...	23,359	...	2	7	591	257	...	426	431	857	...	2	11	450	155	...	310	308	618
	Bezwada ...	20,741	3	7	6	573	95	12	372	324	696	3	4	9	489	69	4	296	282	578
Nellore ...	Nellore ...	29,336	...	8	17	724	164	...	471	442	913	...	...	8	491	122	...	351	270	621
	Ongole ...	10,860	...	5	30	301	46	...	189	193	382	...	3	18	196	39	...	128	128	256
Madras ...	Madras ...	452,518	100	476	981	15,177	2,400	3	9,767	9,370	19,137	92	395	797	13,615	2,159	3	8,509	8,543	17,052
Chingleput ...	Conjeeveram ...	42,548	...	...	2	1,590	40	...	809	823	1,632	...	...	...	1,397	31	...	695	733	1,428
South Arcot.	Cuddalore ...	47,355	4	9	23	1,672	53	...	861	900	1,761	1	8	6	994	18	2	512	517	1,029
	Chidambaram ...	18,640	...	1	...	405	41	1	218	230	448	...	...	...	627	29	...	351	305	656
Trichinopoly	Trichinopoly ...	90,609	6	27	267	1,551	265	...	1,078	1,038	2,116	4	22	258	1,585	268	...	1,130	1,007	2,137
	Srirangam ...	21,632	...	...	3	740	1	...	393	351	744	1	...	1	725	...	...	378	349	727
Tanjore ...	Tanjore ...	54,390	...	2	165	1,338	103	...	840	768	1,608	...	2	116	1,185	86	...	718	671	1,389
	Kumbakónam ...	54,307	1	...	43	1,678	71	1	901	893	1,794	...	...	40	1,597	56	1	838	856	1,694
	Mayavaram ...	23,765	...	...	16	759	18	...	411	382	793	...	...	11	967	4	...	317	305	622
	Negapatam ...	59,221	...	18	201	1,271	430	...	986	934	1,920	...	11	169	1,165	409	...	849	905	1,754
	Mannárgudi ...	20,395	...	...	16	722	31	...	406	363	769	...	...	4	527	17	...	294	254	548
Madura ...	Madura	87,428	2	10	87	2,326	115	...	1,256	1,284	2,540	1	2	13	2,145	123	...	1,116	1,168	2,284
	Periyakulam ...	16,363	...	...	54	557	70	...	340	341	681	...	...	26	539	43	...	305	303	608
	Dindigul	20,203	2	3	135	630	93	...	475	388	863	1	...	52	332	53	...	238	200	438
	Palni	16,940	...	...	11	425	25	2	241	252	493	...	...	7	392	33	1	207	226	433
Tinnevelly ...	Tinnevelly ...	24,768	...	...	8	818	57	...	435	448	883	...	...	8	735	50	...	786	407	93
	Palamcottah ...	18,686	3	...	67	538	19	...	321	306	627	1	...	51	429	19	...	259	241	500
	Tuticorin	25,107	1	3	292	464	29	1	424	366	790	1	4	241	511	30	...	412	375	787
	Srivilliputtur ...	29,541	...	...	8	772	4	...	395	389	784	...	...	6	506	3	...	255	260	515
Kurnool ...	Kurnool	24,376	1	...	7	353	480	...	414	427	841	3	...	6	328	408	...	357	388	745
Cuddapah ...	Cuddapah ...	17,379	...	...	3	160	226	3	216	176	392	1	1	4	297	259	11	310	263	573
Bellary ...	Bellary	59,467	9	11	97	1,136	657	...	934	976	1,910	6	8	53	936	515	...	742	776	1,518
	Ádóni	26,243	...	1	...	721	451	...	591	582	1,173	...	...	...	371	249	...	324	206	620
Anantapur ...	Anantapur ...	6,994	...	1	2	170	97	11	147	134	281	1	...	1	89	24	1	65	51	116
North Arcot.	Vellore ...	44,925	2	8	47	1,148	416	...	835	786	1,621	1	3	22	744	290	...	524	536	1,060
	Gudiyáttam ...	18,747	...	...	1	626	127	...	381	373	754	...	...	1	384	58	...	210	233	443
	Wálajanet ...	10,485	...	1	...	314	36	...	187	164	351	...	...	...	278	29	...	161	146	307
	Tirupati	14,242	...	...	1	406	25	...	205	227	432	...	...	...	404	9	...	223	190	413
Salem ...	Salem	67,710	2	3	57	2,423	179	...	1,369	1,295	2,664	...	...	24	1,279	111	...	712	702	1,414
	Vániyambádi ...	15,838	...	...	...	386	453	...	431	408	839	...	...	1	219	234	...	222	232	454
	Tiruppattúr ...	16,499	...	1	7	418	329	...	365	390	755	...	...	4	251	143	...	212	186	398
Coimbatore.	Coimbatore ...	46,383	...	9	92	1,663	109	...	951	922	1,873	...	3	82	1,145	61	...	668	623	1,291
	Erode	12,330	...	2	20	353	59	...	217	217	434	...	...	9	263	28	...	153	147	300
	Karúr	10,750	1	1	22	337	44	...	213	192	405	...	...	14	268	24	...	150	156	306
Nilgiris ...	Ootacamund ...	15,053	13	30	132	271	56	...	241	261	502	13	8	75	206	52	...	180	174	354
	Coonoor	6,949	5	5	60	150	19	...	111	108	219	6	3	42	94	24	...	91	78	169
South Canara.	Mangalore ...	40,922	6	1	321	675	201	...	597	607	1,204	3	...	292	596	167	...	544	514	1,058
Malabar ...	Tellicherry ...	27,196	1	18	59	446	422	...	501	445	946	1	8	55	319	299	...	353	329	682
	Calicut ...	66,078	2	34	94	1,369	1,036	1	1,317	1,219	2,536	1	35	70	1,086	898	...	1,069	1,030	2,099
	Palghat ...	39,481	2	4	62	1,249	248	...	856	779	1,615	...	...	32	932	159	...	564	559	1,123
	Cochin ...	17,601	1	51	421	88	94	...	345	310	655	2	19	251	110	82	...	238	226	464
	Cannanore ...	27,418	1	14	112	408	620	1	581	575	1,156	1	7	60	296	419	1	396	388	784
	Total ...	2,130,508	184	804	4,122	58,712	11,355	38	38,343	36,872	75,215	154	592	3,008	48,803	8,830	28	31,196	30,219	61,415

Municipalities of the Madras Presidency during the year 1895.

Districts.	Municipal towns.	Deaths. Causes of death. Cholera. M.	F.	Small-pox. M.	F.	Fevers. M.	F.	Dysentery and diarrhœa. M.	F.	Injuries. Suicides M.	F.	Wounds or accidents. M.	F.	Snake-bite. M.	F.	Killed by wild beasts. M.	F.	All other causes. M.	F.	Still-birth or born dead. M.	F.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	Births.	Deaths.	Average ratio per mille of population for previous five years ending 1894. Births.	Deaths.
Ganjám ...	Chicacole ...	...	...	...	...	94	79	35	28	...	...	1	...	...	2	...	...	108	124	3	2	...	...	9·5	3·4	0·2	12·7	21·7	25·8	24·5	22·3
	Berhampur ...	...	...	...	...	110	91	48	33	...	1	...	1	...	1	...	...	196	138	12	15	...	...	0·04	7·8	3·2	0·1	13·0	24·2	24·2	24·9	20·6
	Parlakimedi ...	...	...	1	...	29	17	...	...	...	...	...	...	...	...	...	...	79	72	...	...	...	...	0·1	9·5	2·8	...	9·2	32·1	21·6	53·7	21·6
Vizagapatam.	Vizagapatam ...	...	...	...	2	81	75	...	...	...	...	2	...	1	...	...	...	191	154	1	1	...	...	0·1	8·5	10·4	0·4	10·0	35·5	29·4	34·3	28·2
	Bimlipatam ...	...	...	1	3	148	146	166	191	1	...	6	4	4	...	...	...	58	67	4	6	..	...	5·3	5·0	0·4	12·7	31·0	23·4	32·8	29·9
	Vizianagram ...	...	...	...	...	24	28	25	24	1	...	2	...	1	...	...	...	187	166	...	...	...	...	0·1	11·4	2·2	0·3	11·4	27·4	25·4	29·5	25·7
	Anakápalle ...	...	...	1	1	190	162	37	31	..	...	5	3	..	1	1	...	142	108	...	...	...	...	...	8·9	3·0	0·5	14·7	34·8	27·1	35·9	28·4
Gódávari ...	Cocanada ...	...	...	...	...	100	51	24	28	...	...	4	3	1	...	...	...	142	108	...	...	...	...	...	8·9	3·0	0·5	14·7	34·8	27·1	35·9	28·4
	Rajahmundry ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Ellore ...	...	...	10	8	51	57	50	39	1	1	4	2	...	...	...	1	248	229	6	9	...	...	0·4	2·7	2·2	0·2	11·8	20·2	17·3	24·9	24·8
		...	...	13	12	132	144	75	70	1	1	9	7	2	1	...	...	254	200	12	8	...	...	0·9	2·7	5·1	0·7	16·0	34·9	32·4	32·3	31·7
Kistna ...	Masulipatam ...	...	...	7	6	50	63	31	23	1	3	5	4	...	...	...	...	250	200	12	13	...	...	0·5	3·8	1·8	0·5	15·3	27·6	21·9	27·1	25·9
	Guntúr ...	...	...	...	...	117	137	38	41	2	1	8	7	...	1	...	...	392	320	43	44	...	...	6·5	2·0	0·5	18·4	33·3	27·4	30·1	28·4
	Bezwada ...	...	...	...	...	77	129	15	14	...	1	9	11	...	...	...	...	209	153	27	21	...	...	8·8	1·2	0·9	15·5	36·7	26·4	33·6	29·4
Nellore ...	Nellore ...	...	...	...	...	58	71	38	22	...	3	11	3	...	...	...	...	189	183	32	22	...	...	6·2	2·9	0·8	18·0	33·6	27·9	40·2	44·4
	Ongole ...	...	...	...	...	93	59	9	7	1	2	1	4	3	1	...	...	244	198	10	18	...	...	5·2	0·5	0·4	15·1	31·1	21·2	26·2	23·1
Madras ...	Madras ...	...	...	...	1	24	32	8	8	...	...	2	3	...	...	1	...	93	84	11	13	...	0·1	5·2	1·5	0·5	16·3	35·2	23·6	32·9	24·6
Chingleput ...	Conjeeveram ...	84	38	3	...	2,959	3,306	1,064	1,140	11	4	94	65	...	2	...	...	4,294	3,988	276	237	0·3	0·01	13·8	4·9	6·4	18·3	42·3	37·7	40·5	44·9
South Arcot.	Cuddalore ...	38	37	6	5	194	166	78	89	...	1	2	...	...	1	1	...	376	434	44	32	2·8	0·3	8·5	3·9	0·1	19·0	38·3	33·6	38·6	33·0
	Chidambaram ...	30	21	8	7	128	148	47	62	3	...	5	4	4	...	...	...	287	274	61	46	1·1	0·3	5·8	2·3	0·3	11·9	39·3	21·7	29·3	21·2
Trichinopoly	Trichinopoly ...	117	99	5	2	105	85	20	18	...	...	7	3	...	...	...	2	97	96	32	25	11·6	0·4	10·2	2·0	0·6	10·4	24·0	35·2	26·7	29·6
	Srirangam ...	155	144	2	6	333	333	185	151	1	1	17	11	2	1	...	...	435	360	13	10	3·3	0·1	7·3	3·7	0·4	8·8	23·3	23·6	22·5	29·8
Tanjore ...	Tanjore	39	31	...	...	87	71	21	22	...	...	2	3	1	1	...	...	229	220	13	11	3·2	...	7·3	2·0	0·3	20·8	34·4	33·6	31·4	32·7
	Kumbakónam ...	47	33	4	7	133	174	163	131	...	...	6	6	...	...	...	...	365	320	45	35	1·5	0·2	5·6	5·4	0·2	12·6	29·6	25·5	28·8	29·8
	Mayavaram ...	31	24	7	4	169	202	98	95	...	...	7	4	1	...	...	...	525	527	67	55	1·0	0·2	6·8	3·6	0·2	19·4	33·0	31·2	29·5	33·5
	Negapatam ...	13	4	1	4	60	73	25	25	...	...	...	...	1	1	...	...	217	198	16	28	0·7	0·2	5·0	2·1	0·1	17·5	39·4	26·2	32·0	30·0
	Mannárgudi ...	4	1	...	2	68	62	45	29	...	...	5	2	2	1	...	...	172	157	23	20	0·1	0·1	6·4	3·6	0·5	16·1	37·7	26·8	30·2	29·7
Madura ...	Madura	18	9	5	8	209	194	103	110	5	4	12	6	...	3	...	...	763	835	1	1	0·3	0·1	4·7	2·4	0·3	18·3	29·0	26·1	34·5	32·0
	Periyakulam ...	53	62	...	...	60	51	35	49	...	1	4	1	...	...	...	...	153	139	9	3	7·0	...	6·8	5·1	0·4	17·8	41·6	37·1	38·0	32·8
	Dindigul	1	3	...	...	52	32	19	35	...	...	2	8	...	...	...	...	164	122	7	3	0·2	...	4·1	2·7	0·5	14·2	42·7	21·7	48·5	27·9
	Palni	10	13	2	5	39	30	24	22	1	...	7	3	1	...	...	...	153	123	...	...	1·3	0·4	4·1	2·7	0·7	16·3	29·1	25·5	41·9	35·5
Tinnevelly ...	Tinnevelly ...	31	29	1	...	52	62	53	61	...	2	...	3	1	...	...	...	248	250	8	14	2·4	0·04	4·6	4·6	0·2	20·1	35·6	33·0	34·0	34·6
	Palamcottah ...	34	24	2	2	43	33	18	12	...	1	...	2	...	...	...	...	162	167	1	5	3·1	0·2	4·1	1·6	0·1	17·6	33·5	26·7	33·4	28·5
	Tuticorin	10	9	1	...	127	124	81	76	...	...	6	1	...	...	...	...	187	185	...	...	0·7	0·04	10·0	6·2	0·3	14·0	31·4	31·3	32·0	35·6
	Srivilliputtur ...	1	1	2	2	89	87	18	25	1	...	3	6	2	...	...	...	139	139	3	2	0·1	0·1	5·9	1·5	0·4	9·4	26·5	17·4	...	...
Kurnool ...	Kurnool	2	...	...	...	30	20	1	...	...	...	2	3	...	...	...	...	32	28	...	...	...	...	7·2	0·1	0·7	8·6	40·2	16·6	34·9	28·1
Cuddapah ...	Cuddapah ...	17	29	1	2	157	171	16	9	...	...	1	1	...	2	...	...	164	175	14	2	1·9	0·1	13·4	1·0	0·2	13·9	34·5	30·5	31·0	34·8
Bellary ...	Bellary	...	...	...	2	...	167	147	16	14	1	1	4	3	1	1	...	119	97	22	16	...	0·1	18·1	1·7	0·6	12·4	22·6	32·9	19·9	37·8
	Ádóni	32	21	...	1	232	258	57	59	1	...	19	16	1	1	...	...	400	420	5	7	0·9	0·02	8·2	2·0	0·6	13·8	32·1	25·5	32·7	29·4
Anantapur ...	Anantapur ...	2	...	...	...	132	104	...	2	2	...	3	...	...	...	...	...	185	190	...	...	0·1	...	8·9	0·1	0·2	14·3	44·7	23·6	34·3	29·0
North Arcot.	Vellore ...	...	...	...	...	30	20	1	...	...	...	2	3	...	...	...	...	32	28	...	...	...	...	7·2	0·1	0·7	8·6	40·2	16·6	34·9	28·1
	Gudiyáttam ...	...	...	27	26	173	176	55	61	2	1	3	3	1	...	...	...	263	269	17	22	...	1·2	7·8	2·6	0·2	11·8	36·1	23·6	37·3	25·7
	Wálajanet ...	...	...	4	2	76	110	23	20	2	...	1	...	...	...	...	...	104	101	15	4	...	0·3	9·9	2·3	0·2	10·9	40·2	23·6	29·9	26·8
	Tirupati ...	...	...	...	...	60	58	9	17	...	...	1	4	1	...	...	...	80	63	2	8	1·3	...	11·3	2·5	0·6	13·6	33·5	29·3	30·4	28·7
Salem ...	Salem	10	4	...	...	76	88	34	11	2	1	2	1	...	...	...	...	105	88	6	6	0·3	...	11·5	3·2	0·4	13·6	30·3	29·0	27·7	31·8
	Vániyambádi ...	4	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Tiruppattúr ...	7	10	...	1	213	223	41	41	1	...	2	4	...	1	...	...	448	422	11	18	0·2	0·01	6·4	1·2	0·1	12·9	39·3	20·9	35·5	25·9
Coimbatore.	Coimbatore ...	...	...	...	1	78	97	6	7	...	...	2	1	1	...	...	...	134	125	2	...	...	0·2	11·0	0·8	0·3	16·4	53·0	28·7	44·4	31·7
	Erode	...	...	...	...	94	79	8	5	...	1	2	...	...	...	...	...	108	101	8	5	...	...	10·5	0·8	0·2	12·6	45·7	24·1	39·8	29·2
	Karúr	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nilgiris ...	Ootacamund ...	...	...	...	2	10	156	170	73	58	4	3	9	4	1	...	...	423	378	4	1	...	0·3	7·0	2·8	0·4	17·3	40·4	27·8	39·6	30·6
	Coonoor	...	...	...	...	25	41	18	12	...	1	1	2	2	...	...	...	107	91	...	...	...	...	5·4	2·4	0·5	16·0	35·2	24·3	34·0	31·1
South Canara.	Mangalore ...	1	...	1	1	51	63	37	45	...	...	4	2	...	...	...	...	56	45	2	3	0·1	0·2	10·6	7·6	0·6	9·4	37·7	28·5	40·7	33·8
Malabar ...	Tellicherry ...	...	...	...	...	80	58	14	18	...	1	1	2	...	...	...	...	85	95	...	...	...	...	9·2	2·1	0·3	11·9	33·3	23·5	32·7	25·6
	Calicut ...	...	...	...	...	17	20	13	10	...	...	2	...	...	...	...	...	59	48	...	...	...	...	6·1	3·8	0·3	17·7	36·2	27·9	30·4	36·1
	Palghat ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cochin ...	...	...	...	...	157	148	63	86	...	...	6	5	1	...	...	...	317	275	16	9	...	...	7·4	3·6	0·3	14·5	29·4	25·8	32·8	26·0
	Cannanore ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malabar ...	Tellicherry ...	...	...	...	...	112	96	54	29	1	1	4	3	...	...	...	...	182	200	33	19	...	...	7·7	3·1	0·3	14·0	34·8	25·1	32·6	24·2
	Calicut ...	...	...	...	...	177	147	186	184	1	..	3	1	...	...	...	...	691	698	62	62	0·01	0·01	4·9	5·6	0·1	21·0	38·4	31·6	34·2	37·9
	Palghat ...	1	...	1	...	116	112	80	60	...	...	5	5	3	1	...	...	356	377	...	...	0·2	...	5·8	3·5	0·3	18·6	40·9	28·4	33·1	27·9
	Cochin ...	4	4	...	...	38	31	16	14	...	...	3	...	...	...	...	...	174	171	23	23	0·9	0·05	3·9	1·7	0·2	19·6	37·2	26·4	34·3	38·4
	Cannanore ...	6	10	1	...	136	111	46	49	1	...	1	1	1	...	...	...	211	226	...	1	...	0·04	9·0	3·5	0·2	15·9	42·2	28·6	32·0	26·1
	Total ...	802	665	122	133	9,058	9,358	3,659	3,611	49	37	341	246	40	24	3	3	17,121	16,143	1,050	919	0·7	0·1	8·6	3·4	0·4	15·6	35·3	28·8	33·9	32·8

* According to the returns received from the Guntur Municipality the number of deaths from 'fevers' during 1895 is 206 while according to the returns received from the Collector of Kistna 32 of these are shown under Small-pox and 174 under Fevers.

Return showing the Births and Deaths registered in the Municipalities of the Madras Presidency during the year 1895.

Districts.	Municipal towns.	Population according to Census of 1891.	Births. Class. Europeans.	Eurasians.	Native Christians.	Hindus.	Muhammadans.	Other Classes.	Total births. M.	F.	Total.	Deaths. Class. Europeans.	Eurasians.	Native Christians.	Hindus.	Muhammadans.	Other Classes.	Total deaths. M.	F.	Total.
Ganjám	Chicacole	18,241	...	1	5	382	8	...	203	193	396	...	1	2	449	28	...	238	233	471
	Berhampur	25,653	1	...	14	586	18	1	308	312	620	2	1	6	574	34	3	355	265	620
	Parlákimedi	16,390	...	...	1	512	14	...	268	259	527	...	...	...	349	6	...	189	166	355
Vizagapatam.	Vizagapatam	34,487	8	24	9	1,100	84	...	585	640	1,225	5	25	17	884	84	...	517	498	1,015
	Bimlipatam	9,827	1	2	2	297	3	...	158	147	305	2	1	2	215	16	...	111	119	230
	Vizianagram	30,881	...	...	1	820	26	...	451	396	847	...	...	1	760	24	...	421	364	785
	Anakápalle	17,010	...	...	1	590	2	...	326	267	593	...	...	...	456	5	...	271	190	461
Gódávari	Cocanada	40,553	1	7	6	770	34	...	403	415	818	1	9	2	661	28	...	364	337	701
	Rajahmundry	28,397	...	3	6	919	62	1	551	440	991	...	2	6	862	59	1	486	435	921
	Ellore	29,382	1	1	6	684	118	...	432	378	810	...	3	13	536	91	...	344	299	643
Kistna	Masulipatam	38,809	4	...	15	1,130	145	...	658	636	1,294	...	2	9	932	121	...	557	507	1,064
	Guntúr	23,359	...	2	7	591	257	...	426	431	857	...	2	11	450	155	...	310	308	618
	Bezwada	20,741	3	7	6	573	95	12	372	324	696	3	4	9	489	69	4	296	282	578
Nellore	Nellore	29,336	...	8	17	724	164	...	471	442	913	...	...	8	491	122	...	351	270	621
	Ongole	10,860	...	5	30	301	46	...	189	193	382	...	3	18	196	39	...	128	128	256
Madras	Madras	452,518	100	476	981	15,177	2,400	3	9,767	9,370	19,137	92	395	797	13,615	2,150	3	8,509	8,543	17,052
Chingleput	Conjeeveram	42,548	...	...	2	1,590	40	...	809	823	1,632	...	...	...	1,397	31	...	695	733	1,428
South Arcot.	Cuddalore	47,355	4	9	23	1,672	53	...	861	900	1,761	1	8	6	994	18	2	512	517	1,029
	Chidambaram	18,640	...	1	...	405	41	1	218	230	448	...	...	...	627	29	...	351	305	656
Trichinopoly	Trichinopoly	90,609	6	27	267	1,551	265	...	1,078	1,038	2,116	4	22	258	1,585	268	...	1,130	1,007	2,137
	Srirangam	21,632	...	...	3	740	1	...	393	351	744	1	...	1	725	...	...	378	349	727
Tanjore	Tanjore	54,390	...	2	165	1,338	103	...	840	768	1,608	...	2	116	1,185	86	...	718	671	1,389
	Kumbakónam	54,307	1	...	43	1,678	71	1	901	893	1,794	...	...	40	1,597	56	1	838	856	1,694
	Mayavaram	23,765	...	...	16	759	18	...	411	382	793	...	...	11	697	4	...	317	305	622
	Negapatam	59,221	...	18	201	1,271	430	...	986	934	1,920	...	11	169	1,165	409	...	849	905	1,754
	Mannárgudi	20,395	...	...	16	722	31	...	406	363	769	...	...	4	527	17	...	294	254	548
Madura	Madura	87,428	2	10	87	2,326	115	...	1,256	1,284	2,540	1	2	13	2,145	123	...	1,116	1,168	2,284
	Periyakulam	16,363	...	...	54	557	70	...	340	341	681	...	...	26	539	43	...	305	303	608
	Dindigul	20,203	2	3	135	630	93	...	475	388	863	1	...	52	332	53	...	238	200	438
	Palni	16,940	...	...	11	425	55	2	241	252	493	...	...	7	392	33	1	237	196	433
Tinnevelly	Tinnevelly	24,768	...	...	8	818	57	...	435	448	883	...	...	8	735	50	...	786	407	93
	Palamcottah	18,686	3	...	67	558	16	...	321	306	627	1	...	51	429	19	...	259	241	500
	Tuticorin	25,107	1	3	292	464	29	1	424	366	790	1	4	241	511	30	...	412	375	787
	Srivilliputtur	29,541	...	...	8	772	4	...	395	389	784	...	...	6	506	3	...	255	260	515
Kurnool	Kurnool	24,376	1	...	7	353	480	...	414	427	841	3	...	6	328	408	...	357	388	745
Cuddapah	Cuddapah	17,379	...	...	3	160	226	3	216	176	392	1	1	4	297	259	11	310	263	573
Bellary	Bellary	59,467	9	11	97	1,136	657	...	934	976	1,910	6	8	53	936	515	...	742	776	1,518
	Ádóni	26,243	...	1	...	721	451	...	591	582	1,173	...	...	...	371	249	...	324	296	620
Anantapur	Anantapur	6,994	...	1	2	170	97	11	147	134	281	1	...	1	89	24	1	65	51	116
North Arcot.	Vellore	44,925	2	8	47	1,148	416	...	835	786	1,621	1	3	22	744	290	...	524	536	1,060
	Gudiyáttam	18,747	...	...	1	626	127	...	381	373	754	...	...	1	384	58	...	210	233	443
	Walajapet	10,485	...	1	...	314	86	...	187	164	351	...	...	...	278	29	...	161	146	307
	Tirupati	14,242	...	...	1	406	25	...	205	227	432	...	...	...	404	9	...	223	190	413
Salem	Salem	67,710	2	3	57	2,423	179	...	1,369	1,295	2,664	...	...	24	1,279	111	...	712	702	1,414
	Vániyambádi	15,838	...	...	...	886	453	...	451	408	859	...	...	1	219	234	...	222	232	454
	Tiruppattúr	16,499	...	1	7	418	329	...	365	390	755	...	...	4	251	143	...	212	186	398
Coimbatore.	Coimbatore	46,383	...	9	92	1,663	109	...	951	922	1,873	...	3	82	1,145	61	...	668	623	1,291
	Erode	12,330	...	2	20	353	59	...	217	217	434	...	...	9	263	28	...	153	147	300
	Karúr	10,750	1	1	22	337	44	...	213	192	405	...	...	14	268	24	...	150	156	306
Nilgiris	Ootacamund	15,053	13	30	132	271	56	...	241	261	502	13	8	75	206	52	...	180	174	354
	Coonoor	6,049	5	5	60	130	19	...	111	108	219	6	3	42	94	24	...	91	78	169
South Canara.	Mangalore	40,922	6	1	321	675	201	...	597	607	1,204	3	...	292	596	167	...	544	514	1,058
Malabar	Tellicherry	27,196	1	18	59	446	422	...	501	445	946	1	8	55	319	299	...	353	329	682
	Calicut	66,078	2	34	94	1,369	1,036	1	1,317	1,219	2,536	1	35	76	1,086	898	...	1,060	1,030	2,090
	Palghat	39,481	2	4	62	1,259	248	...	836	779	1,615	...	...	32	932	159	...	564	559	1,123
	Cochin	17,601	1	51	421	88	94	...	345	310	655	2	19	251	110	82	...	238	226	464
	Cannanore	27,418	1	14	112	408	620	1	581	575	1,156	1	7	60	296	419	1	396	388	784
	Total	2,130,508	184	804	4,122	58,712	11,355	38	38,343	36,872	75,215	154	592	3,008	48,803	8,830	28	31,196	30,219	61,415

Districts.	Deaths. Causes of death. Cholera. M.	F.	Small-pox. M.	F.	Fevers. M.	F.	Dysentery and diarrhœa. M.	F.	Injuries. Suicides M.	F.	Wounds or accidents. M.	F.	Snake-bite. M.	F.	Killed by wild beasts. M.	F.	All other causes. M.	F.	Still-birth or born dead. M.	F.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	All other causes.	Births.	Deaths.	Average ratio per mille of population for previous five years ending 1894. Births.	Deaths.
Ganjám	...	...	...	...	94	79	35	28	...	...	1	...	...	2	...	...	108	124	3	2	...	...	9·5	3·4	0·2	12·7	21·7	25·8	24·5	22·3
	...	...	...	...	110	91	48	33	...	1	...	1	...	1	...	...	196	138	12	15	...	0·04	7·8	3·2	0·1	13·0	24·2	24·2	24·9	20·6
	...	...	1	...	81	75	29	17	...	...	...	...	...	...	...	...	79	72	...	...	...	0·1	9·5	2·8	...	9·2	32·1	21·6	33·7	21·6
Vizagapatam.	...	...	...	2	148	146	166	191	1	...	6	4	4	...	...	...	191	154	1	1	...	0·1	8·5	10·4	0·4	10·0	35·5	29·4	34·3	28·2
	...	...	1	3	24	28	25	24	1	...	2	...	1	...	...	...	58	67	4	6	...	...	5·3	5·0	0·4	12·7	31·0	23·4	32·8	29·9
	...	...	...	...	190	162	37	31	...	...	5	3	...	1	...	...	187	166	...	...	...	0·1	11·4	2·2	0·3	11·4	37·4	25·4	29·5	25·7
	...	...	1	1	100	51	24	28	...	...	4	3	1	...	...	...	142	108	...	...	...	...	8·9	3·0	0·5	14·7	34·8	27·1	35·9	28·4
Gódávari	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Cocanada	...	10	8	51	57	50	39	1	1	4	2	...	...	...	1	248	229	6	9	...	0·4	2·7	2·2	0·2	11·8	20·2	17·3	24·9	24·8
	Rajahmundry	...	13	12	132	144	75	70	1	1	9	7	2	1	...	...	254	200	12	8	...	0·9	9·7	5·1	0·7	16·0	34·9	32·4	32·3	31·7
	Ellore	...	7	6	50	63	31	23	1	3	5	4	...	...	...	...	250	200	12	13	...	0·5	3·8	1·8	0·5	15·3	27·6	21·9	27·1	25·9
Kistna	...	...	...	...	117	137	38	41	2	1	8	7	...	1	...	...	392	320	43	44	...	...	6·5	2·0	0·5	18·4	33·3	27·4	30·1	28·4
	...	...	...	...	77	129	15	14	...	1	9	11	...	...	...	...	209	153	27	21	...	...	8·8	1·2	0·9	15·5	36·7	26·4	33·6	29·4
	...	...	...	...	58	71	38	22	...	3	11	3	...	...	...	...	189	183	32	22	...	...	6·2	2·9	0·8	18·0	33·6	27·9	40·2	44·4
Nellore	...	...	...	...	93	59	9	7	1	2	1	4	3	1	...	...	244	198	10	18	...	...	5·2	0·5	0·4	15·1	31·1	21·2	26·2	23·1
	...	...	...	1	24	32	8	8	...	...	2	3	...	...	1	...	93	84	11	13	...	0·1	5·2	1·5	0·5	16·3	35·2	23·6	32·9	24·6
Madras	...	...	...	...	2,959	3,306	1,064	1,140	11	4	94	65	...	2	...	...	4,204	3,988	276	237	0·8	0·01	13·8	4·9	0·4	18·3	42·3	37·7	40·5	44·9
Chingleput	84	38	3	...	194	166	78	89	...	1	2	...	...	1	1	...	376	434	44	32	1·8	0·3	8·5	3·9	0·1	19·0	38·3	33·6	38·6	33·0
South Arcot.	38	37	6	5	128	148	47	62	3	...	5	4	4	...	...	...	287	274	61	46	1·1	0·3	5·8	2·3	0·3	11·2	39·3	21·7	29·3	21·2
	30	21	8	7	105	85	20	18	...	...	7	3	...	...	...	2	97	96	32	25	11·6	0·4	10·2	2·0	0·6	10·4	24·0	35·2	26·7	29·6
Trichinopoly	117	99	5	2	333	333	185	151	1	1	17	11	2	1	...	...	435	360	13	10	3·3	0·1	7·3	3·7	0·4	8·8	23·3	23·6	22·5	29·8
	155	144	2	6	87	71	21	22	...	...	2	3	1	1	...	...	229	220	13	11	3·2	...	7·3	2·0	0·3	20·8	34·4	33·6	31·4	32·7
Tanjore	39	31	...	...	133	174	163	131	...	...	6	6	...	...	...	...	365	320	45	35	1·5	0·2	5·6	5·4	0·2	12·6	29·6	25·5	28·8	20·8
	47	33	4	7	169	202	98	95	...	...	7	4	1	...	...	...	525	527	67	55	1·0	0·2	6·8	3·6	0·2	10·4	33·0	31·2	29·5	33·5
	31	24	7	4	60	73	25	25	...	...	...	...	1	1	...	...	217	198	16	28	0·7	0·2	5·6	2·1	0·1	17·5	32·4	30·2	32·6	30·0
	13	4	1	4	249	273	68	72	1	...	14	5	1	1	...	...	512	550	16	14	0·1	...	8·8	2·4	0·4	17·9	32·4	29·6	27·1	31·7
	4	4	...	...	68	62	45	29	...	...	5	2	2	1	...	...	172	157	23	20	0·1	0·1	6·4	3·6	0·5	16·1	37·7	26·8	30·2	29·7
Madura	2	1	...	2	209	194	103	110	5	4	12	6	...	3	...	...	763	835	1	1	0·3	0·1	4·7	2·4	0·3	18·3	29·6	26·1	34·5	32·0
	18	9	5	8	60	51	35	49	...	1	4	1	...	...	...	...	153	139	9	3	7·0	...	6·8	5·1	0·4	17·8	41·6	37·1	38·0	32·8
	53	62	...	...	52	32	19	35	...	...	2	8	...	...	...	...	164	122	7	3	0·2	...	4·1	2·7	0·5	14·2	42·7	21·7	48·5	27·9
	1	3	...	...	39	30	24	22	1	...	7	3	1	...	...	...	153	123	...	...	1·3	0·4	4·1	2·7	0·7	16·3	29·1	25·5	41·9	35·5
Tinnevelly	10	13	2	5	52	62	53	61	...	2	...	3	1	...	...	...	248	250	8	14	2·4	0·04	4·6	4·6	0·2	20·1	35·6	32·0	34·0	34·6
	31	29	1	...	43	33	18	12	...	1	...	2	...	...	...	...	162	167	1	5	3·1	0·2	4·1	1·6	0·1	17·6	33·5	26·7	33·4	25·5
	34	24	2	2	76	110	23	20	2	...	1	...	...	...	...	...	104	101	15	4	...	0·3	9·9	2·3	0·3	10·9	40·2	23·6	29·2	26·8
	10	9	1	...	127	124	81	76	...	...	6	1	...	...	...	...	187	165	...	...	0·7	0·04	10·0	6·2	0·3	14·0	31·4	31·3	32·0	35·6
	1	1	2	2	89	87	18	25	1	...	3	6	2	...	...	...	139	139	3	2	0·1	0·1	5·9	1·5	0·4	9·4	26·5	17·4	...	...
Kurnool	17	29	1	2	157	171	16	9	...	...	1	1	...	2	...	...	164	175	14	2	1·9	0·1	13·4	1·0	0·2	13·9	34·5	30·5	31·0	34·8
Cuddapah	...	...	2	...	167	147	16	14	1	1	4	3	1	1	...	...	119	97	22	16	...	0·1	18·1	1·7	0·6	12·4	22·6	32·9	19·9	37·8
Bellary	32	21	...	1	232	258	57	59	1	...	19	16	1	1	...	...	400	420	5	7	0·9	0·02	8·2	2·0	0·6	15·8	32·1	25·5	32·7	29·4
	2	...	...	...	132	104	...	2	2	...	3	...	...	...	...	...	185	190	...	...	...	0·1	...	8·9	0·1	0·2	14·3	44·7	23·6	34·3	29·0
Anantapur	...	...	...	...	30	20	1	...	...	...	2	3	...	...	...	...	32	28	...	...	...	...	7·2	0·1	0·7	8·6	40·2	16·6	34·9	28·1
North Arcot.	...	...	27	26	173	176	55	61	2	1	3	3	1	...	...	...	263	269	17	22	...	1·2	7·8	2·6	0·2	11·8	36·1	23·6	37·3	25·7
	...	...	4	2	76	110	23	20	2	...	1	...	...	...	...	...	104	101	15	4	...	0·3	9·9	2·3	0·3	10·9	40·2	23·6	29·2	26·8
	10	4	...	...	60	58	9	17	...	...	1	4	1	...	...	...	80	63	2	8	1·3	...	11·3	2·5	0·6	13·6	33·5	29·3	30·4	28·7
	4	1	...	...	76	88	34	11	2	1	2	1	...	...	...	...	105	88	6	6	0·3	...	11·5	3·2	0·4	13·6	30·3	29·0	27·7	31·8
Salem	7	10	...	1	213	223	41	41	1	...	2	4	...	1	...	...	448	422	11	18	0·2	0·01	6·4	1·2	0·1	12·9	39·3	20·9	35·5	25·9
	...	...	1	2	78	97	6	7	...	...	2	1	1	...	...	...	134	125	2	...	...	0·2	11·0	0·8	0·3	16·4	53·0	28·7	44·4	31·7
	...	...	...	...	94	79	8	5	...	1	2	...	...	...	...	...	108	101	8	5	...	...	10·5	0·8	0·2	12·6	45·7	24·1	39·8	29·2
Coimbatore.	...	...	2	10	156	170	73	58	4	3	9	4	1	...	...	...	423	378	4	1	...	0·3	7·0	2·8	0·4	17·3	40·4	27·8	39·6	30·6
	...	...	...	...	25	41	18	12	...	1	1	2	2	...	...	...	107	91	...	...	...	...	5·4	2·4	0·5	16·0	35·2	24·3	34·0	31·1
	1	...	1	1	51	63	37	45	...	...	4	2	...	...	...	...	56	45	2	3	0·1	0·2	10·6	7·6	0·6	9·4	37·7	28·5	40·7	33·8
Nilgiris	...	...	...	...	80	58	14	18	...	1	1	2	...	...	...	...	85	95	...	...	...	...	9·2	2·1	0·3	11·9	33·3	23·5	32·7	25·6
	...	...	...	...	17	20	13	10	...	...	2	...	...	...	...	...	59	48	...	...	...	...	6·1	3·8	0·3	17·7	36·2	27·9	39·4	36·1
South Canara.	...	...	...	...	157	148	63	86	...	...	6	5	1	...	...	...	317	275	16	9	...	...	7·4	3·6	0·3	14·5	29·4	25·8	32·8	26·0
Malabar	...	...	...	...	112	96	54	29	1	1	4	3	...	...	...	...	182	200	33	19	...	...	7·7	3·1	0·3	14·0	34·8	25·1	32·6	24·2
	1	...	1	...	177	147	186	184	1	...	3	1	...	...	...	...	691	698	62	62	0·01	0·01	4·9	5·6	0·1	21·0	38·4	31·6	34·2	37·9
	4	4	...	...	116	112	80	60	...	...	5	5	3	1	...	...	356	377	...	...	0·2	...	5·8	3·5	0·3	18·6	40·9	28·4	38·1	27·9
	6	10	1	...	38	31	16	14	...	...	3	...	...	...	...	...	174	171	23	23	0·9	0·05	3·9	1·7	0·2	19·6	37·2	26·4	34·3	35·4
	...	...	...	1	136	111	46	49	1	...	1	1	1	...	...	...	211	226	...	1	...	0·04	9·0	3·5	0·2	15·9	42·2	28·6	32·0	26·1
Total	802	665	122	133	9,058	9,358	3,659	3,611	49	37	341	246	40	24	3	3	17,121	16,143	1,050	919	0·7	0·1	8·6	3·4	0·4	15·6	35·3	28·8	33·9	32·8

* According to the returns received from the Guntur Municipality the number of deaths from 'Fevers' during 1895 is 206, while according to the returns received from the Collector of Kistna 32 of these are shown under 'Small-pox' and 174 under 'Fevers.'

PART II.

SANITARY ENGINEERING.

SANITARY ENGINEERING DEPARTMENT.

J. A. JONES, MEM. INST. C.E., F.R.S.E.,
Sanitary Engineer to Government.

THE SIXTH ANNUAL REPORT

OF THE

SANITARY ENGINEER TO THE GOVERNMENT OF MADRAS,

INCLUDING PROCEEDINGS OF THE SANITARY BOARD (ENGINEERING BRANCH),

1895.

THE Sanitary Engineer having returned from furlough resumed charge from Mr. Ellis, the Acting Sanitary Engineer, on the afternoon of 31st January 1895. Mr. Hormusji Nowroji, Assistant Sanitary Engineer to Government, availed himself of privilege leave between the 17th April and 16th July 1895. During that period Mr. Lockyer, Assistant Engineer, Kurnool water-works, acted.

2. The following officers were in charge of works as noted :—

Mr. Minchin, Assistant Engineer ..	Madura (maintenance chiefly). Trichinopoly (construction). Tanjore (do.). Dindigul (do.).
Mr. Lockyer, Assistant Engineer ...	Kurnool (do.).
Mr. Sivasoobramaniya Iyer, Supervisor.	Tanjore (under Mr. Minchin).
Mr. Davey, Supervisor	Adóni (completed). Conjeeveram.

At all the above places works were in progress.

At Madura the water-works have been open since 5th July 1894, but a short piece of main pipe remained to be laid, and could not be so until piping was removed from the old works at the Mayya Mantapam in the river Vaigai; this has since been done and the works are complete.

The Tanjore water-works are practically complete. A supply of water has been available since 15th July 1895, and the works were opened formally by His Excellency the Governor on 22nd October 1895.

The water-works at Adóni are complete. Some water has been supplied since 16th September 1894. The works were formally opened on 23rd September 1895 by Mr. J. H. A. Tremenheere, Collector of the district of Bellary.

The completion of the water-works at Trichinopoly have been delayed by constant river floods since the month of April 1895. Full details will be found in the proper place. The works will be completed early in 1896.

At Kurnool the water-works are in progress; the scheme was finally sanctioned in July 1895 only; full details will be found on a later page.

The construction of water-works for Conjeeveram was sanctioned on 7th June 1895. These are just being undertaken.

3. The Acting Sanitary Engineer in paragraph 6 of last year's report stated that it was proposed to investigate in 1895 the following schemes :—

Salem water-supply.	Cuddapah drainage.
Calicut water-supply.	Tirupati water-supply.
Tinnevelly water-supply.	

The word "Tinnevelly" should have been "Negapatam."

As to Negapatam, the preparation of a scheme involves considerable work over a length of country exceeding 10 miles, and some considerable experience in water-supply schemes is necessary for the investigation. It was found that no officer was available and in the undersigned's letter No. 929 of 3rd April 1895, this was brought to the notice of Government, and it was pointed out that the services of an Assistant Engineer for investigation were very necessary. On this Government passed no orders until the end of the year (received in January 1896), and as no officer was available, it was not possible to do the work. The Sanitary

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Engineer, however, visited Negapatam in view to beginning the investigation, and surveys will be begun before the end of the official year 1895–96.

The scheme for the water-supply of Tirupati was completed and forwarded to the Sanitary Board on 18th October 1895. The scheme has not yet received the approval of the Sanitary Board.

In regard to Salem water-supply, the matter was placed before the Sanitary Board for consideration. The Board considered the matter in June and advised Government to make experiments for obtaining a supply by wells adjacent to the river Vaniar. This proposal Government accepted, and it was remitted to the Public Works Department to make the experiments in question.

The Municipal Council of Calicut at the beginning of the year declined to provide funds for the investigation of any project, but on 20th September 1895 passed a resolution to the following effect:—

"On a careful consideration of the question, the council resolves to accept "the scheme for the supply of water from the Mananchera tank. For the purpose "of testing its yield, a sum of Rs. 500 will be sanctioned from the balance as sug- "gested by the Sanitary Engineer to Government in his letter No. 2417, dated 29th "October 1894."

On this as yet Government has not passed orders. The scheme will be investigated early in 1896.

To the above list Cuddapah drainage was added by Government. The principles on which the scheme was to be designed were left to be settled by the Sanitary Board, which in June decided on a complete system of closed drainage (accompanied by sub-soil drainage) and of disposal by sewage farming. These proposals were approved by Government in G.O., No. 1311 M., dated 12th August 1895, and sanction for a survey staff was obtained in G.O., No. 1641 M., Mis., dated 12th October 1895, this staff is now engaged in making surveys and taking levels, &c. The scheme will be dealt with next year.

4. Out of the five schemes sanctioned for investigation, only two therefore have made much progress.

5. The following schemes, some of which should have been submitted earlier, were so during the year:—

No.	Town.	Water-supply or drainage.	Date of submission to Sanitary Board.	Estimated cost.
				Rs.
1	Vizagapatam	Water-supply	25th Jan. 1895.	4,00,000
2	Cuddalore	Do.	8th Jan. 1895.	3,70,000
3	Bezwada	Do.	4th Sept. 1895.	2,62,000
4	Tanjore	Improvement to drainage ...	21st Nov. 1895.	(1) 68,400
5	Kumbakónam	Drainage of Solayappa Mudali Street.	19th Dec. 1895.	(2) 45,700 5,600
6	Tirupati	Water-supply	18th Oct. 1895.	1,89,000

The first and last of these are still with the President, Sanitary Board. The second has been approved of by Government and sent to the Cuddalore Council to consider whether, by Government aiding it to the extent of 50 per cent. of the cost, the scheme can be carried out. The remaining schemes are still before the Sanitary Board.

6. The following funds were available during 1895–96 for surveys:—

No.	Town.	Amount.	Scheme.
		Rs.	
1	Tinnevelly ... ... Palamcottah ... ... District Board, Tinnevelly	1,000	For investigation of water-supply scheme.
2	Kumbakónam	1,500	For investigation of water-supply scheme and drainage scheme.
3	Vizianagram	600	For investigation of drainage scheme.
4	Bellary	2,000	Do. water-supply scheme.
5	Tanjore	200	Do. drainage scheme.
6	Guntúr	500	Do. water-supply scheme.

The investigation of the first scheme is in progress.

In Kumbakónam much detail survey work in regard to drainage was done and levels also were taken in regard to water-supply. More as to these matters will be found detailed on a later page.

The allotment by Vizianagram was intended to be utilized before the end of 1895–96, but the Sanitary Board now considers a water-supply should first be investigated.

The Bellary allotment will probably be expended before the end of 1895–96. It is to be used in experimenting in regard to the possibility of obtaining a supply by galleries in a valley near the Copper Mountain. This matter is also alluded to in a later page.

At Tanjore the surveys and levels for the drainage works were completed, and a scheme was submitted to the Sanitary Board on 21st November 1895; it is under consideration and revision.

The Guntúr survey was put aside in favour of other pressing schemes.

7. In addition to the above, investigations were made and reports forwarded as follows:—

(1) Report (preliminary) on the Hagri and Copper Mountain schemes for Bellary.
(2) Report on the proposed supply of water from the mainland, for Cochin and on other schemes that presented themselves for the town supply with rough estimates of costs of the schemes.
(3) Report on the proposal to conserve a water-supply area for Kodaikánal.

8. The following statement shows the surveys in regard to the water-supply and drainage of municipal towns undertaken during 1895:—

No.	Town.	For what purpose.	Complete or in progress.	Remarks.
1	Bezwada	Water-supply... ...	Completed ...	Additional surveys.
2	Tirupati	Do.	Do.	
3	Ootacamund	Do.	Do. ...	Contours of Marlimund lake when water was low.
4	Kumbakónam	Water-supply and street drainage.	Water-supply in progress; drainage completed.	
5	Tanjore	Drainage	Completed.	
6	Tinnevelly	Joint water-supply ...	In progress.	
7	Palamcottah			
8	Cuddapah	Drainage	Do.	
9	Bellary	Water-supply	Do. ...	Additional levels.
10	Gudiyáttam	Do.	Completed ...	Flying levels for the scheme proposed by the Sanitary Commissioner.

9. Only one scheme was sanctioned for execution during the year and that was Conjeeveram water-supply.

10. Works were either in progress or were completed in the following towns during the year:—

No.	Town.	Water supply or drainage.	Estimated cost.	Remarks.
			Rs.	
1	Adóni	Water-supply	1,62,000	Completed in November 1895; opened on 23rd September 1895.
2	Dindigul	Dó.	80,000	Commenced in July 1895.
3	Kurnool	Do.	2,39,380	Do. do.
4	Tanjore	Do.	4,47,420	Works completed and were opened on 22nd October 1895.
5	Trichinopoly	Do.	5,02,050	Works are approaching completion.
6	Conjeeveram	Do.	2,57,000	Commenced in November 1895.

11. Details of the work done and other particulars will be found in the following pages under the name of the town referred to and also in tables 2 to 7 of the appendix.

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2	Cuddalore	Do.	8th Jan. 1895.	3,70,000
3	Bezwada	Do.	4th Sept. 1895.	2,62,000
4	Tanjore	Improvement to drainage	21st Nov. 1895.	(1) 68,400
5	Kumbakónam	Drainage of Solayappa Mudali Street.	19th Dec. 1895.	(2) 45,700 5,600
6	Tirupati	Water-supply	18th Oct. 1895.	1,89,000

The first and last of these are still with the President, Sanitary Board. The second has been approved of by Government and sent to the Cuddalore Council to consider whether, by Government aiding it to the extent of 50 per cent. of the cost, the scheme can be carried out. The remaining schemes are still before the Sanitary Board.

6. The following funds were available during 1895–96 for surveys:—

No.	Town.	Amount.	Scheme.
		Rs.	
1	Tinnevelly, Palamcottah, District Board, Tinnevelly	1,000	For investigation of water-supply scheme.
2	Kumbakónam	1,500	For investigation of water-supply scheme and drainage scheme.
3	Vizianagram	600	For investigation of drainage scheme.
4	Bellary	2,000	Do. water-supply scheme.
5	Tanjore	200	Do. drainage scheme.
6	Guntúr	500	Do. water-supply scheme.

The investigation of the first scheme is in progress.

In Kumbakónam much detail survey work in regard to drainage was done and levels also were taken in regard to water-supply. More as to these matters will be found detailed on a later page.

The allotment by Vizianagram was intended to be utilized before the end of 1895–96, but the Sanitary Board now considers a water-supply should first be investigated.

The Bellary allotment will probably be expended before the end of 1895–96. It is to be used in experimenting in regard to the possibility of obtaining a supply by galleries in a valley near the Copper Mountain. This matter is also alluded to in a later page.

At Tanjore the surveys and levels for the drainage works were completed, and a scheme was submitted to the Sanitary Board on 21st November 1895; it is under consideration and revision.

The Guntúr survey was put aside in favour of other pressing schemes.

7. In addition to the above, investigations were made and reports forwarded as follows:—

(1) Report (preliminary) on the Hagri and Copper Mountain schemes for Bellary.
(2) Report on the proposed supply of water from the mainland, for Cochin and on other schemes that presented themselves for the town supply with rough estimates of costs of the schemes.
(3) Report on the proposal to conserve a water-supply area for Kodaikánal.

8. The following statement shows the surveys in regard to the water-supply and drainage of municipal towns undertaken during 1895:—

No.	Town.	For what purpose.	Complete or in progress.	Remarks.
1	Bezwada	Water-supply	Completed	Additional surveys.
2	Tirupati	Do.	Do.	
3	Ootacamund	Do.	Do.	Contours of Marlimund lake when water was low.
4	Kumbakónam	Water-supply and street drainage.	Water-supply in progress; drainage completed.	
5	Tanjore	Drainage	Completed.	
6	Tinnevelly	Joint water-supply	In progress.	
7	Palamcottah			
8	Cuddapah	Drainage	Do.	
9	Bellary	Water-supply	Do.	Additional levels.
10	Gudiyáttam	Do.	Completed	Flying levels for the scheme proposed by the Sanitary Commissioner.

9. Only one scheme was sanctioned for execution during the year and that was Conjeeveram water-supply.

10. Works were either in progress or were completed in the following towns during the year:—

No.	Town.	Water supply or drainage.	Estimated cost.	Remarks.
			Rs.	
1	Adóni	Water-supply	1,62,000	Completed in November 1895; opened on 23rd September 1895.
2	Dindigul	Do.	80,000	Commenced in July 1895.
3	Kurnool	Do.	2,39,380	Do. do.
4	Tanjore	Do.	4,47,420	Works completed and were opened on 22nd October 1895.
5	Trichinopoly	Do.	5,02,050	Works are approaching completion.
6	Conjeeveram	Do.	2,57,000	Commenced in November 1895.

11. Details of the work done and other particulars will be found in the following pages under the name of the town referred to and also in tables 2 to 7 of the appendix.

12. The following schemes presented in past years, and on which no work has been begun, remain meantime only schemes for the reasons noted :—

No.	Town.	Water-supply or drainage.	Estimate.	Date of Government Order.	Reason (if known) for non-execution.
			Rs.		
1	Ongole	Water-supply	1,20,000 49,700	1 Feb. 1893.	Schemes abandoned, cost being prohibitive.
2	Bellary	Do. ...	9,06,642	10 Apl. 1893.	
3	Cocanada	Do.	4,36,830 3,89,000	1 June 1893.	
4	Vellore	Do. ...	3,13,000	28 June 1893.	
5	Ootacamund ...	North water-supply.	(1) 53,500 (2) 54,647	6 July 1894.	Sanitary Board recommended extensive improvements to the water-supply of Ooty, and entrusting the preparation of plans and estimates therefor to Mr. G. T. Walch ; this approved of by Government in G.O., No. 1809 M., Mis., dated 1st November 1895.
6	Tirupati	Drainage ...	96,000	9 July 1894.	Sanctioned scheme deferred pending the preparation of water-supply scheme.
7	Negapatam	Do. ...	4,13,000	3 July 1894.	Scheme in abeyance pending the preparation of water-supply scheme.
8	Coimbatore	Water-supply.	4,01,000 3,72,000	8 July 1895.	Scheme ordered to lie over pending the amendment of District Municipalities Act IV of 1884 to enable the council to undertake the work.
9	Tuticorin	Do.	3,18,710 2,34,670		
10	Karúr	Drainage ...	95,853	19 Mar. 1895.	Scheme in abeyance, as water-supply is to precede drainage.
11	Coonoor	Water-supply ...	80,000	22 Nov. 1895.	Alternative scheme proposed by the Sanitary Board to be investigated and a scheme to be drawn up.

13. The following table shows concisely the amount of work done and to be done with reference to the drainage and water-supply schemes in the 56 municipal towns in this Presidency as compared with last year :—

	Number of towns.																			
Year.	Surveys for water supply.			Surveys for drainage.			Schemes sanctioned.		Schemes abandoned or still in abeyance.		Schemes under revision.		Schemes under consideration.		Towns surveyed but schemes not prepared.		Works completed.		Works under construction.	
	Completed.	In progress.	Unsurveyed.	Completed.	In progress.	Unsurveyed.	Water-supply.	Drainage.	Water-supply.	Drainage.	Water-supply.	Drainage.	Water-supply.	Drainage.	Water-supply.	Drainage.	Water-supply.	Drainage.	Water-supply.	Drainage.
Up to 1894.	27	...	29	22	...	34	8	3	4	2	1	...	...	...	7	16	3	3	...	...
During 1895.	2	2	...	1	1	...	1	...	...	1	4	...	4	1	...	...	2	...	4	...
Total ...	29	2	25	23	1	32	9	3	4	3	5	...	4	1	7	16	5	3	4	...

14. It is proposed in this report to mention each municipal town in the Presidency so as to bring particulars regarding each of them up to date.

Town.	District.	Population, 1891.
ÁDÓNI.	BELLARY.	26,243.

15. The water-works were formally opened by Mr. Tremenheere, Collector of Bellary, on the 23rd September 1895, but were not handed over to the municipality until 18th November 1895 owing to its not being able to secure a qualified overseer to take charge of them until 10th November 1895, when he was instructed in his duties regarding the working of the syphon, filter bed, service reservoir, &c.

Water has, however, been supplied to the town throughout the year, chiefly from the Ramjeri spring, which water does not require filtration as that from Nallacheruvu tank does. The works as completed consist of—

One syphon for conveying the water from the Nallacheruvu tank to the filters.
Three filters 40′ × 50′ each.
Three service reservoirs each holding 12,500 cubic feet or, say, one-third day's supply.
Six and two-third miles of pipes 8″ to 2½″.
Forty-two fountains.
Seventy-seven valves.
Twenty hydrants.

16. The council desired the erection of nine additional fountains, but the Sanitary Engineer thought it desirable to close the accounts first, so that the council could ascertain the balance and then make proposals to Government for its disposal.

17. The works will cost Rs. 1,58,119 against an estimate of Rs. 1,62,000, the former sum including several extra works, and improvements to the existing channel yet to be completed, which could not be done during the monsoon, as well as the purchase of about 4 acres of land in the water-spread of the tank which it was formerly intended to limit by a bund. This bund, however, it was found, would back up water from a portion of the drainage area and place it under water during the monsoon and would then in any case have to be purchased. The cost of the land is less than the cost of the proposed bund.

The following is a statement of length of pipes laid and number of fountains erected at Ádóni :—

Description.	Diameter of pipes in inches.							Number of pillar fountains.	Number of single wall-tap fountains.
	8″.	7″.	6″.	5″.	4″.	3″.	2½″.		
	FT.	FT.	FT.	FT.	FT.	FT.	FT.	NO.	NO.
Length of pipes laid and number of fountains erected	4,625	688	2,729	4,466	3,228	20,391	36	17	25

18. The accounts in Appendix table No. 2 show the details of the expenditure. The works remaining to be completed can be so by the Municipal Council's overseer in charge.

Town.	District.	Population, 1891.
ANAKAPALLE.	VIZAGAPATAM.	17,010.

19. The Chairman of the Municipal Council was anxious for this department to undertake a survey for the drainage of the town, so that he might carry out that work by degrees. He was informed that it was advisable to delay the survey, as the preparation of the scheme could not be taken in hand until the major towns had received attention.

Town.	District.	Population, 1891.
ANANTAPUR.	ANANTAPUR.	6,994.

20. In the report for 1892 it was stated that it was proposed to sink wells outside the town and to raise the water so obtained into a tank whence it would gravitate to the town. An analysis of water from the site proposed was made, but the water was declared suspicious. Under the circumstances Government in G.O., No. 2108 M., Mis., dated 22nd December 1892, ordered the question of preparing a water-supply scheme for the town to be dropped. The matter has been somewhat lost sight of, but the water, though declared chemically suspicious, is not at all bad water and could be made suitable for drinking. The municipality has however not been urgent in regard to the matter and other works meantime take precedence.

Town.	District.	Population, 1891.
BELLARY.	BELLARY.	59,467.

21. This town is still without a water-supply. Two schemes were considered during the year, viz., the Hagari scheme and the Copper Mountain scheme. The following letter No. 2837 M.W., dated 2nd November 1895, from the Secretary to the Government of India, Military Department, fully explains how the matter at present stands :—

I am directed to forward, for the information of His Excellency the Governor in Council, a copy of letter from the Director-General of Military Works relative to the provision of a pipe water-supply for the city and cantonment of Bellary, and to observe that the question of water-supply for this station has been for a very long time under consideration. I am therefore to request that, under His Excellency's orders, the local authorities may be urged to take steps towards securing an early settlement of the question.

Copy of a letter from the Director-General of Military Works, to the Secretary to the Government of India, Military Department, No. 2891 B, dated 4th October 1895.

With reference to Military Department letter No. 1593 M.W., dated 25th May 1893, I have the honour to forward herewith a copy of a preliminary report and rough approximate estimate amounting to $7\frac{1}{2}$ lakhs prepared by the Sanitary Engineer to the Madras Government on a scheme for supplying the city and cantonment of Bellary with water from the Hagari river, distant about 8 miles from cantonment.

The Sanitary Engineer has also prepared a rough scheme for a supply from wells sunk in the sloping ground at the foot of the Copper Mountain, the cost being estimated at 5 lakhs.

I do not forward a copy of this last-named scheme, because it is acknowledged that the available data are too meagre to allow of a correct forecast being made of the quantity and quality of water that can be obtained from this source. The municipality, however, allotted a sum of Rs. 2,000 with a view to a further investigation of this Copper Mountain scheme.

So far as my information goes, the most promising source of supply for the city and cantonment is the Hagari river, and from paragraph 3 of the Sanitary Engineer's report, it will be seen that little doubt is entertained locally as to the sufficiency of its yield of water.

2. Turning now to the proposals put forward in the Sanitary Engineer's Report, I observe that he recommends a provision of 15 gallons per head per diem for a combined civil and military population of 66,000 souls. The scale of 15 gallons all round appears to me excessive. Taking our experience in other cantonments as a guide, the total quantity of water required for the military population would be 65,000 gallons per day made up as follows :—

1,039 Europeans at 15 gallons per day	15,585
5,227 natives at 8 gallons per day	41,816
741 houses at 10 gallons per day	7,410
	64,811

Total (say) 65,000 gallons.

In this connection I may mention that at Peshawar and elsewhere it has been found by practical test that 5 gallons per head per diem amply suffices to meet the wants of a native family.

3. In paragraphs 13 and 14 of his report, the Sanitary Engineer calculates on a contribution of one lakh of rupees from the Military Works Department towards the initial cost of the scheme and three lakhs from the Local Government. The total working charges (exclusive of interest) are estimated at Rs. 48,000 per annum.

Further, in paragraph 17, it is asserted that the inclusion of the Barracks and Native Infantry lines in the scheme entails the whole of the town supply being

lifted 30 feet higher than the requirements of the town demand. The charge for this additional lift is worked out to be Rs. 5,000 annually, which amount the Sanitary Engineer considers should be borne by the Military Department exclusively. This would leave a balance of Rs. 43,000 for the annual pumping charges which, it is proposed, shall be shared by the Municipality and Military Department in the proportion of the population, taking the military population at one-eleventh of the whole. Hence the proposed military share would be Rs. 5,000 for the additional lift *plus* $\frac{1}{11}$ × Rs. 43,000 = Rs. 4,000, that is, a total of Rs. 9,000 per annum approximately.

To sum up, the Sanitary Engineer reckons on an initial contribution of one lakh of rupees from the Military Works Department and three lakhs from the Local Government towards the capital cost and a payment of Rs. 9,000 annually by the Military Department. It is hoped that the balance of the annual charges for pumping and interest will be covered by taxes, but on this point the Sanitary Engineer is not sanguine.

4. With regard to these proposals, I fail to see any special reason for treating the Bellary scheme differently from those for Agra, Allahabad, &c. Consequently I do not recommend that any fixed annual sum be contributed towards the extra cost of the municipal head works and mains due to the supply required for the cantonment. This extra cost should be covered by the price charged by the municipality for the water supplied to the cantonment.

The Military Department should only pay a certain rate per thousand gallons for water supplied as is done in the case of Agra, Delhi, Allahabad and as has been proposed and accepted for Leboug.

Again, instead of an initial contribution of one lakh of rupees, the Military Works Department should provide or meet the cost of all reservoirs, distribution pipes, &c., required from beyond the point where the cantonment scheme will take off from the municipal main.

5. In paragraph 20 of his report, the Sanitary Engineer suggests that the municipality should levy a water-tax on private houses in the cantonment. This proposal is inadmissible as whatever the powers of the municipality may be outside cantonment's limits, that body have no authority to levy a water-tax within those limits, especially as the water supplied to the cantonment will be paid for at a certain fixed rate.

6. It is evident from the general tenor of the Sanitary Engineer's report that there exists some doubt whether the Municipality of Bellary will be able to find the funds for their share of the work on the Hagari project, and it is, I am informed, mainly for this reason that the investigation of the Copper Mountain source has been undertaken; meanwhile the Hagari scheme is in abeyance.

Should the Copper Mountain scheme prove to be practicable at a moderate cost, the municipality will doubtless be advised to accept it. If, on the other hand, the investigations show that sufficient water is not available at the base of the Copper Mountain, then the Hagari river project for water-supply to the cantonment and town should be worked out in detail without further delay.

In conclusion, I would suggest the expediency of pressure being brought to bear on the municipality through the Madras Government, with a view to an early settlement of the source of supply and the commencement of work on the one scheme or the other.

BELLARY WATER-SUPPLY.

The Hagari Scheme.

The source of supply as proposed by Mr. Tremenheere is the underflow in sandy bed of the Hagari river at a point close to the Hagari station on the Southern Mahratta Railway, which is as the crow flies about 8 miles from the Bellary Club. The scheme briefly is to collect the underflow in Hagari in the best manner possible, to pump the water into service reservoir placed on the high ground on which the Bellary Club stands, and finally to distribute the water throughout the town and cantonment in the usual manner with pipes and fountains.

2. *Quality of Water.*—The Hagari water has not been analysed.* The popular opinion is that it is a good water; the villagers on the bank of the river drink its water. A fair idea of the quality of the Hagari water would be obtained by having the water of the railway well at Hagari analysed. This well is close to the margin of the river. I have made this suggestion to the Collector.

3. *Quantity of Water.*—The Hagari is about 2,500 feet broad at the place it is proposed to tap it. It has a very deep sandy bed. The iron cylinders of the railway bridge are said to have been sunk 200 feet deep. From enquiries made of the villagers on the bank, it appears that the dry weather level of water never falls more than 6 feet below the surface of the bed. A spring channel that takes its rise a little above the village of Hagari is reported to have been flowing even during the famine of 1877. Taking these facts into consideration there is little doubt about the sufficiency of water.

4. *Quantity of Water required.*—The civil and military population is about 66,000; a provision of 15 gallons per head per diem should be made. The Collector considers that a provision of 10 gallons would be ample. This would no doubt be so for the first few years after the introduction of the scheme. But it is very likely that, within a period which will be very small compared with the life of the works, the consumption would exceed 10 gallons. As the pumping main will be about 8 miles in length, any future attempt to increase the supply from 10 to 15 gallons will involve a very considerable outlay. It will, therefore, be cheaper in the long run to make the delivery main large enough to carry a supply calculated at 15 gallons per head. The pipe should therefore be capable of delivering

$66{,}000 \times 15 = 990{,}000$ gallons per day of 24 hours = 687 gallons per minute.

5. *Pumping Main.*—A 12-inch pipe with a hydraulic gradient of 2 in 1,000 will give the above supply. The weight per foot of 12-inch pipe to stand ahead of 300 feet = ·75 cwt. A mile of 12-inch piping at Rs. 150 per ton laid complete would cost Rs. 30,000.

6. *Lift.*—The bed of the Hagari is 215 feet below the ground near the Bellary Club, where it is proposed to construct the service reservoir. To this must be added 5 feet, level of water in reservoir above ground, and 15 feet, level of inlet to pumps below bed of the Hagari. The actual height to which water has to be lifted will be 235 feet.

7. Loss of head by friction through 8 miles of piping $8 \times 5{\cdot}282 \times 2 = 85$ feet.

8. The total lift on the head against which pumps will have to work will be $235 + 85 = 320$ feet.

9. The consumption for some years to come will not exceed 10 gallons or $\frac{10}{15} \times 687$, say 460 gallons per minute. The head required to pass 460 gallons through a 12-inch pipe is 1·1 in 1,000 or say 45 feet in 8 miles of piping. The total lift in this case would be $235 + 45 = 280$ feet.

10. *Pumping power.*—For a supply of 10 gallons per head $460 \times \frac{280}{33{,}000} \times 10 =$ 39 pump horse-power would be required, or 3 engines of 13 pump horse-power each add one as a reserve engine—total required, 4 engines of 13 pump horse-power each.

11. *Estimate of Works.*—The following is an approximate estimate of the scheme:—

	Rs.
Infiltration works	50,000
Engine house, engine drivers' quarters, store shed, land, &c. ...	50,000
Engines and pumps (4 of 13 pump horse-power each)	75,000
8 miles 12 inches cast-iron pipes	2,40,000
Service reservoir	50,000
Distribution system	2,15,000
	6,80,000
Contingencies	70,000
Total ...	7,50,000

* Since analysed and declared suspicious.

12. Cost of Pumping.—Cost of pumping 10 gallons per head per diem for a population of 66,000 at 10 annas per million gallons lifted one foot high would be

$$\frac{66{,}000 \times 10 \times 280 \times 365 \times 10}{1{,}000{,}000 \times 16} = \text{say Rs. } 43{,}000.$$

To the above must be added Rs. 5,000 annual cost of establishment, repairs, &c., to the distributary system. The total working charges would be Rs. 48,000 exclusive of interest and sinking fund on the initial outlay.

13. *Allocation of charges.*—Calculating roughly not more than a lakh of the initial cost of the scheme would fall on the military.

14. The Government has helped several municipalities with a moiety of the cost of water-supply schemes. But in view of the large amount of the estimate and financial difficulties, it would be oversanguine on the part of the municipality to expect a grant of more than 3 lakhs.

15. The municipality will therefore have to provide Rs. 3,50,000. Presuming that the whole of this amount would be borrowed from Government, it will involve an annual charge of Rs. 21,000.

16. If the Barracks and Native Lines were excluded from the scheme, it would be possible to reduce the lift by about 30 feet, because Cowl Bazaar and Bruicepett, which constitute the whole of the municipality, are lower than the general level of the cantonment.

17. The inclusion of the cantonment or rather the Barracks and Native Lines in the scheme compels the whole of the town supply being lifted 30 feet higher than the requirements of the town demand it. The cost of lifting the town supply 30 feet higher would therefore be a legitimate charge on the military. This charge works out to about Rs. 5,000 annually.

18. The balance of the pumping charges would be borne by the municipality and the military in the proportion of the population. The military share of the pumping charges would thus be—

$$\text{Rs. } 5{,}000 + \frac{6{,}000}{66{,}000} \times (\text{Rs. } 48{,}000 - 5{,}000) = \text{say Rs. } 9{,}000,$$ and the municipality will have to bear (Rs. 48,000—9,000) 39,000.

19. The cost of the scheme to the municipality stands thus:—

	Rs.
Interest and sinking fund at 6 per cent. on Rs. 3,50,000	21,000
Pumping charges	39,000
Total ...	60,000

20. *Financial Aspect.*—The amount collected as house-tax at the maximum rate of $7\frac{1}{2}$ per cent. is about Rs. 28,000 yearly. This includes tax on private houses in the cantonment. An 8 per cent. water-tax, which will be the maximum leviable when the new District Municipal Act is passed, would be about Rs. 30,000. This sum could be increased to some extent by the revision of taxes, but it seems doubtful if the municipality would be able to provide Rs. 58,000 annually even with its best efforts.

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22. It was not desirable to investigate the Copper Mountain scheme during the monsoon, and accordingly its investigation is just being undertaken. A short time will show whether it is likely to offer any solution to the question. It is however doubtful whether this source will afford a sufficient supply.

23. The experience of northern towns does not tally with that in the Madras Presidency, because it is found here that immediately on the opening of water-works more than 5 gallons a head is used, and this will increase from time to time. This point will be fully discussed both from an engineering and sanitary point of view when the Bellary scheme finally adopted is placed before Government.

Town.	District.	Population, 1891.
BERHAMPUR.	GANJÁM.	25,653.

24. Plans and estimates for a water-supply project prepared by the Public Works Department were transferred to this department. These, it is thought by

the undersigned, will require certain modifications; other work has not permitted the preparation of an estimate for the scheme.

Town.	District.	Population, 1891.
BEZWADA.	KISTNA.	20,741.

25. A scheme for the water-supply of this town was placed before the Sanitary Board on 4th September 1895. The scheme provides for drawing the water from wells sunk in that portion of the river Kistna cut off by the embankment made in connection with the Kistna bridge of the East Coast Railway. It is proposed to have two wells 20 feet diameter, sunk 30 to 35 feet below river-bed and 15½ feet below lowest water; it is expected that these will yield easily 15 gallons per head for 27,000 people in 12 hours. Provision is made for two 13 horse-power engines, an engine house, service reservoir and for 5 miles of pipes and 43 fountains. The scheme has not yet received the approval of the Sanitary Board and may be altered in some details. The cost of the scheme is expected to amount to Rs. 2,62,000.

Town.	District.	Population, 1891.
BIMLIPATAM.	VIZAGAPATAM.	9,827.

26. This is a town which has not yet come under survey either in regard to drainage or water-supply; neither of which, however, it is believed, urgently requires improvement.

Town.	District.	Population, 1891.
CALICUT.	MALABAR.	66,078.

27. The chairman of this town in his letter embodied in G.O., No. 316 M., dated 28th February 1895, pointed out that the council declined to give funds for the investigation of a water-supply scheme for the town. Government remarked thereon that the council should endeavour to husband its resources in every way possible, so that funds might be readily available for the water-supply scheme under consideration. This scheme was one of those to have been submitted to Government during the year. The Sanitary Engineer, on 26th March 1895, therefore, reported to Government that under the circumstances the preparation of this scheme must meantime remain in abeyance. This letter was referred by Government to the council for report. The chairman, on 8th October 1895, forwarded to the Sanitary Engineer for information a copy of the following letter addressed to Government:—

Letter from the Chairman, Municipal Council, Calicut, to the Chief Secretary to Government, Local and Municipal Department, dated 3rd October 1895, *No.* 915.

With reference to your memorandum, dated 10th April 1895, No. 525, referring to the municipal council for report, letter from the Sanitary Engineer, dated 26th March 1895, No. 813, I have the honour to submit for the information and orders of Government the following resolution passed by the municipal council at a meeting held on the 20th September 1895:—

"On a careful consideration of the question, the council resolves to accept the scheme for the supply of water from the Mananchira tank. For the purpose of testing its yield, a sum of Rs. 500 will be sanctioned from the balance as suggested by the Sanitary Engineer to Government in his letter, dated 29th October 1894, No. 2417."

2. This refers to the alternative schemes proposed by Mr. Ellis in paragraphs 7 and 8 of his letter quoted above. It will be observed that Mr. Ellis puts down the cost of the whole work between Rs. 75,000 and Rs. 1,00,000. The preliminary expenses for testing the yield of the tank is estimated at Rs. 500, which sum the council was requested to provide in the budget for 1895–96.

3. The Government is aware that doubts were first raised by the Sanitary Commissioner in 1894 (G.O., dated 23rd April 1894, No. 513 M., Local and

Municipal) regarding the sufficiency of water in the Mananchira tank to supply the whole town of Calicut and also the quality of the supply. These apprehensions were to a certain extent shared in by the council at the time. The District Medical and Sanitary Officer (Surgeon-Major H. St. C. Carruthers) and the Collector (Mr. H. Moberly) were strongly opposed to any scheme which involved the adoption of the Mananchira tank as the source of supply. The latter in his letter, dated 23rd February 1895, No. $\frac{26\text{-M.}}{\text{Dis.}}$, expressed doubts as to whether the Mananchira tank had feeding springs sufficient to keep the water always up to a certain level. He pointed that, during the months of December 1894, January and February 1895, the level of the water was falling steadily, and at the time of his report the water fell from day to day. Referring to the quantity of the water, he said, the situation of the tank in the middle of the town and surrounded on all sides by parambas where people defœcate and throw rubbish was sufficient in his opinion to condemn the scheme. Dr. Carruther's opinion was to the same effect, but far more strongly worded.

4. In view of the emphatic opinions of the Sanitary Commissioner, the District Medical and Sanitary Officer and the Collector, the Government is entitled to ask for explanation why the council prefers the Mananchira scheme to that of obtaining water from a safe distance outside the town.

5. The council after a careful consideration of the facts at present available has come to the conclusion that objections on the score of the insufficiency and impurity of water in the tank or of its bad quality cannot be sustained.

6. Taking first the quantity of the water available in the tank—reference is requested to the sketch (enclosed) giving the section and plan of the tank—the area of the water-spread of the tank at the ordinary monsoon level is 490′×475′. At this level the depth of water in the tank is 19 feet 9 inches. The lowest summer water-level is 10 feet 3 inches above the bottom of the tank, and, at this level, its area is 440′×425′ or 187,000 square feet. Thus the contents of the tank for each foot of depth below the lowest summer water-level is 187,000 square feet equivalent to 1,168,750 gallons of water. The population of the town according to the last census is 66,078, and allowing 10 gallons per head, which is, I believe, the rate of allocation in Tanjore and Trichinopoly, the daily consumption will be 660,780 gallons, so that even during the dry months of the year, only ·565 foot depth of water need be pumped out to give a sufficient supply of water to the whole town.

7. The council is not at present ambitious to provide a correct scheme of water-supply to the whole town, which extends over an area of 13¼ square miles, nor is it needed. The sub-soil in Calicut is capable of yielding a good potable water except in the crowded parts. In the A, G and H divisions, which constitute the suburbs of the town, the purity of water in the wells is above question. The British troops stationed on the West Hill in the A division are supplied with drinking water from wells in the barracks, and the Europeans as well as the well-to-do native residents of that quarter depend for their supply on the wells in their own compounds, which are, in general, properly taken care of. The contour of the ground slopes from the north downwards the Kallai river, which circles round the town proper. It is here that the soil is contaminated by cess-pools and cemeteries, and the water-level in the wet weather is only a foot or two below the surface of the ground. The use of water from wells in this locality should be interdicted. The G and H divisions lie outside the Kallai river. They are generally very sparsely peopled and the scattered houses belong to the richer classes of the native community who are accustomed to live in separate compounds. The well water in these compounds is not liable to contamination.

Even if water under a correct scheme of supply is made available to the residents in the A, G, and H divisions, there is little likelihood of its being used. Eliminating then, the A, G, and H divisions, it may be assumed that the area of the town to be served by the scheme is 5¼ square miles with a population of 46,293 souls.

The conclusions arrived at by the Sanitary Engineer and concurred in by the council regarding the sufficiency of supply to the whole town will apply with greater force to a part of it.

8. Next as regards the quality of the Mananchira tank water—

The Mananchira is a fine tank situated on a ridge running through the town. The ground being high, it is less liable to contamination than low-lying lands in the neighbourhood. The water of the tank is held in very good repute in the town, the popular opinion being that the water is wholesome. It is used by the Europeans living on the beach and the Eurasians in the neighbourhood. The hospital is supplied by the tank. Such of the Moplas as can afford to pay obtain the Mananchira water from water carriers. The Guzaratti and Parsi merchants make use only of the Mananchira water.

In 1893–94 when a few cases of cholera appeared in the Mopla quarters, the Mananchira water was distributed gratis to the inhabitants of the houses where the disease broke out in addition to the usual precautions of disinfection of houses and destruction of soiled cloths.

The water of the tank was submitted for analysis twice. Chemical analysis has confirmed the opinion held by the public. In the table below is given the comparison of the results of the analysis with the quality of the Red Hills water at Madras and the Tulsi and Vehar lakes, supply at Bombay:—

	Usable water.	Mananchira.	Red Hills, 1893.	Bombay Tulsi and Vehar lakes, 1891–92.
Total solids ... ... Grms. per litre ...	0·428	0·060	0·340	...
Volatile solids ... ... Do. ...	0·043	0·020	0·090	...
Chlorine ... ... Do. ...	0·043	0·005	0·056	...
Total hardness, degrees ... ... Clark's ...	12°	0·175	3°675	...
Permanent hardness ... ... Do. ...	4°	0·175	0°700	...
Free ammonia ... ... Mlgrms. per litre ...	·05	0·040	0·040	·002 to ·25
Albumenoid ammonia ... Do. ...	·10	0·160	1·200	·08 to ·25
Nitric acid ... ... Do. ...	5·00	Trace.	1·080	...

The comparison is, on the whole, to the credit of the local tank. The amount of albumenoid ammonia is returned at 0·160, which is much less than that of the Red Hills water and is slightly in excess of what Mr. Ellis says "Usable water" ought to contain.

The tank has been conserved to a limited extent, that is, people have not been permitted to bathe or wash their clothes in it. They freely dip their pots into the water and sometimes wash them there. The tank is also liable to pollution by thousands of birds and passing bursts of wind. Storm water rushes into the tank during the monsoon from the shallow side drains. All this could be prevented. The steps which are built all round may be entirely removed and the tank surrounded by a high wall or railing to prevent any access to the water. In flows of surface soil water may be prevented by diverting drains. A thin net easily procurable in Calicut spread over the tank as a canopy will prevent bird from fouling the water.

Admitting that the water in the tank is at present in good chemical condition, the Sanitary Commissioner argues that it does not follow that it will continue so. The sandy and latisitious soil through which the water now passes to reach the tank may serve for years as an efficient filter, but in process of time it may become clogged and there is no possibility, as in the case of artificial filters of the material that has become choked. This objection the council considers can be overcome by puddling the sides of the tank with concrete so as to render them impervious.

This will not in any way affect the depth of the water in the tank, for, according to the Sanitary Commissioner's own showing, the tank is fed in addition to the percolation from the sub-soil by a special stratum of water under pressure between two impervious strata, one of which has been penetrated.

The accompanying diagram * will make my meaning clear. The water percolating into the tank through the sub-soil AA^1, BB^1, should be prevented from passing into the tank and this, it is believed, can be effected by puddling the sides

* Diagrams omitted.

of the tank so far as they lie in the section of AA^1, BB^1. The store of water between the two BB^1 and CC^1 must be absolutely pure and being under pressure will force itself into the tank where the water in the upper section is pumped out. Thus there will be in the tank an unceasing supply of water free from contact with the sub-soil.

The depth of the tank is only 19 feet 9 inches. Even during the monsoon months and by pumping out the water completely, it would be easy to determine, whether there is in existence the lower stratum of water suspected by Dr. King.

9. Persons well acquainted with the environs of the town of Calicut declare that it would be impossible to find an area large enough or conveniently near the town where the purity of the sub-soil can be guaranteed. Towards the north and almost up to the edge of the Korapuzha river 5 miles away it is one large area of paddy land. Towards the south up to the Beypore river the conditions are extremely similar. To the east we have little hills rising amidst cultivated paddy lands.

10. In deciding which of the two schemes the council could adopt, the consideration which finally weighed with it was the expense of one against the other. The Púlúr scheme, it was estimated, would cost 4 lakhs of rupees, while the Mananchira tank scheme would entail the expense of only a quarter of that sum. Counting upon a grant of one-half the amount from the Provincial funds, it would be necessary to raise the balance (2 lakhs of rupees) by a loan. At an interest of 4 per cent. per annum the annual payment for interest and sinking fund would amount to Rs. 14,700, and this would continue to be an annual charge on the municipality for twenty years. This the council is unanimously of opinion a burden which, it can ill afford, to take upon itself at present.

11. I regret the delay in submitting this report. Ever since the receipt of Mr. Ellis's letter on the 8th November 1894, with the orders of Government, I have constantly kept the question of water-supply before the Councillors' attention. The matter was posted for discussion on as many as seven occasions.* It was referred to a sub-committee for consideration on the financial aspect. On the 5th April 1895, the council resolved by a large majority that the question of water-supply should be deferred until the matter of Mopla burial-grounds is disposed of. A very large section of the council held the opinion that a scheme for the drainage of the town should be given precedence. No local body is willing to take any steps which might bring in its wake the imposition of additional taxes in the shape of a water-rate. I beg to submit, for the information of Government, six copies of a memorandum containing a summary of all the papers in connection with the matter under report.

* 17th November 1894.
28th February 1895.
5th April 1895.
26th April 1895.
9th August 1895.
30th August 1895.
20th September 1895.

12. Now that the council has made up its mind upon the question, I venture to request Government to direct the Sanitary Engineer to arrange at an early date to test the yield of the tank, and also to ascertain whether there is a pure and sufficient store of water under the first impervious layer. If the Sanitary Engineer is unable to depute an officer for the purpose, I beg to suggest that Mr. A. R. Stuart, whose assistance I availed myself of, and who is quite competent to undertake the work, may be employed for the purpose. There will be no difficulty also in procuring locally a centrifugal or pulsometer pump with an engine or a boiler to empty the tank.

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28. This letter has not been dealt with by Government at least the Sanitary Engineer has received no instructions in regard to it.

Town.	District.	Population, 1891.
CANNANORE.	MALABAR.	27,418.

29. This town is much in need of a proper water-supply, principally in the Mopla quarters. The council, however, has made no move in the matter, and work in connection with other more important towns has not permitted of any attention being devoted to the matter during the past years.

Town.	District.	Population, 1891.
CHICACOLE.	GANJÁM.	18,241.

30. There is nothing to report in regard to this town. It was visited in 1892 in regard to an improvement of its drainage arrangements, but no steps have been taken in view of any scheme for their improvement.

Town	District.	Population, 1891.
CHIDAMBARAM.	SOUTH ARCOT.	18,640.

31. The council is anxious to proceed with a water-supply scheme and towards the end of the year the Collector of South Arcot requested the Sanitary Engineer to take up the matter. The Collector was, however, informed that the Sanitary Engineer's programme had already been settled in communication with the Sanitary Commissioner, and that it was not possible to add Chidambaram to the list of schemes to be prepared in 1896. If one of the proposed schemes has, for any reason, to be omitted eventually from the year's programme, the claims of Chidambaram will then be considered.

Town.	District.	Poulation, 1891.
COCHIN.	MALABAR.	17,601.

32. Last year's report stated that owing to a breakage of the rods in the artesian boring, that work had been stopped until a reply to a reference to the Geological Survey Department had been received. The Director of the Geological Survey of India stated that he was unable to offer any opinion on the matter as guidance in this exploration for fresh water as there were absolutely no data to entitle him to do so. Government thereupon decided to stop operations, but requested a report to be made on a suggestion of the Assistant Sanitary Engineer to Government that a boring on the main land (from which the town of Cochin is separated by a backwater 2 miles wide) might be more successful.

33. After some correspondence with the Cochin Government through the British Resident, an enquiry was made and the following report was submitted to Government :—

Letter from the Sanitary Engineer to Government to the Chief Secretary to Government, Local and Municipal Department, dated 8th October 1895, No. 2956.

With reference to G.O., No. 93 M., Local and Municipal, dated 21st January 1895, I have the honour to report as follows :—

2. I visited Cochin in September and was fortunate enough to find the British Resident there from whom and Captain Dawson, Assistant Resident, I obtained much assistance indeed, it has been arranged through the Dewan of Cochin, that Mr. Hudson, the Chief Engineer, should be associated with me in my enquiries, for this the thanks of Government are due to the Government of Cochin, and the more so that no permission had been previously asked for an officer to be allowed to investigate a project in a Native State—a course which I was unaware ought to have been adopted.

3. With Mr. Hudson I proceeded inland as far as the laterite hills, where fresh water is to be found. The nearest point, where we considered water in sufficient quantity might probably be available, is near the Rajah Hill Bungalow, some miles east of Tirupondram, and about 10 miles from Ernaculam. This town being separated from Cochin by a backwater of 2 miles, there are several small backwaters between Ernacolum and Hill Bungalow.

4. Mr. Hormusji Nowroji, in his letter embodied in G.O., No. 1628 M., Local and Municipal, dated 3rd November 1894, was evidently under the impression that the laterite was near the surface in Ernacolum, but the out-crop is, as above stated, 10 miles from Ernaculam, so that there would be little difference in the depth to be bored at Ernaculam or Cochin to meet the laterite.

5. At the point indicated, Mr. Hudson and I considered that an experimental well might be sunk to test the yield and that if this was satisfactory, a gallery might then be formed across the valley meeting at either side the bases of

the laterite hills forming the valley referred to. The site is marked on the accompanying map.* To carry out such an experiment would cost about Rs. 5,800 calculated as follows :—

	RS.
Sinking one well, 25′ deep	1,250
1 curb including rods, carriage, &c., and erection	1,000
Cement concrete in curbs	46
Laterite steining for the 20′ diameter well	1,200
Cement plastering	675
Rails	286
Sundries	143
	4,600
Loan of pumps, testing yield and other cost of experiments	1,200
Total ...	5,800

6. If the experiment is to be made it would be advisable to arrange with the Government of Cochin for Mr. Hudson, to carry it out, and to this course he has no objection.

7. The question, however, is what will be the expense of the scheme even if the experiments were satisfactory. The work of laying pipes across 2 miles of backwater will be a difficult one, and require a specially-fitted barge and a steam dredger. I have in an appendix given a rough estimate of work and I do not believe it can be done for less, it includes the cost of pipes for the conveyance only of water to Tripondrum, Ernaculam and Muttencherry, and the share of the Cochin Government if they agreed to a joint scheme is also noted; in addition to this, provision would have to be made for distribution works in these towns.

8. The cost of pumping is also shown and the share allocated.

Supposing that Government made a grant of half the proportionate cost, the annual expenditure, which the town of Cochin would have to meet, would be—

	RS.
$\frac{401540}{2}$ @ 5·96 per cent.	11,966
Pumping charges	5,500
Maintenance and repairs	1,000
Establishment	1,500
	19,966

9. It appears to me that (even if the Cochin Government agreed to join in the scheme) the figures show that the cost is much above what Cochin (British) could possibly meet even aided by a liberal grant from Government.

10. Should Government decide this to be the case, there are three other schemes which present themselves.

(1) Supplying from the Periyár river at Alwaye by pipes and pumping—this would be more expensive than the scheme noted, because the distance is greater.

(2) Supplying from Alwaye by properly designed 'water in bulk' steamers.

(3) By condensation.

(4) The bored well scheme already in hand.

It is unnecessary to do more than refer to the Alwaye scheme, as it would entail the expenditure for 4½ miles more pipe and 36 feet more lift than the scheme estimated and the Cochin Government share would be somewhat less owing to the omission of Tripondrum.

As to proposal (2) self-propelling hopper barges to carry 300 tons, cost about £5,000 each. Supposing the supply to Cochin were to be limited to $7\frac{1}{2}$ gallons or say $\frac{17600 \times 7\frac{1}{2} \times 10}{2,240} = 589$ tons, we should require, say, 2 such barges =

* Map omitted.

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* Map omitted.

£10,000 or say Rs. 1,80,000, and there would be an additional charge for pumping machinery in each, this we might put down at Rs. 30,000 or say in all Rs. 2,40,000.

11. Pumping the above quantity of water in and out daily would cost Rs. 12,000 per annum. A service tank at sufficient elevation would cost Rs. 20,000. The cost of transit might be taken at Rs. 40 daily or Rs. 14,600 per annum.

12. Supposing that Government, in the case of Cochin, went so far as to supply the barges and that the municipality had to provide and maintain the remainder of the scheme, the annual cost of the town would work out as follows :—

	Rs.
Pumping costs as in paragraph 11	12,000
Transit charges	14,600
Interest on Rs. 51,750 or distribution cost including contingencies at 5·96 per cent.	3,084
Repairs and maintenance of pipes	1,000
Establishment	1,500
	32,184

This is much more expensive than the first scheme put forward even after a grant of Rs. 2,40,000 to the municipality.

Condensation (3) is the next proposal—suppose in this case the supply limited to $7\frac{1}{2}$ gallons per head and that 17,600 people are to be supplied. The total would then be 1,32,000 gallons daily.

One set of apparatus to produce 12,000 gallons daily costs £4,000, therefore for $1,32,000 = 4,000 \times \frac{132}{12} =$ £44,000 or say Rs. 7,92,000 ; this, without taking into account that it requires $4\frac{1}{2}$ lbs. of wood to produce 16 lbs. or 1·6 gallons of condensed, places the plan of condensation altogether out of reach.

13. There, then, still remains the plan of a deep boring, and I must record my deep regret as also that of many people in Cochin, that Government have been advised to give up the attempt to procure water in this way.

14. Undoubtedly the chemical analysis of the water, so far as we have gone, is not good, but even that analysis I am far from being satisfied with, and Mr. Locke is also anxious to see some further attempts made with regard to the existing bore to secure good water. I have drunk the water, it tastes good and is pleasant; it is certainly better water than any other in Cochin; the water stands in the bore pipe 1 to 2 feet above ground; and it seems a matter of the greatest regret that what I believe and I think I have shown to be the only practical scheme should have been stopped on the report of the Geological Department, who do not profess to have any basis whatever to go on for their advice. It was stated that rock might be many thousand feet below the surface, but we don't want to reach rock, we already have the water above ground, impervious beds of clay are just as good as rock.

15. I have asked Mr. Locke to have fresh samples of the water submitted to analysis, after a longer time of pumping, and at the same time to submit samples to the Government Bacteriologist of the North-West Provinces, Professor Hankin. This will be a true test and even then it is possible to purify the water by filtration, probably Anderson Process would render it perfectly safe—it is now perfectly palatable.

16. I therefore in view of all the facts I have stated, strongly urge Government not to abandon the bore scheme but to persevere even to 2,000 feet, which is not at all a great depth. The scheme has not had a fair trial, and now that it is really the sole hope of Cochin, I think that no effort should be spared to make it a success.

17. Meantime until I hear from Government, I will not act on any order which may be passed in the interval in reference to my No. $\frac{T}{41}$ of 19th June 1895, regarding the removal of the apparatus and purchase of new apparatus which is still unanswered.

APPENDIX.

Rough Estimate of Infiltration works, Engine House, &c., at site near Rajah's Hill Bungalow and pipes for the conveyance to Tripondrum, Ernaculam, Muttancherry and British Cochin with the shares of the Cochin Government and British Cochin allocated.

	Approximate cost of works.	Proportion.	British Cochin.	Cochin Government.
	Rs.		Rs.	Rs.
Infiltration works	1,05,600	176:274	41,300	64,300
Pumps, boilers, &c., including erection	46,800	Do.	18,300	28,500
Engine and boiler house and its appendages	48,000	Do.	18,800	29,200
Pipes from infiltration to Tripondrum branch	1,02,960	Do.	40,260	62,700
Pipes from Tripondrum branch to Ernaculam branch ...	1,63,020	176:244	68,320	94,700
Pipes from Ernaculam branch to backwater	8,580	176:172	4,330	4,250
Pipes for backwater	1,19,640	176:172	60,500	59,140
British Cochin main line	51,480	...	51,480	...
Distribution works in Cochin	45,000	...	45,000	...
Total ...	6,91,080	...	3,48,290	3,42,790
Contingencies ...	1,04,670	...	53,250	51,420
Total ...	7,95,750	...	4,01,540	3,94,210
Cost of pumping ...	14,064	176:274	5,500	8,564

Town.	District.	Population, 1891.
COCANADA.	GÓDÁVARI.	40,553.

34. Alternative schemes for the water-supply of this town were prepared in 1892, and their anticipated costs were (1) Rs. 4,36,830, (2) 3,89,000. The Sanitary Commissioner, in his inspection notes of Cocanada, 27th to 30th October 1894, brought to notice, that an artesian well had been bored at Samalcotta some 8 miles from Cocanada higher up the delta, and that a boring was in progress at Cocanada itself. He thought that this was a step towards solving the difficulty as to the water-supply, as the scheme above referred to had been abandoned as being too costly.

35. At Samalcotta two tubes had been put down, one 4″ the other 6″ in diameter. These tubes were sunk about 84 feet, respectively, below the surface. They yield (the 4″ tube 561 gallons, and the 6″ tube 373 gallons per hour) 934 gallons per hour. The boring at Cocanada itself has not yet proved a success as will be seen from the following letter No. 776, dated 26th October 1895, addressed by the Chairman of the Municipal Council to the Chief Secretary to Government, advocating proceeding with the supply scheme referred to at the beginning of this paragraph :—

Referring to G.O., No. 1239 M., Mis., dated 1st August 1895, and its subsequent reminder, No. 1298, dated 12th September 1895, I have the honour to report as follows :—

The deficiency of water-supply in this town, as well as the bad quality of water supplied, has attracted the attention of the Municipal Council for nearly ten years; but it is to be regretted that nothing tangible has hitherto been done beyond the preparation in the early part of 1893 of an elaborate scheme by the Sanitary Engineer for the supply of filtered water by pipes, all through the town. Other schemes of a less elaborate nature were discussed before 1891, when the Sanitary Engineer took up the subject, but they were found unsuitable for a rising town like Cocanada.

2. In G.O., No. 401 M., Mis., dated 8th March 1891, the Government, with its usual liberality in matters affecting public health and comfort, offered to contribute half the cost of the water scheme from Provincial funds and to lend the other half at $4\frac{1}{4}$ per cent., if the council could show its ability to provide for the service of the loan.

On receipt of the Sanitary Engineer's final report and plans in March 1893, the council applied to Government for a free gift of $\frac{3}{4}$ of the total cost of the scheme. This request was evidently taken by Government as an indication of the council's inability to discharge a larger debt than $\frac{1}{4}$ of the cost of the scheme within a reasonable time, and was followed by G.O., No. 722 M., Mis., dated 1st

June 1893, under which the scheme was considered too costly for this municipal council. The Government considered that it should be abandoned altogether.

The urgent necessity for executing the scheme was pressed on the attention of Government in my predecessor's letter No. 813, dated 30th November 1893. The council pointed out that it could set apart Rs. 15,000 a year for the working expenses of the scheme, and for the service of the loan. The Government was not pleased to reconsider its order of 1st June 1893, but suggested that the council might, with advantage, discuss the question whether some less costly scheme was not practicable—*vide* G.O., No. 230 M., Mis., 27th February 1894. Cheap schemes for water-supply had already been long discussed in vain before 1891. The Sanitary Engineer himself considered that the cost of his scheme might be reduced by Rs. 47,930, if the town is content to have a supply of ten gallons per head for a population of 40,000 instead of 15 gallons per head for 50,000 and if the puddling of the tank is omitted. It is unsafe to reduce the capacity of works, so as to reduce the quantity of water per head, and to overlook the increase of population in a rising town like Cocanada, where the increase in population between 1881 and 1891 was about 33 per cent. Puddling of the tank may be omitted and a saving of Rs. 21,155 may be effected.

3. The Government suggested, at the instance of the Sanitary Commissioner, that artesian wells might be sunk here for water-supply to the town—*vide* G.O., No. 866, L. and M., dated 20th May 1895. No doubt, artesian wells were successfully sunk in Samalcot, but the attempts proved unsuccessful in so many other places. The one commenced in this town about two years and half ago by the Railway department has not been completed yet. The council is unwilling to spend any large amount of borrowed money, relying on a mere chance. Besides there is no guarantee that the supply will be full and continuous.

4. The Sanitary Commissioner remarked on the liability to pollution of canal water above the Simson's lock. His objection holds good with regard to the present supply, which is drawn off from a point just above the lock. The head of supply, according to the Sanitary Engineer's scheme, will be 660 feet above the lock. The fall in levels between the Venkatakristnapuram lock and the Simson's lock is 7½ feet, though the distance is less than 4½ miles. The impurities, if any, are, to a great extent conveyed by the current of water up to the lock through the main canal, and do not materially alter the quality of water conveyed through a stoneware pipe of 2 feet to filter beds, and through them ultimately to the town. The supply of water in the Samalcot canal is never failing, except in summer and can be depended on far more than any artesian well on a hill stream.

5. On 12th April 1894, the late Mr. Addis proposed to mature a scheme for conveying water to this town, by means of channels from a reservoir, to be constructed amidst the hills, somewhere near Tuni. Seeing that the catchment basin of the proposed reservoir consists of the proverbially unhealthy agency tracts of this district and that compensation for land, and the cost of making, maintaining and conserving the channels will be enormous, the council was obliged to nip the proposals in the bud.

6. Thus, if the town is to have a good and healthy water-supply, within a reasonable time, it can only be by the execution of the Sanitary Engineer's scheme in its entirety and by no other means.

7. In spite of disappointments occasioned by G.Os., Nos. 722 M., Mis., dated 1st June 1893, and 230 M., Mis., dated 27th February 1894, the council did not at any time finally give up the idea of introducing the water scheme. In my predecessor's letter No. 845, dated 28th August 1894, the Sanitary Engineer informed that the scheme had only been postponed pending the arrival of the [illegible] was timed new paid chairman. The development of the resources of the municip[illegible]ull- with a view to find means for introduction of the scheme was apparently in v[illegible]ility

8. The total cost of the Sanitary Engineer's scheme is estimat[illegible]iew. Rs. 4,36,830, of which a saving of Rs. 21,155 (the cost+15 per cen[illegible]ed to be by omitting to puddle the Rajah's tank. The soil being s[illegible]t.) may be effected does not seem to be necessary. The net unavoida[illegible] Rs. 4,15,675, of which the contribution of G[illegible]andy and pure, puddling Mis., dated 8th March 1891, will be R[illegible]ble cost of the scheme will be [illegible]overnment under G.O., No. 401 M.,

Rs. 2,07,337-8-0.

9. Out of the other half, the council can realize *at least* a third (Rs. 69,112-8-0) by local subscriptions. Some of the influential residents and neighbours have still their misgivings—surely not shared in by the council as to the final sanction of Government for the scheme. The council trusts that the amount of subscriptions may be in excess of the above estimate when the work is actually taken up. The utmost sum that will have to be borrowed for the execution of the scheme will be Rs. 1,38,225. To liquidate the debt in thirty years with interest at 4¼ per cent. the municipality will have to pay 5·96 per cent. of the borrowed principal (Rs. 8,238-3-4) per annum.

The cost of maintaining the scheme after completion will, according to the Sanitary Engineer's (paragraph 7), be Rs. 10,250. The total sinking fund and cost of maintenance will, therefore, be Rs. 18,488-3-4, or in round figures Rs. 18,500.

10. The council proposes to meet the extra cost necessitated by the introduction of the water scheme by the following means:—

I.—Rs. 6,000—The additional revenue expected to be realized by the revision of house-tax, now almost completed over the actuals of 1893-94.

Rs. 2,000—Additional revenue realized by the late revision of profession-tax.

Rs. 2,000—Contribution hitherto paid annually to the District Board on account of the repairs to the main girder bridge executed in 1889-91. This debt has been finally cleared off now, and the sum will henceforward be available for expenditure in other directions.

Rs. 1,000—Average annual expenditure on the existing water works, including the pay of watchers. The Sanitary Engineer's estimate of Rs. 4,000 (paragraph 8 of his report) under this head was incorrect.

Rs. 11,000

Deduct—

Rs. 1,350—Interest to be paid to District Board on account of the cost of constructing the Yebru bridge. The original estimated cost was only about Rs. 21,000, and the final cost is not likely to exceed Rs. 30,000. The interest at Rs. 4½ per cent. on that sum amounts to Rs. 1,350 per annum.

Rs. 1,000—Amount to be paid towards principal after six years.

Rs. 100—Amount of contribution to be paid to District Board on account of Robertson's bridge.

Rs. 2,450

Rs. 8,550 *Net*—This sum more than covers the interest and sinking fund payable yearly to Government.

Rs. 10,250—Water-tax at 4 per cent, making allowance for remissions, exemptions, &c. The total house-tax at 7½ per cent. will surely be not less than Rs. 21,000 and water-tax at 4 per cent. will come up to Rs. 11,200. Rs. 950 may be taken as possible deficiency in the early years after the completion of the works.

Rs. 18,800. This net amount covers the cost of maintenance.

11. The items of additional revenue relied on by the council, as explained above, are not merely prospective, but are nothing less than actuals. The council assures the Government that the additional revenue on account of the revision of house and profession taxes will, on no account, be allowed to fall below the estimate above set forth, and prays that the Government may be pleased to accord its sanction for the scheme, to contribute half the cost as promised in G.O., No. 401 M., Mis., dated 8th March 1891, and to lend Rs. 1,38,225, the balance required for its completion. It is earnestly hoped that the Government will instruct the Sanitary Engineer to take steps to commence operations before the 1st of February next.

12. The council has considerable pleasure in announcing to Government the princely offer of a contribution of Rs. 42,500 made by M.R.Ry. Paido Subbarayudu Garu, Venkatachellapati Garu (Municipal councillor and member of Taluk Board), and Chelamiah Garu, worthy sons of the late renowned M.R.Ry. Paido Ramakrishnayya Garu, for the furtherance of the water scheme, and also the liberal offer of Rs. 10,000 made by M.R.Ry. Badam Venkataratanam Garu, a leading merchant and the Chairman of the local Native Chamber of Commerce. The total subscriptions promised up to date in writing amount to Rs. 58,500, and those

promised orally, to over Rs. 10,000. On receipt of Government sanction for the scheme there is every hope that others will follow in the foot-steps of the liberal gentlemen named above.

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36. No orders have been received on the above letter.

Town.	District.	Population, 1891.
COIMBATORE.	COIMBATORE.	46,383.

37. Alternative schemes for supplying this town with water prepared in 1892 amounting to (1) Rs. 4,01,000, (2) Rs. 3,72,000 have not yet been proceeded with, as the revised District Municipalities Bill, which will enable the council to provide sufficient funds for its execution, not yet having been passed.

Town.	District.	Population, 1891.
CONJEEVERAM.	CHINGLEPUT.	42,548.

38. The scheme for the water-supply of this town received sanction on the 7th June 1895. The amount of the estimate sanctioned is Rs. 2,57,000; but this is subject to revision on account of exchange, imposition of tariff duty, &c., and it was decided not to submit a revised estimate until the probable cost of pipes, engines, &c., were definitely ascertained.

39. It was reported to Government that probably Rs. 20,000 would be spent before December 1895, and about Rs. 1,60,000 before April 1896. It is now not likely that either of these amounts will be reached. In the first place no trained supervisor was available for the work until November, and, with the monsoon in full blast, work in the river was not advisable. Tenders for engines and the head works have, however, been called for, but it is unlikely these will be received before the beginning of 1896. Meantime the construction of the Drivers' quarters, which will be used as an office and inspection bungalow, is proceeding.

Town.	District.	Population, 1891.
COONOOR.	NILGIRIS.	6,049.

40. A water-supply scheme for this town was proposed in 1891 to cost Rs. 80,000, about as much as the town is likely to be able to afford. The council was anxious to temporise, and desired to spend a sum of Rs. 25,000 on partial improvements. The proposal was sent to the Sanitary Board for report, and the Board, in view of the Sanitary Commissioner's objection to original scheme, made a report to Government, which will be found under "Proceedings of Sanitary Board (Engineering Branch)." Government has recommended the Coonoor council to grant a sum of Rs. 1,000 for a survey of a new area in view to obtaining a purer supply than that originally proposed.

Town.	District.	Population, 1891.
CUDDALORE.	SOUTH ARCOT.	47,355.

41. A scheme for the water-supply of the above town was described in last year's report. The scheme was, with a slight alteration (raising the cost by Rs. 1,200), approved of by Government, and sent to the council for remarks. Government, in forwarding the scheme, remarked that it was prepared to further the execution of the scheme by a grant of 50 per cent. or $\frac{3,82,000}{2}$ or 1,96,000, but that it was doubtful whether the Municipal council's finances would be able to provide funds for meeting the interest and repayment of the balance, unless aided by contributions from private persons and the South Indian Railway Company. The matter is still under the consideration of the council.

Town.	District.	Population, 1891.
CUDDAPAH.	CUDDAPAH.	17,379.

42. The state of this town and the remedies necessary to improve its sanitary condition were taken into careful consideration by the Sanitary Board, *vide* "Proceedings of Sanitary Board (Engineering Branch)." The orders of Govern-

ment on that resolution allowed of the undertaking of the survey for the drainage works, which is still proceeding, and will be completed early in 1896–97 when the details of the proposed scheme will be worked out.

Town.	District.	Population, 1891.
DINDIGUL.	MADURA.	20,203.

43. The construction of the water-works for this town is now proceeding, the schedules and specifications having been framed during the early part of the year.

44. Tenders for the service reservoir and engine and boiler house were received on the 1st May 1895, for the pipes and fittings on the 22nd May 1895 and for the engines and pumps on the 4th July 1895.

45. The construction of the service reservoir is now being proceeded with; the engine and boiler-house has not been begun, as it was desirable to previously connect the two tunnels from shafts Nos. 1 and 2—this work is now proceeding and about 8 feet only of excavation is required. The engines have arrived in the country. The pipes are being laid, the length laid is shown below :—

Statement of length of pipes laid and number of fountains erected in Dindigul during the year 1895.

Description.	Diameter of pipes in inches.						Number of pillar fountains.	Number of single wall tap fountains.	Number of double wall tap fountains.
	8″	6″	5″	4″	3″	2½″			
	FT.	FT.	FT.	FT.	FT.	FT.	NO.	NO.	NO.
Length of pipes laid and number of fountains erected	3,888	...	1,772	2,038	2,290	...	3	...	...

46. The expenditure on the works up to the 31st December 1895 is shown in appendix table No. 3.

47. In the original scheme it was intended to give a supply of 10 gallons per head. The length of the tunnel had, however, to be limited owing to its cost, and the supply will not exceed 84,000 gallons in 24 hours or at the rate of about 4 gallons per head per day.

48. Mr. Ellis in last year's report stated that there were some 50 feet between the faces of the tunnels for Nos. 1 and 2 shafts. A survey since the tunnels have been pumped out shows that there is only 8 feet between the faces, and that some portions of the tunnel are not yet to proper section; the tunnels may yet have to be extended even to give the 4 gallons per head. The supply can be supplemented from time to time, and will have to be so, if any exhaustion takes place and the water level is lowered by constant pumping.

Town.	District.	Population, 1891.
ELLORE.	GÓDÁVARI.	29,382.

49. There is nothing to report about this town; the council has not yet shown its financial ability to carry out a drainage scheme, even if one were designed, and the matter is therefore still in abeyance.

Town.	District.	Population, 1891.
ERODE.	COIMBATORE.	12,330.

50. As it was unlikely that the Sanitary Engineer's department could deal with the water-supply of this town for some time, it was suggested to the council by the Sanitary Commissioner that, by forming filter beds in connection with the Calingaroyen channel from the Cauvery, a fairly fine supply of water for the great

part of the year might be obtained. The council then asked the advice of the Sanitary Engineer as to the construction, but plans, sections and other information asked for not having been sent, in reply to a request from them, no further step has apparently been taken by the council in the matter.

Town.	District.	Population, 1891.
GUDIYÁTTAM.	NORTH ARCOT.	18,747.

51. The Sanitary Commissioner having suggested to the Sanitary Board that a cheap water-supply scheme might be possible in connection with this town, as a rich sub-soil stream flows in the sandy bed of the Kavundinga river, adjoining the town, the Assistant Sanitary Engineer to Government inspected the town in this view, and made a report which is now before the Sanitary Board. The following is a summary of the report :—

The works proposed are to consist of infiltration works in the bed of the Kavundinga river, pumping the water so obtained into a single tank placed as close as possible to the engine house and distributing the water through the town by gravitation by pipes from the tank. It is proposed to have 8,480 feet of piping varying from 6 inches to 2 inches and 13 fountains. The scheme is to supply a population of 19,000 at 6 gallons per head. The cost is approximately estimated at Rs. 51,500. The annual working charges, including interest and sinking fund on a moiety of the cost, would be Rs. 3,537. If the above proposals are approved, the municipality will be advised to allot a sum of Rs. 100 for taking a few more necessary levels and for sinking trial pits to ascertain depth of sand and low water level, as this information is necessary before complete plans and estimates can be prepared.

Town.	District.	Population, 1891.
GUNTÚR.	KISTNA.	23,359.

52. The council of this town provided funds in its budget for 1895–96 for a thorough investigation of a water-supply scheme, but the work was delayed in favour of other more pressing schemes.

Town.	District.	Population, 1891.
KARÚR.	COIMBATORE.	10,750.

53. It has been decided that a water-supply scheme for this municipality should precede a drainage scheme; a scheme for the former has been ordered to be drawn up in G.O., No. 462 M., dated 19th March 1895; but it was not found possible to take up the work this year, nor is it in the programme for the year 1896.

Town.	District.	Population, 1891.
KUMBAKÓNAM.	TANJORE.	54,307.

54. The municipal council in the budget for 1895–96 set aside Rs. 1,500 for taking surveys and levels in view to the improvement of its water-supply. The views of the council in regard to this were that water should be led during floods from the river Cauvery by a culvert or pipe to the various tanks in the town, which could then be filled and kept full for many months in the year. This scheme, after levels were taken, was found to be an impracticable one and indeed one that the chairman was informed was not acceptable to this department and not likely to be approved of by the Sanitary Board.

55. The council also requested that plans might be prepared for drainage of certain detached streets in the town, which were especially suffering from stagnation of sewage, which sewage might be led on to land somewhat adjacent. A scheme has been completed for draining Solayappa Moodelly Street and submitted to the Sanitary Board by whom it is being considered; but it is very desirable that this system of detached drainage should be limited as far as possible. The

following letter was therefore in this view addressed to the chairman of the council, but as yet has not elicited a reply :—

From the Sanitary Engineer to Government, to the Chairman, Municipal Council, Kumbakónam, dated 6th September 1895, *No.* 2566.

With reference to the survey for drainage and water-supply now being executed by Surveyor Purooshotham Raju, I have the honour to inform you that, though I approved of the suggestions that certain small areas might be drained meantime to available lands, the Sanitary Board is not at all likely to approve that each portion of Kumbakónam should be so dealt with; and if the council are meditating a scheme for any other portion than those I saw, I should advise that a general scheme be undertaken; the cost of this will be about Rs. 10 per head for the area undertaken.

As to water-supply, I have looked into the matter and find it will not be possible to fill the tanks as suggested from the river without pumping; and I am assured that any such scheme (because water will only be available for five months, and water would be put into polluted and pollutable tanks) would not be sanctioned by the Sanitary Board.

I would therefore suggest that Purooshotham Raju be desired to survey roughly the country near the Cauvery above the town, and see whether there is any site available for a storage tank (to hold about six to eight months' supply for the whole town). From this water could be pumped into the town.

It is only on such basis that any design will be approved, and, therefore, I strongly advise the council that any future work be done in this view to do anything else will be mere waste of labour, time and money.

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56. It may, however, be possible, on investigating, to obtain a sub-soil supply by means of galleries or wells driven above the town, as the town lies between two rivers which are in flood for about seven to eight months per annum, and the sub-soil is of a sandy nature.

Town.	District.	Population, 1891.
KURNOOL.	KURNOOL.	24,376.

57. As stated in last year's report, a new site had to be found for the works; and the revised plans and estimates for these include two settling reservoirs, each 250 feet × 220 feet and 12 feet deep, four filter beds, each 50 feet × 50 feet and a service reservoir 98 feet × 85 feet × 6 feet, which is divided in half. The scheme is now a pumping gravitation one, as the water is pumped from the canal to the settling reservoir, whence it passes through the other works and to the town by gravitation.

58. The change of site necessitated fresh estimates, the original estimate was prepared in 1892, and the rates for pipes, &c., were unaltered; certain extra expenditure was necessary from other reasons. The estimate then finally stood at Rs. 2,22,440 *plus* Rs. 16,940 for fall in exchange * or Rs. 2,39,380. Tenders for certain of the works, viz., settling tanks, service reservoir and engine and boiler house were received on 16th September 1895; and the accepted tender (the lowest complete tender) showed an increase of Rs. 29,605 over these items. There seemed no chance of reducing the amount, and the work was therefore proceeded with, the matter being reported to Government. There are still pipes to be tendered for; the tenders for these have not been received so it cannot yet be stated exactly what the ultimate cost of the works will be.

59. The works in progress are the settling tank, filter and engine house; but the ~~amount~~ quantity executed is as yet small, labour is not abundant and has had to be imported from Bijapur, &c. The settling tank was begun on the 14th October 1895; the removal of left canal spoil banks over the pipe was completed in November 1895. The land for the head works was handed over on 15th November. The excavation of the filter bed was begun on the 26th November and is practically completed. The excavation for the service reservoir was begun on the 30th of December 1895.

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* Exchange has since improved.

The pipe lines have been laid out and sections taken and plotted. Lime kilns and sheds have been built and limestone collected and burnt. Shelter huts and latrines for labourers were erected. Messrs. J. H. Gwynne's tender for engines and boilers was accepted on 16th December 1895 (£598 delivered in England).

Town.	District.	Population, 1891.
MADURA.	MADURA.	87,428.

60. The works have been in operation throughout the year. The water-supply in the river was very low in February and necessitated the cutting of a collecting channel 3,770 feet long to bring water to the filters. This channel in April was filled up by floods. The water-supply was again ample until July, when the collecting channel had again to be cut, and as the shortness of supply seemed to be due not to the want of water, but to the great depth over sand over the filter bed in the river; it was decided on the advice of the Chief Engineer, Public Works Department, to put in an extra depth of gravel over the filter bed. This was proceeding when in October floods again occurred, the work remaining incomplete. The cost of the work was Rs. 1,646-13-4.

61. The opening of the Periyár works is likely to give an increased flow in the river bed, but if that be found insufficient, it may be found necessary to bring a supply from one of the irrigation channels in connection with the Periyár Project to the filter beds.

62. During the year, 990 feet of 9 inch piping was laid; these pipes had to be uprooted from the old supply main in the river bed cleaned and relaid. The cost of this work was Rs. 1,756-1-8.

63. The Sanitary Commissioner directed attention to the site of a village, which is on the north bank of the river Vaigai, and from which storm water drainage might reach the river. Plans, sections and estimates for the diversion were sent to the Sanitary Board and these were forwarded to Government. The cost of the proposed improvements amounted to Rs. 1,510. This sum was sanctioned by the Council and Government recorded it in G.O., No. 2116 M., Mis., dated 17th December 1895.

64. The water is at present pumped between the hours of 6 A.M. and 8 P.M. only, which seems sufficient for the wants of the town. The amount used daily has not exceeded 556,861 gallons, which for a population of 80,000 equals only 6·96 gallons per head.

65. The council is anxious to extend the pipes and fountains, which is likely to cost some Rs. 20,000; but the council has not as yet replied to a reference requesting it to state the exact site of the new fountains proposed, nor has it made any grant for the extension.

66. *Drainage.*—The chairman of this Municipality requested the undersigned, during the year under report, to inform him whether the plans and estimates for a regular system of drainage for the town had been completed, with a view to move Government to sanction the same, without which the sanitation of the town must necessarily be defective. He was informed that nothing further than taking levels and plotting them had been done, and that the design of the work might be taken up in 1896-97, if Government so sanction it and the Sanitary Commissioner thinks it should be included in the list of work to be designed that year. The programme of work for 1896 has been sanctioned and does not include the drainage scheme for this town, and therefore the scheme must, in the meantime, be in abeyance.

Town.	District.	Population, 1891.
MANNÁRGUDI.	TANJORE.	20,395.

67. This town has not yet been surveyed either in regard to drainage or water-supply.

Town.	District.	Population, 1891.
MANGALORE.	SOUTH CANARA.	40,922.

68. The preparation of a water-supply scheme for this town must remain in abeyance until the major portion of the other towns which are in more urgent need of schemes have received attention.

Town.	District.	Population, 1891.
MASULIPATAM.	KISTNA.	38,809.

69. *Water-supply.*—In this town with no river at hand, with a canal subject to contamination and flowing but nine months in the year and a sub-soil containing chiefly brackish water, the question of supplying the town with pure water presents much difficulty. It was reported to Government that the prospects of success with regard to artesian boring were doubtful. Therefore the definite settlement of the source of the future water-supply is still an open question. Towards the end of the year the Collector of the district suggested certain improvements to the existing system of water-supply. This was referred to the Sanitary Board, and the resolution of the Board on the subject will be found under "Proceedings of Sanitary Board (Engineering Branch)."

70. *Drainage.*—The Sanitary Commissioner remarked in his inspection notes that much difficulty exists as to surface and sub-soil drainage of the town. The town is surrounded by swamps, and in times of rain they were transformed into seas of water as far as the eye could stretch. There exist six outlet channels for surface drainage to sea, but it is evident they are insufficient and should be increased in number or improved. He therefore advised the council to request the Sanitary Engineer to devise measures for the relief of the town from the inconvenience and insanitary effects of floods of this character. In this connection the Chairman requested Government to depute Sanitary Engineer to visit the town and favour it with a complete scheme for the drainage of the town. Accordingly, Government in G.O., No. 727 M., dated 8th June 1894, desired that the Sanitary Engineer should visit Masulipatam as soon as his other engagements permitted and should institute a full enquiry into the question of supplying the town with a system of drainage reporting the result to Government. The town has not been visited as yet in reference to the above, because, in the first place, water-supply improvements must precede the drainage question and secondly because no superficial examination of the town is likely to lead to any beneficial result; until therefore a proper survey can be undertaken, the consideration of the question of drainage must be delayed.

Town.	District.	Population, 1891.
MÁYAVARAM.	TANJORE.	23,765.

71. This is one of the few towns which have not yet been surveyed either for water-supply or drainage; neither of which seems to be urgently desired.

Town.	District.	Population, 1891.
NEGAPATAM.	TANJORE.	59,221.

72. The council allotted funds for investigating a water-supply scheme, and in connection with it the Sanitary Engineer visited the town in October 1895. The work will be put in hand before the close of 1895-96, and a scheme will be prepared during 1896.

Town.	District.	Population, 1891.
NELLORE.	NELLORE.	29,336.

73. This town has been surveyed both with regard to its drainage and water-supply, but the schemes have not yet been prepared, as the council expressed its inability to finance them and desired Government to grant the whole cost of both the schemes. The Government refused to comply with the request and ordered the council to renew its application again when the amended District Municipalities Act comes into force.

Town.	District.	Population, 1891.
ONGOLE.	NELLORE.	10,869.

74. Alternative schemes for the water-supply of this town at an anticipated cost of (1) Rs. 1,20,000 and (2) Rs. 49,700 were prepared in 1892 and have been abandoned as either scheme is said to be beyond the means of the council. It is hoped that the council will be able to finance one of the above schemes when the District Municipalities Act—now being amended—is brought into force.

Town.	District.	Population, 1891.
OOTACAMUND.	NILGIRIS.	15,053.

75. This town suffered considerably during the year for want of water. On the 5th April, the day the Sanitary Engineer visited the Marlimund tank, only 5 feet of water remained in the reservoir. The Dodabetta reservoir was also very low. The supplies from the reservoirs were limited until the reservoirs began to fill up again in June. There were complaints in regard to the south supply that no water reached the further houses, but as the supply was only opened three days a week, the draught on the main by houses nearer the reservoir reduced the pressure so much that the further houses were without water. The chairman was advised to limit the supply to each house by closing the stop-cocks and to supply one-half the houses on the main on three days a week and the other half on other days.

76. The low level of Marlimund lake afforded an excellent opportunity of determining its capacity between various contours, and this was done and the information sent to the chairman for future reference.

77. Mr. Ellis in the administration report for the year 1894 stated that a full report on the Marlimund Reservoir and the feasibility of obtaining water from other sources was before the Sanitary Board. This report was due to Government Order, No. 273 M., dated 8th March 1894, and is as follows—it is advisable to reproduce it here, so that the subsequent proceedings of the Sanitary Board may be understood. The proposals of the Sanitary Board as to improvements in the water-supply of Ootacamund were accepted by Government. The Sanitary Board, it will be seen on referring to its Proceedings, Engineering Branch, recommended that Mr. Walch, late Chief Engineer for Irrigation, Public Works Department, should be requested to draw up the scheme recommended by the Sanitary Board. The gentleman was approached, but it is not yet known to this department with what result.

Letter from the Acting Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 868, dated 19th April 1894.

With reference to G.O., No. 273 M., dated 8th March 1894, Local and Municipal, I have the honour to inform you that I have pointed out approximately to the Collector the limits of land required for an intercepting channel to cut off the surface drainage from the Tudar Hall Estate as shown in sketch plan No. 1. As the survey plan available is not of a sufficiently large scale to show the boundaries and the area required with accuracy, I am having the lake surveyed and a plan giving these particulars will follow. The drain is designed to take away a run off of $\frac{1}{2}$ an inch in one hour from the area to be cut off and to allow any larger run off should it ever occur to overflow into the lake, this may improve the quality of the water to a certain extent, but it will not do away with the necessity of filtering the water, even if the channel never overflows.

2. The area to be cut off is estimated at 188·65 acres, leaving 79·35 acres of the natural catchment area. In addition to this the Marlimund lake is fed by an 18″ pipe, which is estimated to convey 41,160 cubit feet of water in an hour or a run off ·05 inch in that time from 225 acres which is the catchment area of the Snowdon slopes commanded by the supply channels.

3. The supply to Marlimund could be augmented in the following ways:—

(1) By raising the sides of the supply channels and the level of overflow and providing an additional pipe.

(2) By cutting off the springs that now supply Government House and D P.W. bungalow.

(3) By lining the open supply channel and conveying to the lake all water from the springs on the north slope nearly all of which is now lost by percolation.

(4) By extending catchment area as proposed in the Committee's report referred to in G.O., No. 286 W., dated 1st February 1882, as shown in sketch plan No. 3 which would be possible though expensive.

4. The water-supply might, at considerable expense, be further supplemented by extending the catchment area at Dodabetta, and providing additional reservoirs

in series with those already existing. This would necessitate laying a larger supply pipe from the reservoir to the town, but the cost would be prohibitive.

5. Since the system of conveying water from Marlimund in open channels has been abandoned and pipes introduced, there has doubtless been a great saving in water, and an additional saving might be effected by introducing waste water metres ascertaining the locality of the waste and paying attention to the matter. In localities where the pressure is great and waste constant, cisterns might be introduced and filledper iodically, such cisterns have been built in Madras and filled at night, and it has been found that by thus limiting the supply the people are more careful with the water.

6. With no reliable evidence as to the amount of water which is wasted either before or after it enters Marlimund it is impossible to say whether the reduced catchment area will be sufficient to fill the tank and maintain a good supply during the year, but considering the small amount of water which is conveyed by the 18″ pipe the catchment area of Snowdon is practically wasted, and it is probable that there will be no difficulty in filling the lake every year if proposal No. 1 is carried out.

7. Mr. Jones in his No. 2544, dated 24th November 1893, strongly recommends catch-pits being introduced and considering the large quantity of leaves that find their way down to the edge of the tank and the dirty state of the ground before it is washed by the rain it would appear advisable to construct a drain all round the lake as shown in sketch plan No. 2 and to cut off all the drainage from the Tudar Hall and adjoining estates when the rainfall is not sufficiently heavy to materially raise the level of the lake and introduce a sluice in the catch drain so as to allow any drainage to enter the lake if and whenever considered necessary after the first downpour of rain has washed the ground.

8. Dr. King is of the opinion that the impurities of the water are due to the peat bog in the lake. This may or may not be so; I do not consider it has been proved. The construction of the drain round the tank would drain off the little streams which percolate through the peat bog and vegetable garden and would no doubt be a move in the right direction. Dr. King has also suggested the formation of a separate reservoir on Snowdon Hill; this had occurred to me, but I failed to find a suitable locality doubtless a reservoir could be constructed, but the expense would be prohibitive.

Government in G.O., No. 859 M., Mis., dated 6th July 1894, called for further information which Mr. Ellis supplied in the report following:—

Memorandum on the improvement of Marlimund with reference to G.O., No. 859 M., Mis., dated 6th July 1894.

The cost of constructing the proposed intercepting channel for cutting off Tudar Hall Estate as shown in plan No. 1 capable of discharging a run off of $\frac{1}{2}$ an inch in one hour from the catchment area and providing two escape weirs and making the necessary provision for collecting the water from the area to be retained would be Rs. 4,800.

2. Plans showing the land required to be taken up for the channel and so much of the land proposed to be retained as catchment area have been furnished to the Collector in order that the cost of acquiring the same may be ascertained.

3. In order to enable the Sanitary Board to form an opinion as to whether the proposed measures, together with those proposed in paragraph 11 of the above order, would secure the water in the lake from contamination by manure deposited on the Tudar Hall Estate or whether it would still be necessary to have recourse to filtration as well in consequence of the peat bog which is situated within the reservoir, the bottom of the lake was examined and it was found that five feet of peaty clay deposit extended over the whole of the lake.

4. It will be observed that the proposed channel only intercepts surface drainage, but as the channel will be above the level of the lake, water will percolate underneath, especially at the spots where peat occurs.

5. After the construction of the channel the water will be dammed up at points A, B and C in plan No. 2 to a depth of about one foot and extend over the area colored blue; further damming up will be prevented as the water will be carried off by the channel.

6. The peat bog is shown on plan No. 3 and colored red, to remove so much of this as is above low water line would cost not less than Rs. 1,25,000.

7. The cost of constructing a retaining wall at * * on plan No. 3 for cutting off the bog would cost not less than Rs. 50,000. If this is constructed the intercepting channel would also be necessary to prevent the water which would otherwise be retained from surplussing into the lake.

8. The question of increasing the supply from Snowdon slopes will be better understood by referring to plan No. 4 in connection with the following paragraphs.

9. On the northern slope the supply channel is cut on the hill side from point D to E, tapping 3 streams marked 3, 4 and 5, but it is so pervious that at the time of inspection all the water amounting to 22·4 gallons a minute was lost by percolation. From E to F a masonry duct, 1′ 8″×1′ 8″, capable of discharging 12 cubic feet a second, takes the place of the open channel.

10. The supply channel on the southern slope is an open cut from H to K tapping 2 streams marked 6·7, yielding at the time of inspection, 27·7 gallons a minute. However very little of this reached the Marlumund, as some of it was diverted and some lost by percolation. From K to F a 12″ pipe takes the place of the open channel and from F to G the water from both channels is conveyed by an 18″ iron pipe capable of discharging 9·3 cubic feet per second. From G to Marlimund lake there is a masonry duct, 1′ 6″ × 1′ 6″, capable of discharging 15 cubic feet a second.

11. The catchment area of Snowdon slopes at present draining into the channel is colored blue and is 174·24 acres.

12. The dotted red line L M represents the channel which diverts the water from the southern channel above referred to to Government House dhobies and which takes into it the drainage from land colored red, about 23 acres.

13. The dotted blue line represents a channel that supplies the cooly lines just above Government gardens: this subsequently flows into the Government Botanical Gardens. The channel taps a stream, yielding at the time of inspection 8·2 gallons a minute, and is supplied by a catchment area colored green measuring 59 acres. It may be mentioned that the main supply for the Government Botanical Gardens is obtained by means of the channel shown by a full black line intercepting at the time of inspection 33 gallons a minute.

14. At one time the area colored green and portion of that colored red was led into the Marlimund lake by a supply channel shown in dotted black, but this channel has long since been abandoned.

15. In order to increase the supply to Marlimund from the Snowdon slopes the following works may be carried out:—

		Rs.
(*a*)	Cutting off the supply to Government House dhobies and diverting the same into the supply channel and lining the present channels with brick in chunam from D to E and from H to K. (The use of puddle is not recommended, as the rapid gradient would cause the same to be washed out.)	16,650
(*b*)	Recutting and lining the old south supply channel from N to O, so as to command the area colored green, from N the water would find its way down the stream H and thence to Marlimund by existing channel	6,700
(*c*)	Laying an additional pipe from K to F	4,000
(*d*)	Enlarging masonry conduit from E to F	8,220
(*e*)	Laying additional pipes from F to G	69,000
(*f*)	Enlarging masonry conduit from G to Marlimund lake ...	57,060
	Total	1,61,630

16. The object of increasing the size of the conduit and laying additional pipes is to enable them to discharge a run off of ½ an inch in 1 hour from the catchment area. The channels themselves are large enough with slight modifications.

17. The cost of extending the channel on the northern slope and increasing the catchment area by 30·33 acres as shown in yellow would be not less than Rs. 10,000, as the slopes of Snowdon on this side are very steep and much blasting and masonry work would be necessary. The question of realignment of the channel was considered, but is practically impossible. However until the channel is lined or the other works carried out, there is little use in thinking of extension.

18. As the cost of the above works Rs. 1,61,630 for increasing the supply seems probable, it would appear advisable simply to carry out item *a* and perhaps *b* instead, however, of lining the channel, the streams referred to ought to be dammed up and coveyed by means of stoneware pipes at a cost Rs. 15,000, but the lining would be more advantageous, as the water only entering the channel from the catchment area would also be saved.

19. The estimated cost of raising the Marlimund dam is Rs. 12,000, but this is not recommended, as it is probable that there would be a further slip of peat by the same becoming water-logged. The peat hatched red on plan No. 3 has given no trouble up to date, but might slip if the dam were raised.

20. The level of the escape of Snowdon Reservoir is 423·64 and the level of the pipe at this point to give the requisite head is 425·26. By raising the bund to 431·36 at a cost of Rs. 7,500, a tank would be formed capable of holding 6½ million gallons or 28 days' supply.

21. The cost of constructing the reservoir, as suggested by Dr. King, would be not less than Rs. 10,000, the bank would be 46 feet high, and the water stored is 5,150,000 gallons or about 24 days' supply and would probably silt up very rapidly.

22. Plan No. 5 illustrates the cisterns referred to in paragraph 7 of the Government Order to be constructed where pressure is high and waste constant. The estimated cost is Rs. 380, and ten of such cisterns would probably be sufficient to make a marked difference in the waste.

23. The question of connecting the various springs in the neighbourhood of Ootacamund, as suggested by Dr. King in his inspection notes, embodied in G.O., No. 648 M, dated 23rd May 1894, has been considered as a means of increasing the supply. Plan No. 6 shows the position of such springs and also the existing line of pipes. The table appended gives the reduced level and the quantity of water as gauged at each spring in September 1894. The cost of connecting the springs to the main would be not less than Rs. 60,000.

24. The minimum quantity that would be obtained from the springs is probably half the amount given in the table, namely, 139·67 gallons a minute, so that the supply could not depend entirely from these sources as the maximum quantity required to supply a population of 15,000 at 20 gallons a head is 416 gallons per minute. Under the circumstances the above idea must be abandoned.

25. Since writing the above the undersigned has received a communication from the Chairman, Municipal Council, Ootacamund, calling attention to the low level of the water in Marlimund reservoir and stating that he has diverted the supply which was flowing to the Government House dhobies and his report is attached to this memorandum.

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78. *Drainage.*—The intercepting sewer laid a few years ago was found during last year to have been incorrectly laid, and its removal and relaying at a better gradient was recommended by the Sanitary Board, which also recommended the filling in of the Upper Lake, which is a somewhat shallow and insanitary piece of water. These works have been allotted to the Public Works Department for execution. The chairman of the council also proposed to the Sanitary Board that the whole of the bazaar drainage should be remodelled and that the portion of the town called Mettucherry should also be properly drained. The Sanitary Board dealt also with these questions as will be seen by a reference to the proceedings.

Town.	District.	Population, 1891.
Palamcottah.	Tinnevelly.	18,686.

79. As stated in last year's report, the council having agreed to bear a portion of the cost of a preliminary survey for a joint water-supply scheme with the District Board and Municipality of Tinnevelly, provided Rs. 300 for the purpose in its budget for 1895–96; the work of preliminary survey was put in hand during the year and is in progress.

Town.	District.	Population, 1891.
PALGHAT.	MALABAR.	39,481.

80. The levels and surveys for a drainage scheme of this town were completed in 1894, but the preparation of the scheme has not yet been taken up. It is not included in the programme of work for either 1895 or 1896.

Town.	District.	Population, 1891.
PALNI.	MADURA.	16,940.

81. Two schemes of water-supply for the town have been considered—one a gravitation scheme from the Vyapuri tank, the other a pumping scheme on the perennial stream called the Shanmuganadhi. The pumping scheme was investigated in 1894 and found preferable to the gravitation one. The preparation of plans and estimates is delayed owing to other towns having first to be dealt with, the schemes for which are far more important and necessary from a sanitary point of view than this one.

Town.	District.	Population, 1891.
PARLAKIMEDI.	GANJÁM.	16,390.

82. The water-supply of this town is far from satisfactory and requires much improvement; but it was not possible to arrange for an inspection with a view to submit proposals for its improvement, and, indeed, there is considerable hesitation in taking up the scheme with so many already on hand and especially in the case of a town so far distant from head-quarters.

Town.	District.	Population, 1891.
PERIYAKULAM.	MADURA.	16,363.

83. Both drainage and water-supply are much needed for this town. An anticipated cost of Rs. 1,25,000 for drainage was considered by Government to be beyond the means of the council, and the proposal to supply the town by tapping the Varahanadhi above the town and conveying pure water along each bank of the river through the town in pipes did not meet with support. Another proposal to utilize the Berijam project as a water-supply for the town was made by the chairman of the municipality, the Collector and the Sub-Collector who consider it to be cheaper than the scheme from the river mentioned above; the attention of the Sanitary Engineer was drawn to this project by Government, and the Chief Engineer for Irrigation was requested to send the plans and report relating to the Berijam project, so that it might be considered in relation to the water-supply. These, he said, were not available. Nothing is known about the project, but there has been certain correspondence during the year between the Chief Engineer for Irrigation and this department, as to the quantity of water required for the town and the sufficiency of the Varahanadhi supply.

Town.	District.	Population, 1891.
RAJAHMUNDRY.	GÓDÁVARI.	28,397.

84. The water-supply scheme for this town was in the programme of work for 1893 and 1894, and would have been completed before this time had it not been for the objection taken by the Sub-Collector as to locating the proposed pumping station of the proposed water works on the site of the Old District Court, and the land adjacent to it as being close to various public buildings and offices. The change of pumping station involves further investigation and survey, and the completion of the scheme has in consequence been delayed.

Town.	District.	Population, 1891.
SALEM.	SALEM.	67,710.

85. The council provided Rs. 2,000 in its budget for 1895–96 for the purpose of investigating a water-supply scheme for the town, and requested Government to depute the late Acting Sanitary Engineer Mr. Ellis for the immediate investigation of the water-supply scheme proposed by him which includes the collection of the sub-soil water derived from the area between Atur and Salem. The papers were

referred to the Sanitary Board for report, and the Board in its report to Government recommended the investigation. Government in G.O., No. 1851 M., Mis., dated 1st October 1895, expressed its inability to depute Mr. Ellis for the work and desired the Executive Engineer, Salem, to be requested in the Public Works, Department to undertake the investigation of the scheme recommended by the Sanitary Board and to report the result to Government. The investigation has not yet been undertaken. Meanwhile Dr. King, the Sanitary Commissioner, has suggested two other sources, which, he believes, are likely to afford a sufficient supply.

Town.	District.	Population, 1891.
SRIRANGAM.	TRICHINOPOLY.	21,632.

86. Pending the introduction of a correct public water-supply scheme to the town, it was suggested to the council by the Sanitary Commissioner to filter the water from the Nottuvoikal channel before distribution by making an excavation for a filter bed, and allowing the water to pass into it from which it could be drawn either by hand pump or from a dipping well. The chairman of the municipality requested the undersigned to depute the Assistant Sanitary Engineer at Trichinopoly to furnish him with a plan and an estimate for the work, and Mr. Minchin was asked to inspect and report on the matter. Meantime the council resolved to postpone the preparation of plan and estimate for the above scheme, pending the orders of Government on the inspection notes of the Deputy Sanitary Commissioner regarding the introduction of a proper water-supply to the town. Government, on 28th November 1895 (G.O., No. 1997 M.) requested the Sanitary Engineer to state whether the present wells for the supply of water to Trichinopoly can be utilized for Srírangam also, and what would be the approximate cost of a water-supply scheme for the latter town. This order was received so late in December 1895 as not to allow any steps to be taken in the matter; but the matter will be dealt with early in 1896.

Town.	District.	Population, 1891.
SRÍVILLIPUTTÚR.	TINNEVELLY.	27,500.

87. There is nothing known as to this town. It was constituted a municipality only from 1st October 1894.

Town.	District.	Population, 1891.
TANJORE.	TANJORE.	54,390.

88. The water works were opened on 22nd October 1895 by His Excellency the Governor, but for sometime before that, in fact since 15th July 1895, water had been supplied to the town. Only small items of work, except the drivers' quarters which are not yet begun, remained to be done after the date of the formal opening, but it has not been found possible until the end of December to remove the supervisor.

89. It will be remembered that in 1893 the floods almost completely destroyed the Pudukolum road along which the 18″ main was laid. The restoration of this would have been an extra heavy charge for the municipality, but during the year Government gave the sum, viz., Rs. 18,420, required for the restoration. The erection of the pumping machinery was completed in May 1895, but pumping could not be started until the main had been laid along the restored Pudukolum road. Certain minor works such as the fixing of the sluice valve in the well, which owing to the high level of the river could not be put in, and the contractor's illness, delayed the opening of the work considerably. The pipe laying contractor also failed to execute his work satisfactorily and a small portion of it had to be completed at his cost. Cholera in villages adjacent to the Vennár, whence labour was drawn, also considerably retarded execution.

90. The works, since they have been in operation, have been satisfactory. The machinery (vertical, triple expansion engines and Babcock and Wilcox boilers supplied by Messrs. James Simpson & Co., London) has worked most smoothly and is up to its duty.

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90. The works, since they have been in operation, have been satisfactory. The machinery (vertical, triple expansion engines and Babcock and Wilcox boilers supplied by Messrs. James Simpson & Co., London) has worked most smoothly and is up to its duty.

91. The consumption of water (pumping takes place between 5 A.M and 8 P.M. only) has not exceeded 292,982 gallons and this for 60,000 people is only about 4·88 gallons per head. The consumption will no doubt increase as time goes on, and the value of pure water gets more appreciated.

92. The details of the work done are exhibited in the following table and in appendix table No. 6:—

Statement of length of pipes laid and number of pillar, single and double wall-tap fountains erected in Tanjore up to the end of 1895.

Description.	Diameter of pipes in inches.											Number of single wall-tap fountains.	Number of double wall-tap fountains.	Number of pillar fountains.
	18″	15″	12″	10″	9″	8″	6″	5″	4″	3″	2½″			
	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	NO.	NO.	NO.
Length of pipes laid and number of fountains erected up to the end of 1894	16,629	2,422	1,147	843	1,346	2,863	4,377	4,430	9,920	2,636	...	1	5	...
Length of pipes laid and number of fountains erected during 1895 ...	...	...	...	...	...	...	81	...	...	60	774	44	19	21
Total ...	16,629	2,422	1,147	843	1,346	2,863	4,458	4,430	9,920	2,696	774	45	24	21

93. *Drainage.*—At present the sewage from the portion of Tanjore called the Fort is discharged into the old Fort Ditch, where it is partly utilized for irrigation, a further part of the sewage flows across the ditch on to lands, where it soaks into the soil or finds its way to open tanks. A scheme has been submitted to the Sanitary Board for dealing with the sewage in a sanitary manner and for utilizing it on a properly laid out sewage farm. The details of the proposals are still under consideration of the Sanitary Board.

Town.	District.	Population, 1891.
TELLICHERRY.	MALABAR.	27,196.

94. Neither water-supply nor drainage is required for this town as both are fairly good.

Town.	District.	Population, 1891.
TINNEVELLY.	TINNEVELLY.	24,768.

95. The town, as a participator in a joint water-supply scheme with the Municipality of Palamcottah and the District Board of Tinnevelly, provided Rs. 400 in its budget for 1895–96 for preliminary survey, &c., required for the work which is in progress.

Town.	District.	Population, 1891.
TIRUPATI.	NORTH ARCOT.	14,242.

96. Plans and estimates for a water-supply scheme were prepared and submitted to the Sanitary Board on 18th October 1895. The scheme is a gravitation one and the works proposed are briefly to construct infiltration works on the right bank of the Kalyani river at the angle formed by the river and South Indian Railway which crosses it; to lead the water so obtained to a service reservoir placed in Tirupati by means of 9″ stoneware pipes; and to distribute the water from the reservoir in the usual manner by pipes and fountains. The scheme provides for a population of 24,000 people at 15 gallons per head. The cost is estimated at Rs. 1,89,000. Considering how important a water-supply is for the protection of the health of not only the people of Tirupati but indirectly of, owing to the large pilgrim traffic, that of the whole presidency, it was suggested that Government might be pleased to make a grant of three-fourths of the cost of the scheme. On this assumption the annual working charges including interest and sinking fund on

one-fourth of the cost were calculated at Rs. 5,200. The scheme is still under the consideration of the Sanitary Board.

Town.	District.	Population, 1891.
TIRUPPATTÚR.	SALEM.	16,499.

97. Surveys and levels for a drainage scheme of this town were completed in 1893, but it has not been found possible to design a scheme. The chairman of the municipality, in the year under report, requested that the preparation of the scheme might be expedited; he was informed that, owing to other more important schemes being in hand, the preparation of this one could not be undertaken for sometime.

Town.	District.	Population, 1891.
TRICHINOPOLY.	TRICHINOPOLY.	90,609.

98. Mr. Minchin continued to be in charge of the Trichinopoly Water-works throughout the current year in addition to those at Madura, Dindigul and Tanjore.

99. Tenders for the supply of 2,607 feet of 18 inches pipes, bends, &c., were accepted from Messrs. Richardson and Cruddas, Bombay, for Rs. 22,591. These were the pipes required for the extension of the main from the old to the new site of the head works.

100. The maximum water level in the river during the year was 349·35 and continued to be so till November 1895.

101. The foundations of the engine and boiler house were started on the 16th July 1895.

102. The retaining wall, screening chamber, collecting and pump wells were all started during the latter portion of last year and completed before the freshes came into the river. The chief cause of delay in the completion of the works was the freshes coming earlier than expected.

103. The work executed is as follows:—

Head Works.

The preliminary arrangements having been properly made at the end of last year for the collection of materials for constructing the collecting wells, screening chamber and engine and boiler house, the first opportunity of the river going down was availed of and the work started with as much labour as was available locally. After a few weeks had passed, local labour was found to be insufficient and arrangements were at once made by the contractor to bring a fairly large number of skilled well-sinkers and divers from Malabar and other districts. While the collecting well No. 1 was being sunk, all the pump-power available had to be worked to keep the water down. This well was sunk to the required depth on the 28th February 1895. Nos. 2 and 3 wells are both fully constructed, and the former sunk to about three-quarters of its full depth.

The difficulty in sinking the screening chamber was due to the soil being of a varied character such as loose sand, stiff clay, &c. The width of the curb also made it difficult to dig under it. The tremendous inflow of water brought in sand from all directions, blows actually starting from beyond the retaining wall some 30 feet or 40 feet away. As it was found impossible to complete the work by pumping the chamber dry, the sinking was finished by divers. The chamber is now down to full depth.

The steel collecting pipes in the river-bed alongside the wells were all laid satisfactorily in the month of June 1895, in spite of the very large quantity of water which had to be dealt with.

The contractor's arrangements for getting this done were very good.

Main Engine and Boiler House.

The excavation for foundation of boiler room was started in the latter part of July, and the boiler room is now raised to floor level. The inlet pipe was put in between the screening chamber and pump well. The pipe was laid between the screening chamber and pump well by divers, as it was found that the piling

could not hold back the loose soil and the tremendous inflow of water; this work alone took three weeks.

Special dry stone, brick and sand filling were put in over the pipe and rammed to form a foundation for the engine-room wall. The floor of the pump room had an extra 2 feet of concrete put in to make it secure. All this has been done and the walls are now all raised to basement and the most difficult part of the work is now over.

The subsidiary engine and boiler house and machinery were all completed in 1894, but, as water is not available until the head works are finished, the engines have not as yet been tried.

The store shed was completed during the year.

In connection with this work, it ought to be recorded that contractor B. Sivagnanam Pillay worked very hard, in fact overworked himself and got very ill by continual exposure to sun, rain, &c. He spared neither pains nor money to see the work done well. The failure of the contractor's health during the last four months has retarded the work.

Pipe-Laying.

During the year, 3,884 feet of 18 inches main were laid from Kodamurutty bridge to the (head works) pumping station; 989 feet of 8 inches to the railway storage tank and 6,641 feet of 3 inches pipes (3,636) to the jail and 3,005 to complete the Civil Court branch line.

The construction of fountains were also completed during the year.

	NO.
Pillar fountains	10
Double wall tap fountains	13
Single wall tap fountains	25

The Military Department contemplates the extension of the piping and fountains to the two regimental lines in Trichinopoly, and the following estimates were prepared, viz.:—

	RS.	
Pioneer lines	1,700	
Twenty-third infantry lines	3,200 2,900	Alternative estimates.

104. Details of the work done will be found in the following table and the appendix table No. 7:—

Statement of length of pipes laid and number of pillar, single and double wall-tap fountains erected up to the end of 1895 at Trichinopoly.

Description.	Diameter of pipes in inches.														Number of pillar fountains.	Number of single wall-tap fountains.	Number of double wall-tap fountains.
	18″	16″	15″	14″	12″	10″	9″	8″	7″	6″	5″	4″	3″	3″ jail branch.			
	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	FT.	NO.	NO.	NO.
Length of pipes laid and number of fountains erected up to the end of 1894	15,512	2,329	1,567	2,358	1,020	1,200	5,421	2,940	402	3,882	4,923	17,487	20,628	5,000	8	12	4
Length of pipes laid and number of fountains erected during 1895 ...	2,684	...	...	...	...	...	...	989	...	...	...	...	3,005	3,636	10	25	13
Total ...	18,196	2,329	1,567	2,358	1,020	1,200	5,421	3,929	402	3,882	4,923	17,487	23,633	8,636	18	37	17

105. The whole work will, it is hoped, be completed and opened early in 1896.

106. The following officers visited the works during the year:—

Colonel J. Pennycuick, R.E., Chief Engineer, P.W.D., (twice).
Mr. D. Logan, Chief Engineer, South Indian Railway.
Mr. Pottinger, Sanitary Engineer, Bombay.

Town.	District.	Population, 1981.
TUTICORIN.	TINNEVELLY.	25,107.

107. Alternative schemes for the water-supply of this town were prepared in 1893 at an anticipated cost of (1) Rs. 3,18,710 and (2) Rs. 2,34,670; the council requested Government to contribute three-fourths of the cost of the scheme, and to take steps to legislate for the imposition of octroi duties as a means to enable the council to liquidate any debts that would be incurred in respect of the scheme. Government in G.O., No. 180 M., Mis., dated 6th February 1895, refused to undertake legislation for the introduction of such a tax and observed that even were the Government to contribute a large proportion of the initial cost of the scheme, the council would be unable to provide the remainder thereof as well as the necessary working expenses until the enhanced rates of taxation proposed in the bill to amend the District Municipalities Act have become leviable. The introduction of the scheme was postponed until after the passing of the bill. In the meantime two other schemes—one by the Local Fund Engineer and the other by the chairman of the municipality—were referred by Government to the Sanitary Board for remarks—*vide* Proceedings of the Sanitary Board.

Town.	District.	Population, 1891.
VANIYAMBADI.	SALEM.	15,838.

108. The council provided Rs. 500 in its budget for 1894–95 for surveying and levelling the town in view to the preparation of a drainage scheme; subsequently in its report for 1894–95, the council postponed the work and otherwise utilized the amount allotted. Nothing therefore has been done in respect to this town.

Town.	District.	Population, 1891.
VELLORE.	NORTH ARCOT.	44,925.

109. *Water-supply.*—A water-supply scheme for this municipality was prepared in 1891 at a cost of Rs. 3,13,000 and sanctioned by Government in 1892. But the council found it impossible to provide funds and requested the investigation of the Virupatchipuram tank-supply scheme. To the restoration of the tank the Public Works Department objected. The former scheme has been abandoned by Government the cost being prohibitive. The Sanitary Commissioner in his inspection notes suggested the feasibility of obtaining the required supply for the town from Franklin spring in the Palmudi valley, which stretches up to the Suriyagunta, by means of infiltration galleries or by joined tube wells scattered over a considerable area under the influence of a central pump; the proposal has not yet been investigated.

110. *Drainage.*—A scheme for the drainage of this town was obtained from Mr. Oldham of Calcutta at an estimated cost of Rs. 2,10,613, which was subsequently increased to Rs. 2,63,000 owing to certain modifications in the scheme proposed by the undersigned. The municipality reported that the scheme was under execution piecemeal; the work was inspected under orders of Government by the Assistant Sanitary Engineer to Government during the year, but his report was not sent to Government before the end of the year.

Town.	District.	Population, 1891.
VIZAGAPATAM.	VIZAGAPATAM.	34,487.

111. A water-supply scheme estimated at 4 lakhs, which was described in last year's report, was submitted to the President of the Sanitary Board on 25th January 1895, but through the papers having been mislaid, the project was not further advanced during the year.

Town.	District.	Population, 1891.
VIZIANAGRAM.	VIZAGAPATAM.	30,881.

112. *Drainage.*—The council is anxious for a drainage scheme, and to a requisition made by the Collector of the district to include the scheme in the Sanitary

Engineer's programme of work for 1895, Government replied that the undersigned was unable to take up fresh schemes during the year owing to pressure of work. Government was, however, informed that surveys and levels preliminary to the preparation of a scheme might be undertaken in 1895 if the council were to provide Rs. 600 in its budget for 1895–96, which it did. The question of drainage *versus* water-supply scheme came, however, before the Sanitary Board towards the close of the year, and until the question is decided in favour of one of them, no survey will be at present undertaken.

Town.	District.	Population, 1891.
WALAJAPET.	NORTH ARCOT.	10,485.

113. This is one of those few towns which have not yet been surveyed either for water-supply or drainage.

DISTRICT AND TALUK BOARDS.

CHINGLEPUT DISTRICT BOARD.

114. *Tanneries at Tiruvattyur.*—The President, District Board, Chingleput, forwarded on 11th October 1894 a copy of report of the President, Taluk Board, Saidapet, regarding tanneries at Tiruvattyur, and suggesting that tannery washings, which at present cause a serious nuisance to that village, might be drained off to the sea, for favour of opinion of the Sanitary Engineer on the matter after such inspection as might be necessary. The site was inspected by the Assistant Sanitary Engineer to Government, who reported on the subject as follows:—

There are 32 tanneries ranged on each side of the Tiruvattyur High Road. They are very close to dwelling houses almost amidst them. The floor, drains and walls of some of the tanneries are in a state of great disrepair. The waste water is discharged into pits excavated into the ground just outside the buildings where it stagnates and emits a most offensive smell. An offensive smell also from 32 pits continuously filled with deleterious matter is not only an element of danger to the health of the people, but the waste water saturates the soil; and the sub-soil water of Tiruvattyur, which was before the establishment of these tanneries reputed to be good, is rapidly deteriorating in quality. The Union Panchayets cannot do anything in the matter, as they are not invested with the control of the sanitary condition of offensive trade by the District Boards Act. Therefore it is necessary that the Sanitary Board should invite the attention of Government to the urgent necessity of legislation in the matter.

The following suggestions are made:—

(1) That the floor of existing tanneries should be paved with flooring tiles over a levelling course of concrete pointed with cement, or they must be formed of 9 inches of concrete plastered over with cement. Drains should be constructed wherever necessary and the existing drains repaired. These may be formed of brick in chunam with their surfaces plastered with cement.

(2) That the disposal of waste water from existing tanneries could be effected by a pipe sewer with its outlet into the sea and connected with the tanneries by branch pipes. This would cost about Rs. 15,000 to Rs. 20,000. That, if this method was impracticable on financial grounds, one of the following two methods might be tried tentatively:—

(i) To collect the waste water from the tannery drains in water-tight cisterns constructed just outside each tannery, pumping or baling the waste water into water carts and convey and discharge the contents into the sea which is within a moderate distance of the tanneries.

(ii) Where the floor of a tannery is sufficiently high above ground level and where the soil is sandy, small sewage filters should be constructed for filtering the waste water. The effluent from the filters might be allowed to permeate the sandy soil, while the solid accumulations on the top of the filter should be scraped and carted away and buried on the sea-shore or thrown into the sea.

(3) That the erection of new tanneries within the union must be prevented and that sites for further tanneries should be selected close to the sea in consultation with the District Medical Officer and the Sanitary Commissioner.

(4) That the division of site into blocks and the relative positions of the buildings could be decided upon with reference to its drainage after the site has been selected.

(5) That the floor of all new tanneries should be at least 2 feet above the ground outside.

(6) That cement and not chunam should be employed in pointing or plastering the floor and plastering drains, lime pits and walls to a height of at least 5 feet above floor level.

115. The Sanitary Board in its Proceedings No. 9, dated 8th April 1895, represented to Government the desirability of amending Act V of 1884, so that provision be made whereby efficient sanitary control of the structure, drainage, water-supply and mode of working of tanneries can be secured by District Board authorities by requiring the issue of licenses, as under the existing state of law it is impossible and as a result contamination of air, soil, sub-soil water occur to the detriment of the health of the inhabitants in the neighbourhood.

116. *Chingleput Drainage.*—The District Board is desirous that the town of Chingleput should be drained and desired the preparation of estimates for that purpose. The board was advised to allot Rs. 500 in its budget for 1896–97 for the purpose of taking levels and meeting the cost of preparing a scheme.

HOSPET TALUK BOARD.

117. This board in the year 1893 called the attention of this department to the question of the drainage of Hospet and desired the preparation of plans and estimates for this purpose. The surveys had been previously made. A reply was given that it was impossible to take up the preparation of the scheme in 1895, and the board then arranged for the District Engineer to prepare the scheme; the survey plans were sent to the board for that purpose.

TINNEVELLY DISTRICT BOARD.

118. This board was, during the year, a contributor to the expenses incurred in making a survey for a joint supply of water to the towns of Tinnevelly and Palamcottah and to the village which has sprung up and is rapidly increasing adjacent to the South Indian Railway Station, which is situated midway between these towns. The survey was put in hand during the year, and is in progress.

MADURA DISTRICT BOARD.

119. *Kodaikánal Water-supply.*—In 1894 the Deputy Sanitary Commissioner in his inspection notes stated that a water-supply for the town of Kodaikánal might be got from the stream above the 'Fairy Falls,' and in consequence he suggested that this spot and its catchment area be surveyed and, if found suitable, reserved for the purpose of a water-supply. Government in G.O., No. 1644 L., dated 28th August 1894, referred the matter to the undersigned for report. The Sanitary Engineer visited Kodaikánal in July 1895 and inspected the various possible areas from which water might be obtained. A report was made to Government that the reservation of the "Fairy Falls" area should be made forthwith so as to prevent any building or planting whatever on it, as houses are being very rapidly built at Kodaikánal. It was further advised that, by the construction of a reservoir above the falls, the water might be delivered to the settlement of Kodaikánal by gravitation. Government has as yet passed no order on this matter; at least none has been communicated to this department.

COIMBATORE CENTRAL JAIL.

120. In the report for 1893 it was stated that Government had accepted the recommendation to deepen the main gate well of this jail. The Superintendent

of the jail however suggested that instead of deepening the well, a fresh well might be dug near the present main gate well and be carried down 50 feet below the level of present well. The Inspector-General of Prisons in supporting this recommendation stated that the increase of cost under the altered circumstances would be small. The Government in Judicial Department sanctioned the proposal on the understanding that the increase of cost would be small (G.O., No. 1300, Judicial, dated 27th June 1893).

121. The work was undertaken by the Public Works Department, and the Executive Engineer made a report of which the following is a brief resume :—

The well was excavated to 93 feet out of a total sanctioned depth of 100 feet. The amount spent is Rs. 2,444 against Rs. 5,650 sanctioned for the work. This does not include cost of pump. The probable cost of sinking the remaining 7 feet will be Rs. 1,000, provided the pump is sufficiently strong for the work which is more than doubtful. The strata met with to 93 feet from ground surface are 45 feet soft and 45 feet hard decayed gneissic rock with no signs of change. Water from new well was analysed and found to be bad. The pumping of water out of new well is lowering the water-level in all existing wells. The Executive Engineer has come to the conclusion that, from the result of the experiment, so far as it has gone, it is not possible to form an accurate judgment and it is not advisable to continue the sinking further until the opinion of the Geological Department upon the results that may be anticipated be obtained.

Thereupon the Inspector-General of Prisons on 6th September 1895 informed Government that the results of the experiment were not satisfactory, and suggested that the opinion of the Sanitary Engineer regarding the propriety of continuing the experiment should be obtained. Government in its endorsement No. 2162, dated 13th September 1895, referred the matter to the Sanitary Engineer for favour of remarks. The Sanitary Engineer remarked in his letter to Government No. 2955, dated 8th October 1895, that the whole subject reduced itself to two main questions, viz.—

(1) Whether the works executed have obtained a purer supply of water.
(2) Whether the work should be continued.

As to the first question it was stated that, if the statements of analyses were studied, it appeared that the results were only such as might be expected from a new well drawing from a new and increased area and that several of the increases in the impurities were probably due to the operation of deepening the well, such as the presence of workmen, blasting, &c. That therefore the Sanitary Engineer was of opinion that a superior quality of water would be obtained from the new well after a longer period of constant use, and he advised Government to have the well drawn on day by day not intermittently for some months and another analysis obtained. If any improvement takes place the Sanitary Engineer considers that a bore hole ought to be put down in the bottom of the well and that after it has been driven some 10 or 20 feet, water-tight pipe ought to be inserted into the bore and carried to ground level and the water from that analysed. This would not cost much and would allow the second question to be answered decidedly, whether more money should be spent in the well or whether the jail should be included within the limits of the town-supply scheme.

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122. Government in G.O., No. 2291, Judicial, dated 8th November 1895, ordered further expenditure in deepening the well to be postponed pending the result of the test proposed by the Sanitary Engineer.

Drainage Pipes.

123. In paragraph 70 of the report for 1894, a reference was made to a report to Government regarding the manufacture of stoneware pipes. The attention of Government had been called to the matter by a report of some experiments made with pipes manufactured from Jubbulpore clay. These pipes are similar

to those which Messrs. Burn and Co. of Calcutta make at Ranegunge and which pipes have been extensively used in this Presidency by the undersigned. It was well known that these pipes were as good and of equal if not greater strength as those to be procured from England while their cost was less. Government was desirous to know whether such pipes could not be locally manufactured either by Messrs. Arbuthnot and Co. or the Basel Mission. The following report was made by the Acting Sanitary Engineer :—

Letter from the Acting Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 110-T., *Salem, dated* 15*th May* 1894.

With reference to your memorandum, No. 175, dated 8th March 1894, Local and Municipal, I have the honour to inform you that I have placed myself in communication with the following gentlemen with a view to obtain some information on the subject of local manufacture of drain pipes :—

Messrs. Arbuthnot and Co.
The Manager of the Basel Mission.
H. Irvin, Esq., Consulting Architect to the Government of Madras.
E. Holder, Esq., Superintendent, School of Arts, Madras.

Attached is a comparative statement of cost of English stoneware pipes and Jubbulpore pipes delivered at Madras :—

Diameter of pipe.	Jubbulpore clay, cost per foot. RS. A. P.	English stoneware, cost per foot. RS. A. P.
4-inch pipe	0 5 6	0 5 9
6 do.	0 7 10	0 8 0
9 do.	0 14 5	0 15 6
12 do.	1 8 4	1 10 0
15 do.	2 2 8	3 0 0
18 do.	3 8 0	4 2 0

showing that the Jubbulpore pipes are slightly cheaper.

It is difficult to draw any hard-and-fast line between different kinds of ware, as they slide by degrees into one another.

Stoneware pipes are made from plastic clay united with various proportions with some felspalic mineral, broken China finely-ground sands of different kinds, &c. When burnt these mixtures are reduced to a state of semi-fusion, which is the distinguishing character of stoneware.

Fire-clay pipes are usually classed distinct from stoneware pipes and in thickness are generally considered inferior in strength and more porous. In Staffordshire pipes are made from a species of fire clay and are dark in colour and not at all unlike the Jubbulpore pipes in appearance.

The materials from which pipes are made vary in each district and consequently the quality of pipes also varies, and for that reason it is difficult to say whether manufacturers would be able to turn out a stoneware pipe as good and cheap as those imported from England. The Manager of the Madras Cement Works expresses a doubt whether suitable clay can be found in sufficiently large quantities, but he is sinking shafts at various places with the object of ascertaining what quantity is available, and he writes to say :—

"Mainly on account of the uncertainty of obtaining sufficient quantities of the raw materials, I cannot advise Messrs. Arbuthnot and Co. to make any venture in the direction of starting works for the manufacture of glazed sanitary goods at present, especially when such works could not be started under Rs. 50,000 exclusive of the value of land ; but I think it quite probable that some day workable beds of clay or shale will be found near Madras, and I am at present trying to find out likely districts.

"As an alternative for using glazed pipes, I am of opinion that well-made cement pipes might be found to answer all the requirements of the glazed pipes. Cement pipes are largely used both in England and Germany for sanitary purposes, and such a pipe as I have submitted to you is in my opinion equal to any glazed pipe. It is made by a new process, which turns out a pipe of great density and

of the jail however suggested that instead of deepening the well, a fresh well might be dug near the present main gate well and be carried down 50 feet below the level of present well. The Inspector-General of Prisons in supporting this recommendation stated that the increase of cost under the altered circumstances would be small. The Government in Judicial Department sanctioned the proposal on the understanding that the increase of cost would be small (G.O., No. 1300, Judicial, dated 27th June 1893).

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122. Government in G.O., No. 229I, Judicial, dated 8th November 1895, ordered further expenditure in deepening the well to be postponed pending the result of the test proposed by the Sanitary Engineer.

Drainage Pipes.

123. In paragraph 70 of the report for 1894, a reference was made to a report to Government regarding the manufacture of stoneware pipes. The attention of Government had been called to the matter by a report of some experiments made with pipes manufactured from Jubbulpore clay. These pipes are similar

to those which Messrs. Burn and Co. of Calcutta make at Ranegunge and which pipes have been extensively used in this Presidency by the undersigned. It was well known that these pipes were as good and of equal if not greater strength as those to be procured from England while their cost was less. Government was desirous to know whether such pipes could not be locally manufactured either by Messrs. Arbuthnot and Co. or the Basel Mission. The following report was made by the Acting Sanitary Engineer :—

Letter from the Acting Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 110-*T., Salem, dated* 15*th May* 1894.

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"As an alternative for using glazed pipes, I am of opinion that well-made cement pipes might be found to answer all the requirements of the glazed pipes. Cement pipes are largely used both in England and Germany for sanitary purposes, and such a pipe as I have submitted to you is in my opinion equal to any glazed pipe. It is made by a new process, which turns out a pipe of great density and

free from all blow-holes and defects. These can be made and supplied much cheaper than English or Indian glazed pipes. I am making them at these works at present in an experimental way and should be glad if you will give them a practical trial, say, to make a length of sewer of them and then examine the pipes whatever time you think would be a fair test."

Messrs. Arbuthnot and Co. have given the matter considerable attention. In 1892 the Manager of the Madras Cement Works took to England a quantity of kaolin obtained from Whitefield and had several pipes 15 inches diameter made from it by the ordinary process. The kaolin was thoroughly ground to a semiplastic condition and afterwards passed through the pipe mould. The pipes were burnt in a kiln with those made from English fire-clay and showed no signs of shrinkage, but the glaze was slightly defective, which might be accounted for by the coarseness of the grain or thorough want of experience in mixing with it the right proportions of other clay or materials. In 1893 the Manager of Cement Works took to England a sample of shale obtained from Coopoor near Tiruvallúr and the small pipe made from it is highly satisfactory in every way. Fire bricks and fire-clay goods are now being made in the cement works from this shale.

The sample of stoneware submitted by Mr. Holder, Acting Superintendent of the School of Arts, is excellent and leaves nothing to be deserved as regards quality and glaze. Mr. Irvin considers that stoneware pipes can only be made with clay obtainable from Cuddapah and estimates the cost of pipes 4 inches, 6 inches and 9 inches to be 8 annas, 12 annas and one rupee per foot, whereas the price quoted for best English-made pipes of those dimensions is 5 annas 9 pies, 8 annas and 15 annas 6 pipes.

The Manager of the Basel Mission appears also to be making experiments.

The manufacture of cement pipes by Messrs. Arbuthnot and Co. is only in the experimental stage, but from the sample submitted it is possible they will be of use in sewage and drainage works.

(Signed) R. E. ELLIS,
Ag. Sanitary Engineer to Government.

124. Government in recording the above called for a further report which was as follows:—

Letter from the Acting Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 106, *dated* 17*th January* 1895.

With reference to G.O., No. 710-M., Mis., dated 7th June 1894, Local and Municipal, I have the honour to inform you that up to date no satisfactory reports have been received from the various firms and institutions referred to in this office letter No. 110-T., dated 15th May 1894.

Mr. Irwin has forwarded two samples of pipes manufactured at the Government Tile Works—one with salt glaze and the other with soft glaze—and there does not appear to be any particular difference in the result. The cost of pipes so manufactured is as follows:—

	Cost per foot.
	Rs.
4-inch diameter	2
6 do.	3
9 do.	4

This, of course, is very high compared with the cost of English pipes and those manufactured of Jubbulpore clay as already reported on, and it is doubtful whether the same could be reduced sufficiently to compete therewith.

Messrs. Arbuthnot and Co. are still giving the matter attention. In July last they forwarded to England two casks containing what was considered the most suitable clay for making glazed stoneware pipes. The samples of clay have been treated at some large pipe works in the north of England, and though several experiments have been made, the results have not been very favourable.

The experiments in cement pipes referred to in the last report have been very satisfactory. As far as can be judged at the present moment, the pipes now being manufactured at the Madras Cement Works would be very suitable for

sewage and irrigation works. The Manager of the Madras Cement Works expects to be able to turn out the following quantity per diem before June next:—

100 of 4-inch diameter.	50 of 12-inch diameter.
100 of 6 do.	50 of 15 do.
100 of 9 do.	50 of 18 do.

The 6-inch pipes are being sold at 8 annas a foot, which is approximately the same as English stoneware pipes; the prices of other sizes have not yet been fixed, but is understood that they will not exceed the present market prices of salt-glazed stoneware pipes.

In connection with the last paragraph of G.O. under reference, the cost of manufacturing stoneware pipes at the School of Arts would not be less than that made at the Government Tile Works.

(Signed) R. E. ELLIS,
Ag. Sanitary Engineer to Government.

125. In February 1895 Government passed the following order, the results of which were the reports which follow thereafter:—

G.O., dated 2*nd February* 1895, *No.* 154 *M., Mis., Local and Municipal.*

The Sanitary Engineer will be requested to report whether he has tested the cement pipes manufactured by Messrs. Arbuthnot and Co., in order to ascertain their capability when compared with English stoneware pipes of resisting the pressure of varying heads of water, and if so to communicate the results of his experiments.

He should endeavour to give these pipes a trial on a limited scale should an opportunity arise in the execution of any of the sanitary works now in progress. It is possible that, with an increased output and a further decline in sterling exchange, they may eventually be obtainable at rates that will compare favourably with English stoneware.

REPORT* ON CEMENT PIPES TESTS.

A dozen of Casebourne's patent pipes manufactured in Madras were sent for trial as to their suitability or otherwise for adoption to water-supply and other sanitary schemes.

The pipes were tested with hydraulic pressure till they either burst or the joint gave out. The following were the results of the experiments:—

I. Four cement pipes jointed together (cement joints) with two cast-iron discs, a cap and faucet, blocking the ends. The joints were given three weeks to set; on pressure being applied, the last pipe from the socket end cracked at the socket. Pressure 12 lbs. equal to nearly 28 feet head. Fracture nearly even and almost as if it had been cut.

II. This end pipe was removed and the disc attached to the next pipe. On applying pressure the same pipe, *i.e.*, last one from the socket end, cracked at a pressure of 14 lbs. or a little over 32 feet head. The fracture was slightly zig-zag in form, but almost equi-distant from the outer edge of the socket and just where the cement joint ended.

III. Two cement pipes with discs on outside (cement joints). On pressure being applied the end spigot disc with cement was blown out at 21 lbs. pressure equal to nearly 49 feet head.

IV. The joints were remade and after allowing time to set, pressure was applied. The pipe cracked at the spigot at 18 lbs. pressure, or a head of 42 feet nearly. The discs did not leak; only a slight sweating. The nature of the fracture was almost the same as that obtained in experiment I.

* Diagrams are omitted in this report.

free from all blow-holes and defects. These can be made and supplied much cheaper than English or Indian glazed pipes. I am making them at these works at present in an experimental way and should be glad if you will give them a practical trial, say, to make a length of sewer of them and then examine the pipes whatever time you think would be a fair test."

Messrs. Arbuthnot and Co. have given the matter considerable attention. In 1892 the Manager of the Madras Cement Works took to England a quantity of kaolin obtained from Whitefield and had several pipes 15 inches diameter made from it by the ordinary process. The kaolin was thoroughly ground to a semiplastic condition and afterwards passed through the pipe mould The pipes were burnt in a kiln with those made from English fire-clay and showed no signs of shrinkage, but the glaze was slightly defective, which might be accounted for by the coarseness of the grain or thorough want of experience in mixing with it the right proportions of other clay or materials. In 1893 the Manager of Cement Works took to England a sample of shale obtained from Coopoor near Tiruvallúr and the small pipe made from it is highly satisfactory in every way. Fire bricks and fire-clay goods are now being made in the cement works from this shale.

The sample of stoneware submitted by Mr. Holder, Acting Superintendent of the School of Arts, is excellent and leaves nothing to be deserved as regards quality and glaze. Mr. Irvin considers that stoneware pipes can only be made with clay obtainable from Cuddapah and estimates the cost of pipes 4 inches, 6 inches and 9 inches to be 8 annas, 12 annas and one rupee per foot, whereas the price quoted for best English-made pipes of those dimensions is 5 annas 9 pies, 8 annas and 15 annas 6 pipes.

The Manager of the Basel Mission appears also to be making experiments.

The manufacture of cement pipes by Messrs. Arbuthnot and Co. is only in the experimental stage, but from the sample submitted it is possible they will be of use in sewage and drainage works.

(Signed) R. E. ELLIS,
Ag. Sanitary Engineer to Government.

124. Government in recording the above called for a further report which was as follows:—

Letter from the Acting Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 106, *dated* 17*th January* 1895.

With reference to G.O., No. 710-M., Mis., dated 7th June 1894, Local and Municipal, I have the honour to inform you that up to date no satisfactory reports have been received from the various firms and institutions referred to in this office letter No. 110-T., dated 15th May 1894.

Mr. Irwin has forwarded two samples of pipes manufactured at the Government Tile Works—one with salt glaze and the other with soft glaze—and there does not appear to be any particular difference in the result. The cost of pipes so manufactured is as follows:—

	Cost per foot.
	Rs.
4-inch diameter	2
6 do.	3
9 do.	4

This, of course, is very high compared with the cost of English pipes and those manufactured of Jubbulpore clay as already reported on, and it is doubtful whether the same could be reduced sufficiently to compete therewith.

Messrs. Arbuthnot and Co. are still giving the matter attention. In July last they forwarded to England two casks containing what was considered the most suitable clay for making glazed stoneware pipes. The samples of clay have been treated at some large pipe works in the north of England, and though several experiments have been made, the results have not been very favourable.

The experiments in cement pipes referred to in the last report have been very satisfactory. As far as can be judged at the present moment, the pipes now being manufactured at the Madras Cement Works would be very suitable for

sewage and irrigation works. The Manager of the Madras Cement Works expects to be able to turn out the following quantity per diem before June next:—

100 of 4-inch diameter.	50 of 12-inch diameter.
100 of 6 do.	50 of 15 do.
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The pipes were tested with hydraulic pressure till they either burst or the joint gave out. The following were the results of the experiments:—

I. Four cement pipes jointed together (cement joints) with two cast-iron discs, a cap and faucet, blocking the ends. The joints were given three weeks to set; on pressure being applied, the last pipe from the socket end cracked at the socket. Pressure 12 lbs. equal to nearly 28 feet head. Fracture nearly even and almost as if it had been cut.

II. This end pipe was removed and the disc attached to the next pipe. On applying pressure the same pipe, *i.e.*, last one from the socket end, cracked at a pressure of 14 lbs. or a little over 32 feet head. The fracture was slightly zig-zag in form, but almost equi-distant from the outer edge of the socket and just where the cement joint ended.

III. Two cement pipes with discs on outside (cement joints). On pressure being applied the end spigot disc with cement was blown out at 21 lbs. pressure equal to nearly 49 feet head.

IV. The joints were remade and after allowing time to set, pressure was applied. The pipe cracked at the spigot at 18 lbs. pressure, or a head of 42 feet nearly. The discs did not leak; only a slight sweating. The nature of the fracture was almost the same as that obtained in experiment I.

* Diagrams are omitted in this report.

V. Two cement pipes as in the above experiment at 15 lbs. (35 feet head); the joint at ends sweated at 21 lbs. (49 feet head) cement joint cracked — 31 lbs. (71 feet head). The joint gave way altogether bringing away a piece of the socket of the pipe about 4½ inches long and ½ inch thick at deepest part.

VI. One pipe with discs *lead*-jointed, also wrought-iron clamping bars, to prevent the discs blowing off. Pressure being applied, there was a slight sweating at the joint from 10 lbs. upwards; the pipe suddenly cracked along the lead joint at the *socket end* at 25 lbs. pressure equal to head of 58 feet nearly. Fracture slightly zagged, but almost exactly in line with the end of the lead joint. It is possible the cold water may have hastened the fracture; the lead joint was fresh made. The portion where the tarred yarn was packed was not cracked. As, in nearly every experiment I had hitherto made with these pipes, the failure was at the *socket*, I thought I would try and see the result of cutting off the socket and having two iron socket discs fixed. Messrs. Arbuthnot and Co. kindly supplied me with these, and the following were the results of the further experiments.

VII. One cement pipe with iron socket discs, both ends lead joints, the faucet portion of pipe sawn off. Nothing happened till 35 lbs. (81 feet head) was reached when joints sweated slightly at 53 lbs. (122½ feet head); the pipe broke of short round the joint where the lead ended fracture clean. The other end held tight except for slight sweating. This is the best result obtained; so far Mr. Jones was present this day.

VIII. The pipe was prepared in the same way as the former experiment, lead joints to discs. The pipe broke at a pressure of 25 lbs. or 58 feet head; the fracture was a pronounced zig-zag 3⅛ inches from furthest point to nearest to disc, and three sharp points in the circumference; the pipe broke with a slight thread.

IX. This was another repetition of the former experiment, viz., socket discs and lead joints. The joints began slight sweating at 30 lbs., which was caulked, commenced sweating again at 38 lbs., recaulked. I was very careful not to allow the caulking to be done too hard as the pipe might have been cracked. The pipe finally burst at 55 lbs. pressure or 127 feet head.

The pipe had cracked across near the centre of the pipe zig-zag fracture, with two longitudinal cracks in line with the internal rib or core mark; these cracks extended the whole length of the pipe. These completed the actual testing experiments as regards the bursting of the pipes.

An epitome of the experiments is given in appendix I. From which the following results appear to have been arrived at :—

(1) That the weakest part of the pipe is the socket.

(2) That sometimes the material of which the joint had been made was blown out somewhat easily.

(3) That the body of the pipes will burst at about 50 lbs. pressure even supposing the socket holds.

The above would lead me to suggest some modification in the pattern of pipe which would be advisable :—

(1) That the neck of the socket be made thicker and carried further into the body of the pipe (more like the standard plan of cast-iron pipes in use in the Sanitary Engineer's department).

(2) That the spigot end be further roughened or a rib arranged for or else a thread cut as in some earthenware pipes to give the cement same 'bite' when set to hold. The present pipes have only a very slight rough groove barely $\frac{1}{16}$ inch deep evidently scratched after manufacture.

The faucet end should also have some grooving or thread cut to correspond with the spigot. The slight groove now given is insufficient. If it is proposed to use a thread on the pipes, the manufacture would have to be very carefully watched, as otherwise it would be a source of leakage owing to the threads not fitting; these pipes would not be suitable for laying on curves.

That it would not be safe to use the pipes as they are now made at a greater pressure than 10 lbs., or, say, 24 feet head. This would preclude their use for anything, but low pressure gravitation supplies.

General Notes.

The pipes under report seem to be of better manufacture, firmer in substance and better able to resist internal water pressure than the first set reported on.

With regard to the pipes taking up water, I left a pipe 36 hours full of water (no pressure) and when broken had penetrated ⅛ inch. When under pressure the water generally had wetted the internal coat about ⅛ to ¼ inch according to time. If the body of the pipe sweated at all during a pressure test, it was generally a few seconds before a crack appeared on the surface. The pipes, I think, would be improved by either an internal coating of impervious solution or being salt glazed. This would tend to lessen the chances of leakage as well as friction of the flow of water in the pipes.

The value of the pipes for town drainage, from a chemical point of view, should be investigated as to whether acids have an eroding effect on the concrete pipes. This might be both practically tested in using these pipes on some small drainage scheme and theoretically in a laboratory. The pipes otherwise appear suitable for low pressure drainage works if carefully jointed.

The pipes would no doubt be very suitable for irrigation purposes such as tank, pot sluices and distribution sluices from branch channels where the head of water would be low. The pipes should be very useful for small culverts and under-sluices to roads and embankments; also for drainage of 'wet' cuttings, swamps, &c. The advantage of being able to manufacture the pipes *in situ*, saves in breakage and cost of transit, should give the manufacturers a great field for increasing their use.

I may incidentally mention two of the jointed pipes were accidentally buried about 1½ feet under ground, over which a 12-horse-power portable engine was moved. The pipes were intact, which may be taken as another point in their favour as regards strength.

The concrete, of which the pipes are made of, would, if moulded in the shape tile, do very well for the drainage tiles of filter beds or as U-shaped storm-water drains round buildings and in the smaller lanes of houses and villages. If made of sufficiently large diameter, the pipes might also do as pot wells so frequently sunk by natives of India for drinking-water wells.

I was not able to test the concrete itself as to tensile and crushing strains, as I have no testing machine available.

(Signed) H. A. MINCHIN,
Assistant Sanitary Engineer,
Trichinopoly.

Appendix I.

Statement showing Number of Cement Pipes tested and the result.

Number of test.	Number of pipes tested.	Pressure applied in pounds.	Head in feet.	Pipes burst or cracked.	Result of test.
I ...	4	12	28	Cracked ...	Last pipe from socket end cracked at the end. Fracture nearly even and almost as if it had been cut.
II ...	3	14	32	Do. ...	Last pipe from socket end cracked at the end. Fracture zig-zag.
III ...	2	21	49	Do. ...	Disc blown out.
IV ...	2	18	42	Do. ...	Fracture same as test No. I.
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VI ...	1	25	58	Do. ...	Fracture zagged.
VII ...	1	53	122½	Broke.	
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IX ...	1	55	127	Cracked ...	Zig-zag. The best result.
Total ...	...	254	587	...	
Average ...	...	28	65	...	

V. Two cement pipes as in the above experiment at 15 lbs. (35 feet head); the joint at ends sweated at 21 lbs. (49 feet head) cement joint cracked — 31 lbs. (71 feet head). The joint gave way altogether bringing away a piece of the socket of the pipe about 4½ inches long and ½ inch thick at deepest part.

VI. One pipe with discs *lead*-jointed, also wrought-iron clamping bars, to prevent the discs blowing off. Pressure being applied, there was a slight sweating at the joint from 10 lbs. upwards; the pipe suddenly cracked along the lead joint at the *socket end* at 25 lbs. pressure equal to head of 58 feet nearly. Fracture slightly zagged, but almost exactly in line with the end of the lead joint. It is possible the cold water may have hastened the fracture; the lead joint was fresh made. The portion where the tarred yarn was packed was not cracked. As, in nearly every experiment I had hitherto made with these pipes, the failure was at the *socket*, I thought I would try and see the result of cutting off the socket and having two iron socket discs fixed. Messrs. Arbuthnot and Co. kindly supplied me with these, and the following were the results of the further experiments.

VII. One cement pipe with iron socket discs, both ends lead joints, the faucet portion of pipe sawn off. Nothing happened till 35 lbs. (81 feet head) was reached when joints sweated slightly at 53 lbs. (122⅔ feet head); the pipe broke of short round the joint where the lead ended fracture clean. The other end held tight except for slight sweating. This is the best result obtained; so far Mr. Jones was present this day.

VIII. The pipe was prepared in the same way as the former experiment, lead joints to discs. The pipe broke at a pressure of 25 lbs. or 58 feet head; the fracture was a pronounced zig-zag 3⅛ inches from furthest point to nearest to disc, and three sharp points in the circumference; the pipe broke with a slight thread.

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Letter from the Sanitary Engineer, to the Chief Secretary to Government, Local and Municipal Department, No. 3587, *dated 2nd December* 1895.

In continuation of my No. 2527, dated 5th September 1895, I have the honour to forward a copy of Mr. Minchin's report on the result of further experiments on the strength of cement pipes.

2. I regret that these are disappointing in so far that, while the highest pressure stood without bursting was 127 feet of water, the average is only 65 feet and one pipe burst at 28 feet.

3. Stoneware pipes stand from 200 to 460 feet of water.

4. The cement pipes as now manufactured can be used in works where there is little pressure, but cannot be recommended for ordinary work, though no doubt they could be used when the pressure can be limited to a safe factor of the lowest bursting pressure of 28 feet, say, not more than 20 feet.

5. I believe, however, that, with the accompanying results before them, Messrs. Arbuthnot and Co. may be able to make such alterations as will much increase their strength. Their weakest point is near the socket as pointed out by Mr. Minchin.

(Signed) J. A. JONES,
Sanitary Engineer to Government.

126. The advantage of using cement pipes lies in the fact that cement can be transported in bulk and the pipes manufactured at the place where they are to be required. Costly freight charges would thereby be much reduced.

OFFICE WORK.

127. In addition to the preparation of plans and estimates for works for—

(1) Water-supply of Vizagapatam,
(2) Do. Bezwada,
(3) Do. Cuddalore,
(4) Do. Tirupati,
(5) Drainage of Tanjore,
(6) Do. Kumbakónam (portion);

and preparing working drawings in connection with works under construction and preparing specifications, schedules, &c., for the execution of—

(1) Service reservoir, filter beds and head works for Kurnool,
(2) Pipes, valves, fountains, &c., for Kurnool,
(3) Machinery for Kurnool,
(4) Head works, filter gallery, &c., for Conjeeveram,
(5) Machinery for Conjeeveram,
(6) Service reservoir, engine and boiler house for Dindigul,
(7) Pipes, valves, fittings, &c., for Dindigul,
(8) Pipe laying and jointing at Dindigul,
(9) Machinery for Dindigul,

the office was at times overburdened with Sanitary Board work of varied descriptions which included designs for—

(1) Drinking tanks,
(2) Open drain crossings,
(3) Cess-pools of four classes,
(4) Open and covered wells,
(5) A dispensary (standard plan),
(6) Lying-in hospitals,
(7) Isolation hospitals,
(8) Venereal hospitals,
(9) High-caste wards,
(10) Slaughter-houses,
(11) A choultry,
(12) Latrines,

and constant revision of plans and estimates sent in from Local Boards and Municipalities. Such work has taxed the energy of the office staff in order to keep it up to date. This matter is again referred to under "Proceedings of the Sanitary Board (Engineering Branch)."

PROCEEDINGS OF SANITARY BOARD (ENGINEERING BRANCH).

128. The Sanitary Board was reconstituted on the 1st January 1895. Since that date it has consisted of the Honourable Colonel J. Pennycuick, R.E., Chief Engineer, Public Works Department, as President and Surgeon-Lieutenant-Colonel W. G. King, Sanitary Commissioner for Madras, and Mr. J. A. Jones, Sanitary Engineer to Government, as Members. The Board during the year worked under new rules outlined in G.O., No. 2380 L., dated 16th November 1894, in which G.O., the Board was requested to submit draft detailed rules. Accordingly, the Board submitted the following draft rules on 17th July 1895. These have since been amended by Government, but were not sanctioned until the close of the year:—

DRAFT RULES.

Plans, &c., from Local Bodies.

"(1) All plans and estimates for works referred to in notification of 16th January 1891, No. 79 L., shall be sent by the President of a District or Taluk Board, or the Chairman of a Municipality, with the resolution of the board or council in reference thereto, to the Secretary, General Sanitation Branch of the Board.

"(2) The Sanitary Commissioner shall, on receipt of such plans and estimates, deal with them from a sanitary point of view, and either return them to the forwarding authority for reconsideration or forward them to the Sanitary Engineer with such remarks or proposals as the circumstances may require.

"(3) Should the Sanitary Engineer find himself unable to meet the views of the Sanitary Commissioner as to the character of works to be adopted to secure sanitary requirements, he shall refer the matter back, with his remarks thereon, to the Sanitary Commissioner, and, if the Sanitary Commissioner finds he cannot accept the views of the Sanitary Engineer, he shall refer the subject to the President, whose decision in the matter shall be final.

"(4) The Sanitary Engineer will then revise the plans and estimates from an engineering point of view and, by a resolution of the Board, signed by him as Secretary in his branch, return them approved, amended, or disapproved to the local body.

"(5) Any officer as President of a District or Taluk Board, or Chairman of any Municipality, may call on the Sanitary Engineer for *standard* plans for wells, tanks, latrines, markets, hospitals, dispensaries, slaughter-houses, incinerators, urinals, cesspools, &c., and disposal of sewage from small areas, and these shall be furnished, or he may address the Sanitary Commissioner or Sanitary Engineer as such in regard to any advice required from these officers individually in connection therewith.

"(6) All standard plans shall have the approval of both the Sanitary Commissioner and the Sanitary Engineer.

"(7) The Sanitary Engineer shall not be required to design particular works such as the above for municipalities or district boards, except with the approval of Government. Applications for such works shall be made by the Sanitary Commissioner, or by local authorities through the Secretary, General Sanitation Branch.

"(8) The Sanitary Commissioner shall initiate sanitary schemes, and report in the first instance on sanitary improvements required in local fund areas and municipalities. In the case of major schemes, the Sanitary Commissioner will discuss the matter with the Sanitary Engineer and, if necessary, with the President, and will then submit a report to Government, who will decide whether the Sanitary Engineering Member of the Board shall draw up the scheme.

"(9) The Sanitary Commissioner shall, in the last week of November each year, obtain from the Sanitary Engineer a statement of the major works he proposes to deal with in the ensuing year. The Sanitary Commissioner shall forward this list to Government with his remarks, whereupon Government will approve or amend the list and issue its orders to the Sanitary Engineer in reference thereto.

"(10) All schemes for the water-supply or drainage of municipal towns, and all estimates for other sanitary works costing more than Rs. 10,000, shall, after completion by the Sanitary Engineer, be considered by the full Board either in meeting or by circulation, and, after approval or amendment by the Board, shall be forwarded to Government by the Sanitary Engineer as Secretary in the Engineering Branch.

"(11) All resolutions of the Board shall be entered in books to be kept by each member, and a précis of all resolutions and correspondence other than of a routine nature shall be sent weekly by each member to the other member and to the President, any of whom may call for any further information that may be desired.

"(12) The President may call a full meeting of the Board whenever he considers it desirable.

"(13) All resolutions of the Board shall be signed by either the Sanitary Engineer or Sanitary Commissioner as Secretary to the Board in the branch concerned.

"(14) The Sanitary Commissioner and the Sanitary Engineer shall address Government on matters unconnected with the Sanitary Board's work as laid down above in their respective capacities as heretofore, and may communicate direct with Government or local authorities in regard to—

"(i) matters of routine;

"(ii) the status, discipline and promotion of, and the conduct of their duties by, their own subordinates;

"(iii) in the case of the Sanitary Commissioner, as to the sanitary state of works, inspection notes, arrangements for improved sanitation, &c.;

"(iv) in the case of the Sanitary Engineer as to the execution of works, and arrangements with municipalities and boards in reference thereto, or to the after maintenance of works;

"(v) reports as required by Government.

"(15) The report of the Sanitary Board shall be prepared by each Secretary in reference to his own particular branch, and shall form an appendix to his annual report, the reports being bound together in the joint report of the Sanitary Commissioner and the Sanitary Engineer."

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129. The increasing work of the Board has thrown very considerable strain on the Engineering department (practically the Sanitary Engineer's office) of the Board, and the chief work for which the Sanitary Engineer's department was instituted has somewhat suffered in consequence. It is believed that, when the average work can be more accurately gauged, it will be desirable to allot a separate staff to Board's work which is of a special character and requiring considerable knowledge of an architect's work and architectural draftsmen as well as engineering draftsmen. Designs forwarded by local boards and municipalities have very often to be redesigned altogether. Sketches from the Sanitary Commissioner's department entail considerable trouble before they can be put into workable form. Hence the following letter was forwarded to Government, who referred the question to the Sanitary Board. The Board's resolution follows the letter; Government did not pass orders until 1896:—

Letter from the Sanitary Engineer to Government, to the Chief Secretary to Government, Local and Municipal Department, No. 1411, *dated* 17*th May* 1895.

"I have the honour to forward copies of *three communications** I have received and to request the orders of Government thereon.

"I do not think that it was ever intended by Government that this office should be an office for the design of works required by municipalities. If that is desired, the staff must be very greatly increased. As it is so large a portion of the staff is engaged in type-drawings for the Sanitary Board, in revising plans and estimates sent in by local boards and municipal councils, that I am practically ashamed of the small amount of work being done in regard to the main objects for which this office was instituted, viz., the design and construction of major works of water-supply and drainage, I can plainly see that I shall not be able this year to overtake half the schemes I have been ordered to deal with.

"Again, under the present constitution of the Board, the references backwards and forwards and the frequent return of designs and estimates for revision and further information, and reports called for from local councils and boards add very considerably to Sanitary Board's works.

"Government will have noticed in the Sanitary and Deputy Sanitary Commissioners' inspection notes many references such as "Plans for this should be obtained from the Sanitary Board"—this practically means Sanitary Engineer—and I think that there must be some definite limit decided as to the nature of the work to be done by this office.

"I trust Government will observe that I am not of opinion that the work should not be done here, or that it would not probably be better done here than by agency locally available, nor am I making any complaint that the work is such that it cannot be undertaken, but I wish to obtain merely such orders as will limit the amount of work in proportion to the staff available, that the work may now be diminished and not allowed to increase in the future so as to admit of

* Omitted for the purpose of this report.

proposed schemes and work in reference to construction having that attention which ought to be given to them. Otherwise, not only the subordinate, but the supervising, staff must be increased."

Proceedings of the Sanitary Board No. 2539, *dated 5th September* 1895.

"Read G.O., No. 1103 M., Mis., dated 12th July 1895.

"Resolved that Government be informed (1) that the Board considers that it is necessary in the present state of sanitary knowledge among district boards and other local officials that all standard type drawings should be prepared in the Sanitary Board's office; (2) that this work would naturally devolve on the Sanitary Engineer and his staff which can deal at present with hardly more than existing calls upon it; (3) that therefore it would take a very considerable time before the necessary types of all classes of sanitary buildings, plan of small water tanks and wells, &c., could be issued.

"The Sanitary Board considers that matters would be expedited and much work in the Sanitary Engineer's office would be saved if the Sanitary Commissioner had placed at his disposal an upper subordinate of the Public Works Department, who could put the Sanitary Commissioner's ideas into shape and working form before being sent to the Sanitary Engineer for their completion and preparation for photozincography and issue, and the Board therefore recommends that this staff should be granted for a period of one year, a proposal which the President as Chief Engineer is willing to further.

"The Board considers that, while municipal councils and district boards shall be entitled to call for type-drawings or standard designs, any further design required by the municipal council and boards for their works (always excepting major schemes of water-supply and drainage) shall be prepared by the officer of the council or board, such designs being based on the types issued for their information. These designs shall be submitted to the Board for revision, approval or disapproval as the case may be, and pending receipt of the expression of its opinion, the authorities concerned shall not proceed to the execution of works."

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130. The chief schemes dealt with in the Engineering department, which the Board considered in full meeting, were those relating to—

(1) Water-supply of Ootacamund.
(2) Drainage of Ootacamund and filling in the upper portion of the Ootacamund Lake.
(3) Water-supply of Coonoor (two members).
(4) Drainage of Cuddapah.
(5) Water-supply of Tuticorin.
(6) Drainage (improvement of) of Tadpatri.
(7) Water-supply (improvement of) of Masulipatam (two members).

131. In reference to the first, the report which the Sanitary Board was called to consider will be found in the Sanitary Engineer's report. The Sanitary Board inspected the whole catchment area and after much discussion issued the following resolution:—

Proceedings of the Sanitary Board, No. 2286, *dated* 14*th August* 1895.

"The Board, having, as requested by G.O., No. 859 M., dated 6th July 1894, fully discussed the whole of the questions relating to the water-supply of Ootacamund, having had before them the report (herewith sent) of the Municipal Committee on the same matter, and having met the committee and considered the matter with them, and having inspected the various reservoirs existing and proposed and their catchment areas, resolve to report to Government as follows:—

"1. The Board find that, in regard to the Marlimund supply, it is impure and insufficient, that the cause of the impurity of the water is due (1) to the supply received from the Tudor Hall estate passing over cultivated lands to the tank itself, in portion being a peat bog, and that in its bed are masses of vegetable matter in a state of transition towards 'peat' and therefore liable to decay, and to the water derived from the Snowdon catchment having to pass to the collecting channels through sholas with thick undergrowth and over ground covered with decaying vegetable matter; (2) that its insufficiency in years of short rainfall is due to the small size of the catchment area to the state of the collecting channels themselves and to the absorption caused by undergrowth and humus in the sholas.

"2. To improve the purity of the water the Board consider that the Marlimund tank as far as possible should be abandoned as a storage reservoir, and that Government should be requested to clear the sholas above the collecting channels of all wattle undergrowth and humus and to require that such areas shall at no future time be permitted to get into the state they

are at present, viz., so thick that sun-light can hardly penetrate and reach the ground. The Board considered the question of forming new channels above the sholas and of carrying the water from the streams and springs themselves in closed piping, but looking to the insufficiency of the supply and the limited catchment areas, they do not feel justified in recommending this course, and if Government clear the sholas and maintain them in the state already advised, there is less reason for such recommendation.

"3. In order that the Marlimund tank may be, as far as possible, abandoned as a storage reservoir, the Board propose to increase the capacity of the Snowdon reservoir and consider that the bund may be raised almost to the level of the road above the reservoir and that the capacity may be further considerably extended by excavating and clearing the basin in which the existing (but not now used) reservoir is, or alternatively it may be considered whether it may not be advisable to construct a new dam at a spur, some 200 feet down the valley below the bund if a further large additional amount of storage would thereby be secured, which of the two courses should be adopted is an engineering question, which can only be decided after proper surveys and levels of the site have been taken. The Board believe that, if the reservoir is thus extended and another reservoir (to be hereafter referred to) constructed, it will be possible to limit the use of water from Marlimund to a somewhat insignificant amount.

"4. Marlimund, however, cannot be totally abandoned, as some of the higher houses on Church Hill must still continue to be supplied from it, and the Board therefore recommend that all water passing from it be filtered and a compensating or service reservoir will also be necessary. On the subject of filtration advised, the Board is prosecuting enquiries as to feasible method for dealing with the large quantity of vegetable matter in the water. As to this, a separate report will in due time be submitted.

"5. The Board accompany the proposals for the extension of the Snowdon reservoir with their expression of opinion of the necessity for protecting the reservoir from approach by walling and fencing, for removing the godown of Snowdon House and for securing by means of intercepting channels, and otherwise that none of the drainage of any of the surrounding basin, in which the reservoir is, be admitted into the reservoir unless from a perfectly clean and unpolluted area, the reservoir not in any way being dependent on its own basin for its supply. The Board also recommend the diversion of the Marlimund road along the east side of the reservoir as extended.

"6. The Board recommend that the existing north and south supply channels be bricked or lined with concrete, that the overflows be done away with as far as possible and one overflow only provided above the inlet to the Snowdon reservoir or the pipe leading to Marlimund and that the size of the channels be increased if necessary to carry the maximum flow of the catchment areas.

"7. The Board further recommend the extension of the south supply channel as proposed by Mr. Ellis, Acting Sanitary Engineer, in his memorandum in reference to G.O., No. 839 M., Mis., dated 6th July 1894, viz., recutting the old supply channel from O to N so as to include the area coloured green—see plan No. 4 of the accompanying plans—whence the water would find its way down the stream H and thence by the existing channel to Snowdon; the Government House channel to be permanently cut off (it has already been done so temporarily). The Board do not consider that any other of the works proposed by Mr. Ellis in his memorandum referred to are under the present proposals of the Board necessary and would alone recommend the examination and repair where necessary of the culvert from Snowdon House to Marlimund, on which apparently a large quantity of water must be lost by leakage.

"8. The effect of the above proposals would be that a new reservoir would be obtained with a supply to it from a fairly unpolluted area and an additional amount of storage would thus be secured. It is not intended that water should be passed from Marlimund to Snowdon reservoir even after filtration, but that it be delivered into the pipe below the latter reservoir, or it may be an additional main from the latter and may be necessary if Marlimund has to be retained for the higher houses on Church Hill, &c.; this, however, is a detail to be hereafter considered if the recommendations of the Board as a whole receive the approval of Government. The surplus from the reservoir at Snowdon would be passed to Marlimund and no more water passed over its escape weir than is absolutely necessary for the safety of the reservoir.

"9. The Board further recommend that a new reservoir be formed in the Kodapamund valley just below the junction of the three streams coming from the saddle and from that face of Dodabetta further west. The construction of this reservoir will involve the acquisition of a few market gardens, and about eight dhobies' huts adjacent to the site of the proposed bund (these were only lately built) must be removed.

"10. The Board believe that this and the proposed Snowdon reservoir will give all the storage capacity required to serve a much increased population through any years of severe drought such as have lately occurred.

"11. It is considered that, when these new reservoirs are made, it will be advantageous to limit the supplies from each to certain areas of the town, thus, for instance, from Marlimund to as limited an area as possible on the higher contours, from Snowdon to the middle contours and the upper portions of the bazaars, and from Kodapamund to the house in that valley near Charing Cross Government House Road and along the lake on the north side generally, and in

this view the distribution pipes may require slight re-arrangement, but in such manner that from the higher supplies it may always be possible to supplement the lower or from the lower to such of the higher contours as they can command.

"12. In regard to the Dodabetta reservoir, which supplies the south side of Ootacamund, the Board do not consider that any extensive alterations are required. An examination ought to be made of the lower reservoir, and remedies suggested against its silting as it does at present, its capacity might probably be slightly increased. By properly-considered planting on the slopes of Tiger stream, the silt at present brought down might be reduced or by scour valves and the supply to the reservoir might be increased by catching more of the water which at present eventually finds its way to Burnfoot lake.

"13. The Board are averse to cutting off any of the area of the upper reservoir, but, if arrangements can be made to cut off the tea area and include an equal or greater area, this should be done; this however is a question which demands detailed enquiry. (Dr. King dissents, see note attached.)

"14. It is evident that, if the proposals of the Board meet with the approval of Government, the work of preparing plans and estimates to carry these proposals into effect will require the services of a highly-qualified officer for a considerable period. There are many points in connection with the various proposals made, which demand very careful study and investigation before satisfactory designs can be prepared and details decided on.

"15. The Board therefore recommend that the municipal council should be advised to approach Mr. Walch (late Chief Engineer for Irrigation), who is now resident in Ootacamund and who has a very full knowledge of the question to be dealt with in view to securing his services.

"16. The Board are informed that the council have already arranged to provide a sum of Rs. 2,00,000 for the carrying out the improvement of the water-supply and drainage. This sum is not likely to cover all the expenditure necessary, and the Board therefore trust Government will see its way to supplement that sum by whatever amount may be necessary, so that, once for all, the supply to Ootacamund may be placed on a satisfactory basis. Any less complete measures, than those proposed, the Board consider would be temporary and ill-advised, and therefore strongly recommend that the improvements be taken up at once and made full and complete. The Board believe that any other course will lead in the end to much grater expenditure than if their proposals are accepted and the work carried out as a whole."

Note of dissent by the Sanitary Commissioner.

"I consider it highly desirable that the area of the tea estate should be excluded if, on investigation, it be found feasible to secure a sufficient collecting surface, and consider the Engineer should be instructed to hold this matter carefully in view."

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132. Mr. Walch was approached in regard to the matter, but it is not known whether he has accepted the appointment.

133. The drainage of Ootacamund was also taken into consideration by the Board along with the question of filling in the Ootacamund upper lake along which the existing intercepting sewer runs. The Ootacamund Municipal Council was also anxious to improve the existing drainage arrangements in the Ootacamund bazaar and extend the drainage to other portions of the town not yet served. The following is the resolution of the Sanitary Board in regard to these matters:—

Proceedings of the Sanitary Board forwarded in No. 64-J. of 27th June 1895, Ootacamund.

"Read G.O., No. 1028-A., M., dated 26th June 1895, referring to the Board correspondence and reports regarding the Ootacamund sewer.

"Resolved that Government be informed that the committee inspected the sewer and find that the condition of the sewer is due to its having been blocked in several places and then broken to admit of the water flowing away; that the sewer was properly designed but incorrectly laid, which is the cause of the blockage. The Board having carefully considered the whole question in relation to this sewer, find that any proposals regarding it should be made in connection with the resolution of the Board declaring that the upper lake should be filled up and advise Government as follows:—

"1. That the sewage should still continue to be carried in a pipe sewer, but of a size of 12" diameter instead of 9" at present, and that such sewer be provided with approved manholes, junction inlets and outlets and flushing apparatus; that a silt interceptor be placed at its upper end and a sludge interceptor at the lower end between it and its junction with the iron pipe sewer under the lake at the Mettucheri swamp; that by carrying the new sewer with one gradient to this point, the gradient of the sewer will be increased and be much more effective.

are at present, viz., so thick that sun-light can hardly penetrate and reach the ground. The Board considered the question of forming new channels above the sholas and of carrying the water from the streams and springs themselves in closed piping, but looking to the insufficiency of the supply and the limited catchment areas, they do not feel justified in recommending this course, and if Government clear the sholas and maintain them in the state already advised, there is less reason for such recommendation.

"3. In order that the Marlimund tank may be, as far as possible, abandoned as a storage reservoir, the Board propose to increase the capacity of the Snowdon reservoir and consider that the bund may be raised almost to the level of the road above the reservoir and that the capacity may be further considerably extended by excavating and clearing the basin in which the existing (but not now used) reservoir is, or alternatively it may be considered whether it may not be advisable to construct a new dam at a spur, some 200 feet down the valley below the bund if a further large additional amount of storage would thereby be secured, which of the two courses should be adopted is an engineering question, which can only be decided after proper surveys and levels of the site have been taken. The Board believe that, if the reservoir is thus extended and another reservoir (to be hereafter referred to) constructed, it will be possible to limit the use of water from Marlimund to a somewhat insignificant amount.

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"5. The Board accompany the proposals for the extension of the Snowdon reservoir with their expression of opinion of the necessity for protecting the reservoir from approach by walling and fencing, for removing the godown of Snowdon House and for securing by means of intercepting channels, and otherwise that none of the drainage of any of the surrounding basin, in which the reservoir is, be admitted into the reservoir unless from a perfectly clean and unpolluted area, the reservoir not in any way being dependent on its own basin for its supply. The Board also recommend the diversion of the Marlimund road along the east side of the reservoir as extended.

"6. The Board recommend that the existing north and south supply channels be bricked or lined with concrete, that the overflows be done away with as far as possible and one overflow only provided above the inlet to the Snowdon reservoir or the pipe leading to Marlimund and that the size of the channels be increased if necessary to carry the maximum flow of the catchment areas.

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"14. It is evident that, if the proposals of the Board meet with the approval of Government, the work of preparing plans and estimates to carry these proposals into effect will require the services of a highly-qualified officer for a considerable period. There are many points in connection with the various proposals made, which demand very careful study and investigation before satisfactory designs can be prepared and details decided on.

"15. The Board therefore recommend that the municipal council should be advised to approach Mr. Walch (late Chief Engineer for Irrigation), who is now resident in Ootacamund and who has a very full knowledge of the question to be dealt with in view to securing his services.

"16. The Board are informed that the council have already arranged to provide a sum of Rs. 2,00,000 for the carrying out the improvement of the water-supply and drainage. This sum is not likely to cover all the expenditure necessary, and the Board therefore trust Government will see its way to supplement that sum by whatever amount may be necessary, so that, once for all, the supply to Ootacamund may be placed on a satisfactory basis. Any less complete measures, than those proposed, the Board consider would be temporary and ill-advised, and therefore strongly recommend that the improvements be taken up at once and made full and complete. The Board believe that any other course will lead in the end to much grater expenditure than if their proposals are accepted and the work carried out as a whole."

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"Read G.O., No. 1028-A., M., dated 26th June 1895, referring to the Board correspondence and reports regarding the Ootacamund sewer.

"Resolved that Government be informed that the committee inspected the sewer and find that the condition of the sewer is due to its having been blocked in several places and then broken to admit of the water flowing away; that the sewer was properly designed but incorrectly laid, which is the cause of the blockage. The Board having carefully considered the whole question in relation to this sewer, find that any proposals regarding it should be made in connection with the resolution of the Board declaring that the upper lake should be filled up and advise Government as follows:—

"1. That the sewage should still continue to be carried in a pipe sewer, but of a size of 12″ diameter instead of 9″ at present, and that such sewer be provided with approved manholes, junction inlets and outlets and flushing apparatus; that a silt interceptor be placed at its upper end and a sludge interceptor at the lower end between it and its junction with the iron pipe sewer under the lake at the Mettucheri swamp; that by carrying the new sewer with one gradient to this point, the gradient of the sewer will be increased and be much more effective.

"2. That the existing stream be re-aligned and a brick-work or concrete channel provided for it; that it be carried through the Willow bund as will be necessary when the upper lake is filled up and discharged into the deepest portion of the lake available just below the bund; that proper approaches be provided across the channel to the park and that the channel be provided with a silt interceptor above its junction with the lake.

"3. That this improvement should be considered as only preparatory to constructing the Mettucheri drainage and revising the whole bazaar drainage and making it a pipe system instead of an open system as at present, and this, it is believed, the municipality have agreed to carry out.

"4. That the level of the lake be permanently lowered by 2 feet, the calingula at Lockend being cut down to this extent; the Board anticipate that much improvement in the drainage and dryness of the sub-soil would be secured by this measure, which the Board consider a most important one.

"5. That as the Board are informed that, when the valve at the end of the iron pipe sewer at Lockend is closed and the iron pipe is under pressure, air bubbles appear; it is evident that the iron sewer leaks; the Chairman be desired to pass orders that the valve referred to is never closed. The examination of the pipe would entail lowering the lake to a great extent, but the Board does not consider that this need be undertaken at present if the above orders are issued and attended to. Should it, however, be seen that the leak increases and lake water enters the pipe, the Chairman should be instructed to lower the lake and make the examination and the repairs needful, Government and the Sanitary Engineer being informed before this work is done.

"6. That it will be necessary to place an Engineer officer on special duty to prepare the designs and estimates for filling the lake and for the sewer and for superintending the construction of the works referred to."

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134. The following is the order of Government in respect to the above :—

G.O., No. 1390 *M., Mis., dated* 24th *August* 1895.

"The recommendations of the Sanitary Board numbered (1), (2), (4) and (6) in its Proceedings read above are approved.

"In modification of G.O., No. 1257, M., dated 3rd August 1895, the Public Works Department will be requested to depute an officer of that department to draw up estimates both for filling in the upper lake and draining the portion filled in and for carrying out the present suggestions to remedy the defects in the intercepting sewer. The service of this officer should also be made available for carrying out both the above improvements.

"The Chairman, Municipal Council, Ootacamund, will be requested to report, with reference to recommendation (3), the steps that the council propose to take to drain Mettucheri and to alter the bazaar drainage from an open to a pipe system.

"The Sanitary Board's recommendation (5) will be referred to the Chairman, Ootacamund Municipal Council, for information and guidance.

"The Chief Engineer, Public Works Department, will be requested to reply to paragraph 2 of G.O., No. 739 M., dated 11th June 1894, asking him to report who is responsible for the incorrect laying of the intercepting sewer."

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135. *Water-supply of Coonoor.*—The following papers were before the Sanitary Board in regard to this matter. The resolution of the Board was framed after a personal inspection by two members :—

(1) Report, plans and estimate for the water-supply of Coonoor prepared by the Sanitary Engineer.

(2) G.O., No. 2199 M., dated 11th December 1891, approving the scheme.

(3) G.O., No. 719 M., Mis., dated 21st April 1892, regarding the immediate execution of the water-supply scheme not being insisted upon, as the council had undertaken a drainage scheme costing Rs. 48,000.

(4) G.O., No. 1796 M., Mis., dated 23rd November 1894, requesting the Sanitary Engineer when he would be able to undertake the scheme.

(5) Letter No. 2676, dated 26th November 1894, from the Sanitary Engineer to Government, to the Chief Secretary to Government, stating that he is prepared to undertake the execution of the scheme in 1895 or as soon as funds are available.

(6) G.O., No. 569 M., Mis., dated 29th March 1895, communicating to the Sanitary Board letters from the Collector and the Chairman with the request to report in full upon the improvements that are necessary to render the works of Coonoor less unsatisfactory.

(7) G.O., No. 1440 M., Mis., dated 4th September 1895, expediting the report on the improvement to the water-supply of Coonoor called for in the above Government Order.

Proceedings of the Sanitary Board, No. 2537, *of* 5*th September* 1895.

"The Sanitary Commissioner having raised certain objections to the scheme proposed for the water-supply of Coonoor, the Sanitary Board investigated the points in question and has come to the following conclusions which it now resolves to communicate to Government :—

"(1) An examination was made of the Arvenghaut valley, which the Sanitary Engineer would have proposed as the source of supply except on the score of the greater expense likely to be involved, but the Board is of opinion that, with certain arrangements hereafter enumerated, the Yedapalli valley will be a safer source than the Arvenghaut valley. The Board also investigated the possibility of obtaining the supply for Coonoor from valley up which passes the old road from Wellington to Kóttagiri and from the stream from which Wellington is now partly supplied. There is no doubt that this is the least polluted area of the three, but at and above the head of the Wellington supply channel there are many huts in the very small valley from which the stream debouches, and the Wellington channel is not received from a pure source. The condition of the collecting area could however be rendered safe at small expenditure. Again to carry this channel to Coonoor even if it were available for that purpose, would cost some Rs. 35,000, as it would have to be piped. A second plan suggested itself, viz., to carry a new channel along slope of the hills on the southern side of this valley. At a rough estimate it is calculated this would add Rs. 10,000 to Rs. 12,000 to the cost of the original scheme. But, both with regard to possible cost and yield of water, it would be necessary to make a special survey at an expenditure of Rs. 1,000. The Board is of opinion, if the recommendations made in the last paragraph of the proceedings be acceded to by Government, and the municipality be thereby placed in a position to choose between a superior and inferior source of water-supply, that, before proceeding with the original scheme, the feasibility of this should be carefully considered.

"(2) But if the present source of supply as proposed in the sanctioned scheme be retained, the Board considers it is very desirable, if not imperative, to deal with the following sources of pollution as a portion of the scheme in the manner indicated :—

"(i) The drainage of the village of Yedapalli must be diverted from the streams which feed the channel at its head. The upper portion or spring heads of these streams are used by the people for drinking and washing; it is necessary that these should be fenced and enclosed a considerable distance down the valley and a breadth of land, say, 100 yards, on either side of the spring heads and upper portion of the stream purchased so as to preclude approach to the stream.

"(ii) The channel where it passes through the Bleak House tea estates must be piped. This can be done with stoneware pipes.

"(iii) The Board also considers it desirable that the stream flowing from Elkhill House above the tea estates of Bleak House should not be used as a portion of the supply. The lower portion of these streams also pass through the tea estates. In order to compensate for this reduction the Board advises the construction of a new channel above Elkhill House as shown on the accompanying plan.*

"(iv) The Board considers it desirable that budaga cultivation should be stopped on all streams and on the hills draining towards the channel, and that Government will be well advised to reserve as much land along the course of the channel itself as is possible in order to prevent any further tea or cinchona cultivation.

"(3) These works will add considerably to the cost of the scheme, the estimate for which may, owing to the date it was presented (1891), require other revision. The Board requests that, under the altered circumstances, Government will be again pleased to consider whether a grant may not now be made and thus allow what is really a very pressing work to be carried out in as perfect a manner as possible."

The following is the G.O., No. 1935 M., Mis., dated 22nd November 1895, on the above resolution of the Sanitary Board :—

"The Sanitary Board, having been asked to report on the scheme for providing Coonoor with an improved water-supply proposed by the Sanitary Engineer, now state that that scheme is undesirable unless it is considerably extended at a greatly enhanced cost, and suggest an alternative scheme, for which they ask for Rs. 1,000 in view to making a preliminary investigation and survey preparatory to drawing up a definite scheme and estimate.

"2. The Chairman will therefore move the municipal council to sanction an allotment of Rs. 1,000 for this purpose.

"3. The Revenue department will be requested to issue instructions for the reservation of the land for the present at any rate, the drainage of which is likely to form the source of the proposed water-supply."

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136. It is not yet known whether the Coonoor Council will give the grant for the purpose of further investigation.

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* Plan omitted for the purpose of this report.

137. The sanitary improvements of the town of Cuddapah was a matter which had the serious attention of the Board. The following is the resolution of the Board in reference thereto and Government Orders on the matter :—

Read G.O., No. 182 M., dated 7th February 1895, in reference to the sanitary improvement of the town of Cuddapah.

Resolved that Government be informed that the Board, having met as above and discussed the various proposals made by the Collector, the Sanitary Commissioner and the Sanitary Engineer in reference to the above, are of opinion that the unhealthiness of the town of Cuddapah is due to the prevalence, in a very marked degree, of malarial fever. They consider that the town site is contaminated with the active agent of malaria, namely, the *plasmodium malariæ*, and that its propagation has been greatly facilitated by the commonly recognized factors of heat, organic matter and moisture in the soil. Both organic matter and moisture are provided by the numerous pervious cess-pools which exist throughout the town, and by means of which, in default of a sewerage system, the inhabitants attempt to get rid of their sullage water. A second obvious cause of moisture is the obstruction to the sub-soil water overflow by conditions which are enumerated below in describing the preventive remedial measures the Board would recommend for adoption. As a result of this obstruction, fluctuation of the sub-soil water occurs, ensuring with the rise the filling of the soil voids and displacement of air, and with its subsidence ingress of air. These are conditions which would favour the propagation and distribution of the malarial protozoan, and in the presence of organic matter of the type above suggested would afford a pabulum that would, in all probability, not only aid its propagation as to numerical strength, but bring about intensification of its toxic activity. The remedial measures must therefore take the direction of attempting to deprive the malarial germ of favourable environment, and this can be best secured, as ascertained by experience in sanitary works hitherto directed against malaria, by preventing undue accumulation of organic matter and inhibiting extensive disturbances of sub-soil air and water. To these ends they advise that the following measures be taken for the improvement of the sanitary condition of the town :—

(1) That the Patha Cuddapah tank by percolation and prevention of the free outfall of the sub-soil water has the effect of causing great fluctuation of the sub-soil water level and that the abandonment of the tank is desirable; that this can be effected without loss of revenue by carrying on the lately-constructed channel (which now fills the tank) along the sluices of the said tank, and the Board recommend that this be done; that the bund of the tank should be breached so that no obstruction should exist to the free outfall of surface drainage from the town; that the Public Works Department should be called upon to prepare the necessary plans and estimates for submission to Government in order to carry out these objects.

(2) That it is desirable to afford means for carrying off the sub-soil water from under the town; that it is also desirable that the town should be drained and the existing sewage cess-pools which abound in the town removed, and therefore recommend that a scheme should be drawn up by the Sanitary Engineer to Government for these purposes; the Board consider that these two objects can best be attained by a pipe system of sewerage, under which trenches should be cut and filled with gravel through which the sub-soil water will percolate, both the sewage and sub-soil water being carried to appropriate outlets. It is probable that pumping may be required, and the amount of pumping power to be provided for raising the sub-soil water may be taken for the purpose of an estimate as that necessary to raise the quantity of rainfall falling over double the town area, or, say, over five square miles; the sewage to be disposed of over a suitable area of land which will be under-drained and furnished with sewage filters beyond the present Patha Cuddapah tank. The bed of this tank, after its abolition as a tank, should be allotted for dry cultivation only.

(3) That, at present, the existence of the Dongal Cheruvu does not influence the rise and fall of the sub-soil water to such an extent as to render its abolition desirable, but that, at some future time, when the results of the works already proposed have been in operation for some time, it may be desirable to reconsider this opinion; the Board also consider that the execution of the sanctioned open drainage channel may, in the meantime, be delayed.

(4) That it is desirable to resection the bed of the Booga river above the existing anicut, which should be removed, the channel from the anicut to the Patha Cuddapah tank being closed or used for a line of sewers as may be hereafter found necessary.

(5) That in view of the fact that the malarial germ is capable of being conveyed to the system of the human being both by air and water, it is advised that the existing public water-supply should be supplied with effective filter beds.

(6) That the design of these works, except those in regard to the extension of the channel to the Patha Cuddapah tank sluices, be entrusted to the Sanitary Engineer to Government.

(7) That the funds already allotted by Government for the drainage of Cuddapah, viz., Rs. 74,000, be made available :

(i) for making borings and further surveys in connection with the scheme as now decided; for this purpose Rs. 5,000 will be sufficient;

(ii) for the works in connection with the abandonment of the Patha Cuddapah tank, which it will be possible to carry out this year if Government approve at an early date of the measures suggested.

(8) The Board, in conclusion, would point out to Government that, if the scheme is to be executed by the Sanitary Engineer, additional establishment of an expensive character will be necessary and that constant and effective supervision by the Sanitary Engineer is not possible; the Board strongly recommend Government to consider the advisability of amalgamating the department of the Sanitary Engineer with that of the Public Works, so that greater attention may be given by the Sanitary Engineer to investigation, advice and design, and the larger and more elastic staff of the Public Works department made available for the execution of works and improved supervision.

ORDER—No. 1311 M., dated 12th August 1895.

The Public Works Department will be requested to prepare and forward to Government the plans and estimates necessary for carrying out the first of the Sanitary Board's recommendations, and the Sanitary Engineer will be requested to similarly prepare estimates for the works suggested in the Board's recommendations, Nos. (2), (4) and (5).

2. The cutting of the sanctioned drainage channel may, for the present, be postponed.

3. A sum of Rs. 5,000 will be made available from the budget provision for the drainage of Cuddapah for the purposes referred to in recommendation No. (7) (i) of the Sanitary Board.

4. With reference to the concluding portion of its resolution, the Board will be informed that the question of the amalgamation of the Sanitary Engineer's department with the Public Works department is now under the consideration of Government.

The town surveys are in progress and still incomplete; further information as to these will be found in the Sanitary Engineer's report.

138. Two schemes for the water-supply of the town of Tuticorin alternative to that submitted by the Sanitary Engineer were before the Sanitary Board during the year, but the Board considered that, before they were dealt with, it ought to be decided whether the council could afford the pumping scheme which was the best. The following is the Sanitary Board's resolution :—

Proceedings of the Sanitary Board, No. 3514, *dated* 26*th November* 1895.

"Read No. 1146, dated 17th August 1895, from the Acting Under Secretary to Government referring to the Sanitary Board for remarks endorsement on current No. 1316, dated 3rd August 1895, from the Collector of Tinnevelly submitting two schemes for the water-supply of the town of Tuticorin proposed, respectively, by the Chairman of the Municipal Council, Tuticorin, and by the District Board Engineer, Tinnevelly."

"*Resolution.*—The Board considers, with respect to the commercial importance of Tuticorin, the high grade of contamination of the present supply and the actual famine for water, pure or impure, that it is very desirable that the town should have its water-supply pushed forward at a very early date. Further it should be at once decided whether the municipality can or cannot undertake the pumping scheme which is decidedly preferable to the gravitation scheme. The Board considers that, until the general outline is accepted, it is waste of time to consider details."

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139. *Tadpatri Drainage.*—An irrigation channel running through this town is practically a sewer and is a great nuisance. Several proposals were made by the Local Fund Board in regard to it, and the matter was referred to the Sanitary Board, which passed the following resolution under date the 29th October 1895 :—

"The Board advises that Government retransmit the papers to the Local Fund Board with a request that the Board will consult with the Local Public Works officers as to the possibility of abandoning the Boogga supply channel and irrigating the lands under it from the river channel. The Board considers that this point ought to be settled before any further points connected with the scheme are considered. The Sanitary Board will then be in a better position to advise Government. The matter has not yet again come before the Board."

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140. *Masulipatam Water-supply.*—The Collector of Kistna suggested in the year under report the substitution of Messrs. Burn and Company's glazed pipes in place of the earthen ones now in use for the water-supply of the town, and the matter was referred to the Sanitary Board, which passed the following resolution under date the 16th of Otcober 1895 :—

"The Sanitary Board considers that, whilst the Collector's suggestion would represent an important improvement over unsatisfactory existing condition, it is advisable, in view of the expense that would be incurred and the incomplete sanitary results that would ensue, to defer consideration of the question until the source of the future water-supply has been definitely settled, and that meantime any money available might be devoted to further preliminary investigation.

"2. The Board would add that it considers that the adoption of a supply from the canal should be regarded as the last alternative one, and would advise that the boring promised by Government be carried out not in the view that artesian water is likely to be secured, but because the Board believes that good subterranean water may be met with at a reasonable depth. The Board, at the same time, suggests that the Chairman might put down some Norton tube wells at the site already tried and have water drawn at depths of from 6 to 8 feet, and the water sent in the proper manner for analysis. The water, it is noted, procured from former borings was never analysed owing to the Chemical Examiner's rules not having been attended to."

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141. While the above shows the main subjects dealt with, the following particulars relate to matters which were dealt with by at least two members.

142. *Hospital Plans.*—It was found desirable that there should be type-drawings for hospitals, &c., for the guidance of local officers submitting plans for sanction. An antecedent to these, were rules for a similar purpose. These were prepared by the Board in consultation with the Surgeon-General. The Consulting Architect was then instructed to prepare type-drawings for various hospital buildings in accordance with the rules. These drawings were received just at the end of the year, but require modifications which will be decided on at a meeting of the Board with the Surgeon-General.

143. During the year, owing to non-receipt of the plans from the Consulting Architect, it was found necessary to prepare and issue for temporary use plans of certain hospital buildings. These were as follows :—

1. Civil Dispensary for out-patients.
2. Lying-in hospital (semi-permanent).
3. Do. (permanent).
4. Dispensary for women and children with apothecary's quarters.
5. Cholera sheds (semi-permanent).
6. Isolation wards (do.).
7. Venereal wards for females and ward for high caste men with cook-rooms (semi-permanent).

These are available in the Sanitary Engineer's office and copies may be had. Some of these may be adopted instead of certain plans since submitted by the Consulting Architect to Government.

144. Plans, estimates, &c., for approval were received from—

25 municipalities out of 56.
16 district boards out of 21.
17 taluk boards out of 86.

Of these 15 plans were rejected, 80 were required to be amended, and 40 were passed without a mendment.

145. The latter municipalities and local boards which had sent neither plans nor estimates for approval were requested by Sanitary Board's circulars Nos. 187 and 198, dated 22nd January 1896, respectively, to state whether they had executed any sanitary work costing over Rs. 200 during the year under report. The returns received show that the following municipalities and district and taluk boards did not, during the year, undertake any sanitary works costing more than Rs. 200 :—

Municipalities.	District Boards.	Taluk Boards.
1. Ádóni.	1. Arcot (South).	1. Ádóni.
2. Anakápalle.	2. Bellary.	2. Anantapur.
3. Anantapur.	3. Canara (South).	3. Ariyalúr.
4. Bellary.	4. Ganjám.	4. Atmakúru.
5. Berhampur.	5. Malabar.	5. Berhampur.
6. Bezwada.		6. Calicut.
7. Bimlipatam.		7. Chicacole.
8. Cannanore.		8. Chittoor.
9. Chicacole.		9. Cuddalore.
10. Coimbatore.		10. Cuddapah.
11. Erode.		11. Cumbum.
12. Karúr.		12. Goomsur.
13. Kurnool.		13. Kasaragod.
14. Máyavaram.		14. Kumbakónam.
15. Negapatam.		15. Madura.
16. Nellore.		16. Malappuram.
17. Ongole.		17 Mangalore.
18. Periyakulam.		18. Mélúr.
19. Srírangam.		19. Musiri.
20. Srívilliputtúr.		20. Nandikotkur.
21. Tellicherry.		21. Nandyal.
22. Tuticorin.		22. Náyudupéta.
23. Vizianagram.		23 Nellore.
24. Wallajapet.		24. Palni.
		25. Palghat.
		26. Parlákimedi.
		27. Párvatípuram.
		28. Penukonda.
		29. Periyakulam.
		30. Puttukotai.
		31. Ramallakot.
		32. Ramnad.
		33. Ránipéttai.
		34. Saidapet.
		35. Satyamangalam.
		36. Sermadevi.
		37. Siddhavattam.
		38. Tanjore.
		39. Tellicherry.
		40. Tiruppattúr.
		41. Tiruvallúr.
		42. Uppinangadi.
		43. Vellore.
		44. Vizianagram.
		45. Vriddhachalam.

146. But the following municipalities and local boards replied that they had executed works as follows, and therefore violated order of Government, No. 79 L., dated 16th January 1891, as regards the works noted against each of them ; this violation of rules is therefore brought prominently to the notice of Government, as it defeats the object of the existence of the Sanitary Board :—

Municipalities and Local Boards.	Description of work.	Cost.	Remarks.
Municipalities.		Rs. A. P.	
1. Calicut	Draining and repairing the Kuttichira tank in E. Division.	715 8 0	
2. Dindigul	Repairing the side walls of the Fort tank.	393 4 6	
3. Mannárgudi ...	Deepening and repairing the water-supply channel belonging to the municipality.	704 3 3	
	Purchasing of Norton's driving apparatus with tube wells.	215 1 0	
4. Ootacamund ...	Marlimund reservoir: cutting trench, removing peat, &c.	644 0 8	Council states that it was not possible to send in estimates, but statement of expenditure was sent to Government through the Sanitary Engineer and sanctioned in G.O., No. 1899 M., Mis., dated 16th November 1895.
	Dodabetta reservoir: removing silt and petty repairs, &c.	342 7 7	
	Clearing wells (15 in number)	437 5 10	

140. *Masulipatam Water-supply.*—The Collector of Kistna suggested in the year under report the substitution of Messrs. Burn and Company's glazed pipes in place of the earthen ones now in use for the water-supply of the town, and the matter was referred to the Sanitary Board, which passed the following resolution under date the 16th of October 1895 :—

"The Sanitary Board considers that, whilst the Collector's suggestion would represent an important improvement over unsatisfactory existing condition, it is advisable, in view of the expense that would be incurred and the incomplete sanitary results that would ensue, to defer consideration of the question until the source of the future water-supply has been definitely settled, and that meantime any money available might be devoted to further preliminary investigation.

"2. The Board would add that it considers that the adoption of a supply from the canal should be regarded as the last alternative one, and would advise that the boring promised by Government be carried out not in the view that artesian water is likely to be secured, but because the Board believes that good subterranean water may be met with at a reasonable depth. The Board, at the same time, suggests that the Chairman might put down some Norton tube wells at the site already tried and have water drawn at depths of from 6 to 8 feet, and the water sent in the proper manner for analysis. The water, it is noted, procured from former borings was never analysed owing to the Chemical Examiner's rules not having been attended to."

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3. Do. (permanent).
4. Dispensary for women and children with apothecary's quarters.
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1. Ádóni.	1. Arcot (South).	1. Ádóni.
2. Anakápalle.	2. Bellary.	2. Anantapur.
3. Anantapur.	3. Canara (South).	3. Ariyalúr.
4. Bellary.	4. Ganjám.	4. Atmakúru.
5. Berhampur.	5. Malabar.	5. Berhampur.
6. Bezwada.		6. Calicut.
7. Bimlipatam.		7. Chicacole.
8. Cannanore.		8. Chittoor.
9. Chicacole.		9. Cuddalore.
10. Coimbatore.		10. Cuddapah.
11. Erode.		11. Cumbum.
12. Karúr.		12. Goomsur.
13. Kurnool.		13. Kasaragod.
14. Máyavaram.		14. Kumbakónam.
15. Negapatam.		15. Madura.
16. Nellore.		16. Malappuram.
17. Ongole.		17 Mangalore.
18. Periyakulam.		18. Mélúr.
19. Srírangam.		19. Musiri.
20. Srívilliputtúr.		20. Nandikotkur.
21. Tellicherry.		21. Nandyal.
22. Tuticorin.		22. Náyudupéta.
23. Vizianagram.		23 Nellore.
24. Wallajapet.		24. Palni.
		25. Palghat.
		26. Parlákimedi.
		27. Párvatípuram.
		28. Penukonda.
		29. Periyakulam.
		30. Puttukotai.
		31. Ramallakot.
		32. Ramnad.
		33. Ránipéttai.
		34. Saidapet.
		35. Satyamangalam.
		36. Sermadevi.
		37. Siddhavattam.
		38. Tanjore.
		39. Tellicherry.
		40. Tiruppattúr.
		41. Tiruvallúr.
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Municipalities and Local Boards.	Description of work.	Cost.	Remarks.
Municipalities.		Rs. A. P.	
1. Calicut	Draining and repairing the Kuttichira tank in E. Division.	715 8 0	
2. Dindigul	Repairing the side walls of the Fort tank.	393 4 6	
3. Mannárgudi ...	Deepening and repairing the water-supply channel belonging to the municipality.	704 3 3	
	Purchasing of Norton's driving apparatus with tube wells.	215 1 0	Council states that it was not possible to send in estimates, but statement of expenditure was sent to Government through the Sanitary Engineer and sanctioned in G.O., No. 1899 M., Mis., dated 16th November 1895.
4. Ootacamund ...	Marlimund reservoir : cutting trench, removing peat, &c.	644 0 8	
	Dodabetta reservoir : removing silt and petty repairs, &c.	342 7 7	
	Clearing wells (15 in number)	437 5 10	

Municipalities and Local Boards.	Description of work.	Cost.	Remarks.
Municipalities—cont.			
5. Parlákimedi	Constructing rough-stone drain to the palace Varanasi road.	...	Cost not given.
6. Tirupati	Repairing Penta drain	300 0 0	
7. Cuddapah ...	Extending water-supply to Nakash ...	...	Cost not given, but said to cost over Rs. 200 each.
	Laying pipe into the railway premises at the Cuddapah Railway Station.	...	
District Boards.			
Nil.			
Taluk Boards.			
1. Erode	Repairing the market shed at Buthapudi.	335 0 0	
2. Kollegal	Converting the tank near the Mariammen Temple, Kollegal, into a draw well.	260 0 0	
3. Madanapalle ...	Constructing drains in Kummara and Kumma streets in Madanapalle town.	3,000 0 0	This was never sanctioned by the Sanitary Board, but approval sought after construction.
4. Sivaganga ...	Improving the Chetti Urani	3,000 0 0	
	Constructing drain along the Othai street ...	800 0 0	
5. Udipi	Sinking a well near the General market at Udipi.	376 0 0	The works are in progress.
	Sinking a well near the Fish market ...	310 0 0	
6. Coondapoor	Sinking a well at Kandalur	289 0 0	Is in progress.
7. Wynaad	Sinking a well at Sultan's Battery	700 0 0	
8. Gooty	Constructing a latrine	280 0 0	
9. Bellary	Repairing a well at Chellagurki	1,017 5 5	
10. Hosúr	Putting slab drains in different parts of the Hosúr union.	369 0 0	
11. Salem	Repairing a well in the Muthunaickenpatty village.	300 0 0	
12. Vizagapatam ...	Digging a tank at Papayyarajupalem ...	400 0 0	
13. Narasapatnam ...	Deepening a fresh water tank at Narasapatnam.	488 0 0	
14. Trichinopoly	Sinking a well in the Komakudi village ...	225 0 0	
15. Tirukkóyilúr ...	Digging a square well at Eraiyur	1,375 0 0	
16. Rajahmundry ...	Repairing tank at Sanapallilanka	258 0 0	
	Do. at Patamgum	750 0 0	
	Do. at Allavaram	1,000 0 0	
17. Mannárgudi	Repairing the drinking water pond at Kodiakkarai.	708 0 0	This board thinks that estimates for new works alone and not for repairs need be sent to the Sanitary Board.
18. Tuticorin	Repairing the Urani in Karuthiapuram, Otapidaram Taluk.	300 0 0	Reason assigned for non-submission of these works was that no estimates for sanitary works were ever sent to the Sanitary Board and that there was no call till now.
	Repairing the Pallars' well in Kilakettai, Otapidaram Taluk.	290 0 0	
19. Srívillipúttur ...	Constructing sewage drain in Virudupatti ...	830 0 0	The work has not yet been executed.
	Total ...	21,412 4 3	

The total cost of works executed during 1895 without reference to the Sanitary Board has therefore been, excluding Municipalities of Parlakimedi and Cuddapah, Rs. 21,412–4–3.

147. The following Taluk Boards had not replied to the above Sanitary Board circular, No. 198, dated 22nd January 1896, at the date of this report :—

Taluk Boards.

1. Bezwada.
2. Guntúr.
3. Masulipatam.
4. Répalle.
5. Vinukonda.

148. Table No. 8 of the appendix shows in detail the number of plans and estimates received from the various boards.

149. The chief works proposed by municipalities and local boards were as follows :—

		Rs.
i. Minor drainage works.	The Municipality of—	
	Trichinopoly	1,100
	Vizagapatam	400
	The District Board of—	
	Cuddapah	3,000
	Chingleput	1,850
	Tinnevelly	670
	The Taluk Board of Cocanada	720
ii. Minor water-supply works.	The Municipality of—	
	Coonoor	290
	Cuddalore	3,280
	Guntúr	700
	Kumbakónam	36,250
	Madura	1,510
	Palni	2,250
	Trichinopoly	2,600
	The District Board of—	
	Anantapur	20,000
	North Arcot	9,800
	Kistna	4,428
	Madura	4,674
	Nellore	450
	Nilgiris	290
	Tanjore	3,875
	Trichinopoly	500
	The Taluk Board of—	
	Cocanada	800
	Dindigul	420
	Negapatam	3,410
	Tinnevelly	1,935
iii. Hospitals	The Municipality of—	
	Conjeeveram	820
	Coonoor	823
	Kumbakonam	8,550
	Mangalore	2,000
	Palamcottah	2,575
	Tiruppattúr	650
	Vániyambádi	3,220
	The District Board of—	
	North Arcot	3,100
	Chingleput	2,128
	Gódávari	6,792
	Kistna	24,104
	Kurnool	24,246
	Madura	3,385
	Nellore	9,233
	Salem	2,720
	The Taluk Board of—	
	Arni	3,000
	Chidambaram	1,604
	Cocanada	2,850
	Námakkal	2,190
	Polláchi	2,900
iv. Markets	The Municipality of—	
	Conjeeveram	510
	Coonoor	964
	Guntúr	3,830
	Kumbakónam	1,960
	Masulipatam	2,050
	Tanjore	532
	Tinnevelly	2,727
	Vizagapatam	980
	The District Board of—	
	Kurnool	5,678
	Madura	2,380
	Salem	2,350
	Vizagapatam	6,793
	The Taluk Board of—	
	Hospet	4 230
	Námakkal	2,400
	Tinnevelly	1,620
	Tirumangalam	1,275

			Rs.
v. Slaughter-houses ..	The Municipality of—		
		Ellore	1,300
		Vellore	1,190
	The District Board		*Nil.*
	The Taluk Board of Proddatur		1,440
vi. Latrines.	The Municipality of—		
		Coonoor	419
		Masulipatam	884
		Palghat	808
		Rajahmundry	525
		Vizagapatam	400
	The District Board		*Nil.*
	The Taluk Board of—		
		Chingleput	009
		Cocanada	290
		Coimbatore	975
		Narsapur	1,255
		Tindivanam	580
vii. Choultry	The District Board of—		
		Kistna	2,600
		Nellore	3,900
viii. Reclaiming the Irravelli swamps.	The Municipality of Cochin		4,866

150. The following new plans were furnished with the Sanitary Board's proceedings or separately :—

Names of Municipalities and Boards.	Hospitals.	Dispensaries.	Markets.	Slaughter-house.	Latrines.	Miscellaneous.
Municipalities.						
Conjeeveram		1	...	...	2	...
Coonoor		...	...	...	2	...
Cuddalore		...	...	...	...	1
Ellore		...	...	1	...	...
Kumbakónam	1	1	1	...	...	...
Mangalore		1	...	...	...	...
Masulipatam		...	...	...	1	...
Palamcottah	2	...	...	...	...	...
Palni		...	...	...	...	1
Rajahmundry		...	...	...	1	...
Trichinopoly		...	...	...	...	1
Vániyambádi		1	...	...	1	...
Vellore		...	...	1	...	...
Vizagapatam		...	...	1	...	2
District Boards.						
Chingleput		1	...	...	...	...
Coimbatore		1	...	...	...	...
Kistna	1	...	...	...	...	10
District Boards—cont.						
Kurnool		1	...	...	...	...
Madura		...	...	...	...	...
Nellore		...	1	...	...	1
Salém		...	...	...	...	1
Tinnevelly		1	...	...	...	...
Taluk Boards.						
Cocanada		1	...	...	...	...
Dindigul		1	...	...	...	4
Hospet		1	...	...	...	...
Námakkal		1	...	...	...	...
Nandyal		1	...	...	...	...
Negapatam		...	...	...	...	...
Ongole		...	...	...	...	1
Pollachi		1	...	...	...	...
Tindivanam	1	...	...	...	2	...

151. In addition to the above the following officers were furnished with plans and estimates as below :—

Designation of Officers.	Description of plans and estimates sent.
1. Assistant Inspector-General of Police, Madras	Nine plans of latrines.
2. Executive Engineer, Negapatam Division.	Copies of detailed abstract estimates for standard designs, Nos. 2, 4, 7 and 8.
3. Acting District Medical and Sanitary Officer, Bellary	One plan of fourth-class hospital.
4. District Medical and Sanitary Officer, Gódávari	One plan of rural dispensary.
5. District Medical and Sanitary Officer, Cuddalore	One plan for segregation ward for foul cases.
6. District Medical and Sanitary Officer, Tanjore	One plan of a dispensary.

Designation of Officers.	Description of plans and estimates sent.
7. District Medical and Sanitary Officer, Madura	One plan of a dispensary.
8. Revd. A. Morgoschis, Manager, St. Luke's Hospital, Nazareth	One plan of Lying-in hospital.

152. The following type-designs were prepared during the year :—

13. Designs for open drinking tanks.
14. Do. for a market for about 30,000 people.
15. Do. for foot-crossings over drains at entrances to houses.
16. Standard plan of open wells.
17. Do. of built wells.
18. Do. of sunk wells.
19. Do. of sunk wells.
20. Do. of abattoir.
21. Do. of a sheep slaughter-house.

Nos. 13 and 15 were issued to all municipalities and No. 13 to all district boards. With the exception of Nos. 20 and 21 all have been photozincographed and are ready for issue. Besides these, standard designs for latrines Nos. 4 and 12 prepared in past years were revised during the year under report.

153. The Board also issued the following circulars in regard to proposals in respect to deepening and improving tanks and wells and for burial or burning grounds :—

Circular Proceedings of the Sanitary Board, No. 65-T, dated 26th June 1895.

1. The Board are in constant receipt from various local authorities of proposals to deepen and improve tanks and wells. It is regretted that these often come to the Board without the slightest information as to the most important points which it is the duty of the Board to consider. Many of these projects no doubt are small and unimportant; others may seem so, but really affect the inconvenience and health of a large number of people. The Board have had, therefore, in all but few cases to return such proposals for further information. In order to save such references, the Board request that all proposals for such work be sent up with the following information, plans, sections, &c. :—

(i) a site plan showing position of the work, its source of supply and its drainage area,
(ii) enlarged plan of tank, well or other work with sections showing proposals in full detail,

the site plan being on a scale of not less than 330 feet=1 inch, the enlarged plan being on a scale of not less than 60 feet=1 inch, the sections and cross-sections being on a scale of 20 feet=1 inch, and the masonry works in detail on a scale of 10 feet=1 inch.

2. Estimates shall accompany all proposals and the following information shall be given :—

(i) As to the source of supply.
(ii) A description of the catchment area, stating the character of the surface, the villages, huts, &c., within it (these should be indicated on site plan) and the population be stated.
(iii) A description of the feeding channels if the work is a tank.
(iv) A description of the tank or well, viz., whether it is—
  (*a*) a tank fed by surface water direct,
  (*b*) a tank fed by channels,
  (*c*) a draw-well fed from bottom only,
  (*d*) a step-well or small tank fed by springs or by surface drainage or by both.
(v) A description of the strata in which the work is located, the maximum and minimum depths of water at present, its present capacity and the dates between which it receives its supply, the date it is at its minimum level or months during which it is empty.
(vi) A description of improvements contemplated (*a*) to its area, (*b*) to its feeders, (*c*) to the tank itself, and (*d*) if a drinking tank, the measures proposed to be taken to improve or maintain the purity of the supply.
(vii) If the proposal is for deepening a tank, the proposed disposal of the earth or sludge to be removed from the tank, and the measures to be taken to prevent future deposit of such earth or sludge, should be specified.

3. The Board are opposed to the grant of sanction for any tank improvements which do not provide—

(i) for an increase in quantity of the water-supply if deficient,
(ii) for the purification of supply if used for dietetic purposes,
(iii) for prevention of pollution by fencing, provision of wells, pumps, &c.,
(iv) for prevention of future sludge deposit, if deposit exists,
(v) for the proper disposal of all excavated earth, sludge, &c., from a tank so that it may not be washed back thereto.

4. To sum up, the Board are disinclined to accept any expedients for increasing supply by deepening, &c., unless the sanitary requirements are fully attended to. The Board consider that incomplete improvements are only waste of money as these inevitably have to be repeated within a few years.

5. It is hoped that local boards and municipalities will aid the Sanitary Board in making lasting improvements by adhering to the above rules, and when forwarding projects for approval by keeping in mind the views of Board as enumerated above.

Circular Proceedings of the Sanitary Board, No. 2487, *dated* 3rd *September* 1895.

As many proposals received in reference to opening burial or burning grounds come before the Board without the information requisite in regard to them, the Board resolves to require that the following information accompany all such proposals :—

(1) Name of town.
(2) Population according to census of 1881 and 1891.
(3) Population for which burial or burning ground is required.
(4) Total average death-rate of last ten years.
(5) Number of persons { burned / buried } annually.
(6) Area proposed to be taken up.
(7) Area to be used for roads and paths.
(8) Description of soil met with and depth at which each description is found in digging to a depth of 8 feet.
(9) Site plan showing site in relation to town and also direction of the prevailing winds.
(10) Direction of slope—
  (*a*) of the surface of the site.
  (*b*) of the natural drainage flow from site.
  (*c*) of the strata under the site.
(11) Highest level of sub-soil water.
(12) Lowest level of sub-soil water.
(13) Level of site in relation to nearest habitations of the town.
(14) A statement of the arrangements proposed for affording a supply of water (*a*) for drinking purposes, (*b*) for bathing purposes at the burial or burning ground.
(15) A description of the accommodation, if any, it is proposed to erect for mourners, vettians, &c.
(16) A description of the arrangements intended to shelter the corpse on the occurrence of rain during the process of cremation.
(17) Information as to whether it is customary to finally dispose of the bones and ashes in water, the locality to be named and indicated on the general map.

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154. After the issue of the plan of open drinking tanks, nearly every Board requested additional copies; only a few of these could be sent; the following circular was, therefore, issued to admit of the Board determining how many copies should be, in future, issued of type-designs :—

Circular letter No. 3068, *dated* 19*th October* 1895, *from the Joint Secretary, Sanitary Board (Engineering Branch), to the Collectors of Districts.*

Recent issues of plans and proceedings of the Sanitary Board have caused calls for a much larger number of copies than the Sanitary Board has been able to furnish. To avoid inconvenience in future I have the honour to say I am directed to request that you will be good enough to fill in the accompanying list and return the same to me stating the *minimum* number of copies that will be necessary in future issues.

2. It is hardly necessary to point out that *plans* cannot be furnished to all unions, and a limited number only of these can be furnished to taluk boards, &c.

3. The Sanitary Board, after hearing from you in reply, will decide what numbers of each plan and circular, &c., will in future be provided.

Statement showing number of Plans, Circulars, &c., required from the Sanitary Board, Madras.

Name of District.	Minimum number of copies required for the use of District Boards.	Minimum number of copies required for the use of Taluk Boards.	Minimum number of copies required for the use of Unions.	Minimum number of copies required for the use of Municipal Council.	Number of extra copies, if any, required.
Plans					
Circulars					
Regulations					
Forms					

155. The returns in reply totalled up as follows :—

—	Minimum number of copies required for the use of District Boards.	Minimum number of copies required for the use of Taluk Boards.	Minimum number of copies required for the use of Unions.	Minimum number of copies required for the use of Municipalities.	Minimum number of extra copies, if any, required.
Plans	56	87	168	67	39
Circulars	76	96	290	72	42
Regulations	76	96	281	67	41
Forms	80	117	342	68	46

This meant considerable expense and would have thrown an unnecessary amount of work on the Survey office where the plans are photozincographed. The Sanitary Board, having considered the matter, resolved as follows :—

Proceedings of the Sanitary Board, No. 505, *dated* 21*st February* 1896.

The Sanitary Board, after consideration of the replies from the various districts, regrets its inability to provide the large number of forms in many cases asked for, and, after due consideration, resolves that the distribution of copies of circulars, plans and estimates be as under :—

	Number of plans, circulars, &c.
Each district board	3
Each taluk board	1
Each municipality	2
Extra copies for Collectors or Presidents, Local Fund Boards, Sub-Collectors and Assistant Collectors	3

2. It is suggested that, if further copies of plans are required, they be copied by the blue print process or otherwise.

This means a total issue of plans, circulars, regulations and forms in the following number :—

District boards	21 × 3 = 63
Taluk boards	80 × 1 = 80
Municipalities	56 × 2 = 112
Extra copies for the Collectors, Sub-Collectors and Assistant Collectors	21 × 3 = 63
Total ...	318

156. The following question in regard to plans for markets arose during the year, and was eventually decided satisfactorily to the Board :—

The President, District Board, North Arcot, requested Government to instruct him as to whether works in connection with local fund markets and slaughter-houses are of a sanitary nature, and whether the plans for such works require the approval of the Sanitary Engineer with reference to G.O., No. 79 L., dated 16th

January 1891. Government informed him in G.O., No. 298 L., Mis., dated 16th February 1895, that the construction of a slaughter-house should be regarded as a work of a sanitary nature within the meaning of the rules, but that plans for markets need not be sent to the Sanitary Engineer. The Sanitary Board in its Proceedings, No. 661, dated 15th March 1895, requested Government to reconsider its decision as to the submission of market plans to the Board. This, in Board's opinion, was quite as necessary as in the case of slaughter-houses, if not, more so, for the arrangements of a market more immediately affect the state of the food-supply of the people than even a slaughter-house. Government in G.O., No. 726 L., dated 26th April 1895, modified the G.O., No. 298 L., dated 16th February 1895, so as to include market buildings under the head of sanitary works, the plans for which require the sanction of the Sanitary Board.

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157. There may be a feeling among boards and municipalities that much extra expenditure has been entailed by the increased sanitary requirements of the Sanitary Board, and while this, to some extent, must be the case, on the other hand there is no doubt that too high a standard should not be insisted upon. It is only by moderation in the case of the Sanitary Board and a desire to meet its views on the part of those who send in schemes for approval that sanitary progress without unnecessary friction is likely to be secured. To so act should, evidently, be the aim of the Sanitary Board, and the Board has, in all cases, been willing to consider any representations which have been made to them when the expenditure involved has seemed to be more than a local fund or municipal council could really afford. At the same time, there is a standard of sanitary requirement, below which approval cannot be given, and it is very often better for works not to be executed at all than in a manner which does not meet the latest requirements of sanitary science.

PERSONAL PROCEEDINGS.

158. Table No. I of the appendix shows the towns visited during 1895. It will be observed that the Sanitary Engineer during eleven months in the year visited the following municipal towns in addition to Kodaikánal :—

(1) Tanjore (five times).
(2) Trichinopoly (eight times).
(3) Madura (twice).
(4) Ádóni (four times).
(5) Ootacamund (twice).
(6) Coonoor (twice).
(7) Kumbakónam.
(8) Dindigul (twice).
(9) Cochin.
(10) Bellary.
(11) Tirupati.
(12) Negapatam.
(13) Kurnool.

159. Mr. Ellis, as Acting Sanitary Engineer during one month in the year, visited three towns, viz., Tanjore, Trichinopoly and Adóni; the Assistant Sanitary Engineer to Government during nine months in the year visited the following towns :—

(1) Ádóni (five times),
(2) Tirupati (four times),
(3) Bellary (twice),
(4) Palamcottah,
(5) Tinnevelly,
(6) Conjeeveram,
(7) Gudiyáttám,
(8) Vellore,

and Mr. J. E. Lockyer, as Acting Assistant Sanitary Engineer for three months, visited three towns, viz., (1) Tirupati, (2) Ádóni and (3) Tanjore.

160. The following is a record of the travelling done during the year :—

—	By the Sanitary Engineer.	By the Ag. Sanitary Engineer.	By the Assistant Sanitary Engineer.	By the Ag. Assistant Sanitary Engineer.
Number of visits to towns ...	31	3	16	3
Number of miles by sea	...	...	...	...
Do. rail	8,104¾	1,112	5,385¼	1,245½
Do. canal ...	92	...	...	...
Do. road ...	459	15	48	...
Total miles ...	8,655¾	1,127	5,433¼	1,245½
Number of days on tour ...	98	4	48	10

REMARKS AS TO ESTABLISHMENT, CONSTRUCTION AND THE MAINTENANCE OF WORK.

161. The appointment of an Assistant Engineer for the investigation of water-supply schemes was referred to Government for consideration. It was strongly felt that more scientific attention should be given to the investigation of schemes than could be procured by means of a surveyor or men of that class, and that economy would be eventually secured by having a scientific officer to investigate and obtain the requisite information necessary for preparing schemes. Government at the end of the year passed an order which, while not acceding to the request in the form made, recognised the necessity, and by relieving this department of the work of construction, allows of the services of one of the Assistant Engineers being made gradually available for the work indicated.

162. It will be noticed from the orders of Government on several of the resolutions of the Sanitary Board, for instance, in regard to Ootacamund drainage and water-supply and Salem water-supply, that the investigation of these projects and improvements have been taken away from this department and handed over to the Public Works Department, apparently because extra staff would have been required by the Sanitary Engineer for the preparation of the designs. The Sanitary Engineer's department was instituted, because Public Works officers were not accustomed to deal with sanitary works, and it seems a reversal of the policy of Government to limit the Sanitary Engineer's staff, so that he cannot undertake all the sanitary surveys in the Presidency. The want of staff is not one that the Sanitary Engineer can of himself get over, and it would seem that an increase of staff and not a transfer of work is the proper remedy; and there is very little doubt that, if the expenditure in such cases under the former method is looked into, it will be found that it would have been financially to the advantage of Government to have granted extra staff to the Sanitary Engineer. It may be said that the undersigned acquiesced in the arrangement, but he did so because of the unwillingness of the late Chief Engineer to lend Public Works officers though willing enough for them to do the work under his own orders; and as Government was averse to increasing the Sanitary Engineer's staff, it was a case of 'needs must.'

163. The question of the superintendence of the maintenance of water-supply works after opening was a matter which also received attention. Some municipal councils were anxious that they should be left to deal with the maintenance themselves. None of these municipalities have an Engineer, and it was considered that it was very desirable that there should be some control by an Engineer officer and that the works with costly pumping stations, filters, reservoirs, &c., should not be left to the care of unprofessional men such as municipalities could afford. This would have necessitated the employment of an Assistant Engineer for a group of municipalities and would have been to their advantage. It is exactly the principle now advocated by the Supreme Government in regard to groups having Health officers, and if that is necessary for the initiation of schemes and maintenance of proper sanitation, it is no less so for the proper maintenance of sanitary works when

executed. The policy advocated, the undersigned firmly believes, would have been a satisfactory one to all and by no means an expensive one, but rather the reverse, for he feels assured that without it water and drainage works will fall, for want of professional knowledge and care, into such a state as will require very much more to put them right than would in the interval have been required for professional supervision to keep them in order. Government has, however, decided otherwise and passed the following orders :—

* * * * *

"The Government is not prepared to undertake the upkeep of water works, &c., after they have once been started, but municipal councils must see that they are placed in charge of a competent man, who will be responsible for keeping them in order. The Government will only undertake to provide for their supervision and inspection at stated periods by the Boiler Inspector, as laid down in G.O., No. 1615 M., dated 9th October 1895."

164. While regretting that such has been the decision of Government, it remains for this department to do its best to loyally aid municipalities when asked for advice as will certainly be often required, but the mischief, which may have been done, may then be repairable at perhaps only great expense.

165. The undersigned also desires respectfully to record his regret that Government have decided that in future the construction of works is to be undertaken by the Public Works Department. This decision has been come to, because the Chief Engineer considered the Sanitary Engineer had too much work to do and that supervision must be ineffective. The Sanitary Engineer has never made any complaint on this score, except to point out that when more work was to be done, more staff would be required. The execution of the designs of one Engineer by another never has in the History of Engineering been a success, and no work is likely under such circumstances to be carried out without very considerable amendment. Under the altered circumstances these amendments will not be referred to the Sanitary Engineer, and thus he can in no way be held responsible for the ultimate success or failure of his schemes, and where, as is the case, the Public Works officers are, with few exceptions, not specially trained for work of this nature, it is still more unlikely that schemes will be executed without much more expense being entailed than under present conditions. Even the terms on which the works are to be undertaken at the beginning are not favourable when compared with the cost of establishment of those already executed.

166. The following extract, from a report of the Sanitary Engineer to the Government of Bombay on the works of the Punjab and North-Western Provinces, endorses these views :—

* * * * *

"Up to the time that Sir Auckland Colvin became Lieutenant-Governor of the North-West Provinces in 1887, all sanitary works had been carried out by the Public Works Department, as they are still elsewhere in India except in Madras. The difficulties and delays of this system caused by want of the special knowledge on the part of most of the Executive Engineers, and the difficulty for them to spare sufficient time from their ordinary duties, and also the apathy and obstruction of the municipalities, which are still apparent elsewhere, caused him to appoint a special officer for supervising all such works, and he also passed the Water Works Act I of 1891. The water works of the larger towns were carried out in the following order : Agra, Allahabad, Benares, Cawnpore and Lucknow. Agra, Cawnpore and Benares are now carrying out drainage works, and Meerut is now having water works. the average time for each was only about two years, although the cost varied from 12 to 25 lakhs. All the works were carried out by large contractors, which accounts for the rapidity of construction to a great extent. The Punjab works of a similar nature, done under the old system,

present a most striking contrast. In the few cases where water has been supplied, *i.e.*, Umballa Cantonment, Delhi, Lahore and Peshawar, the designs were altered and re-altered during construction, the works extended over many years, and in the cases of Umballa Cantonment and Delhi they are a decided failure. Umballa city is now having its water works made and as an Engineer, who has been specially trained in that branch, is in charge, it will probably be a success. In all the Punjab works the neglected and *unfinished* look of the head works is most striking, whilst in the case of the North-West Provinces they compare favourably with similar works in England in neatness and finish ; and there has been none of the subsequent complaint or trouble that has resulted from every one of the Punjab works."

* * * * *

"Part I is well on towards completion, but it is impossible to say when the various independent estimates for the different bazaars of Part II can be done. Under the system in force in the Punjab, the local Executive Engineer is supposed to do all sanitary works in addition to his own proper work ; and if this is adhered to as regards Part II, the twentieth century will be far advanced before the project is completed, if indeed it ever is. It is, I think, quite impossible that any Executive Engineer with a large district could possibly give up the time required for such a work for such a city ; and the getting up of the project must drag on wearily from one Executive Engineer to another, as transfers occur, involving loss of continuity of thought and design ; and, if ever finished, the result must be an unsatisfactory patchwork. It will be interesting to note the difference of results in Cawnpore, where the drainage is being worked out and carried out by a special Public Works Department Engineer, who has had a special training in this branch, and who is working direct under the Sanitary Engineer."

GENERAL REMARKS.

167. Inventories of valuable stock have been maintained in this office, also in those subordinate to it.

168. Before closing this report, the Sanitary Engineer desires to place on record the very satisfactory services rendered during the year by Mr. Hormusji Nowroji, A.M.I.C.E., B.C.E., Assistant Sanitary Engineer to Government, by Messrs. Minchin and Lockyer, Assistant Engineers, and also by Messrs. J. R. Sivasoobramania Iyer and Davey, Supervisors, who were in semi-independent charge of the works at Tanjore and Adóni respectively.

J. A. JONES, MEM. INST. C.E., F.R.S.E.,
Sanitary Engineer to Government.

OFFICE OF THE SANITARY ENGINEER TO GOVT.,
Fort St. George, 15th May 1896.

APPENDIX.

TABLES Nos. 1 TO 8.

TABLE No. 1.

Statement showing progress made in respect of Water-supply and Drainage of District Municipalities during 1895.

District.	Serial number of Municipalities.	Town.	Date of inspection of town.	Date of preliminary report— (1) Water-supply. (2) Drainage.	Whether Council has sanctioned funds for surveys and levels.	Water-supply.		Drainage.				Remarks.
						Under survey or not.	Estimate under preparation or not.	Under survey or not.	Estimate under preparation or not.	Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	
1. Anantapur ...	1	Anantapur	S.E.—21/22-9-92 ...	(1) 26-9-92 ...	...	...	...	...	...	...	Rs. ...	Preparation of a water-supply scheme ordered to be dropped in G.O., No. 2108 M. Mis., dated 22nd December 1892.
2. Bellary ...	2	Ádóni	Ag. S.E.—28 to 30-1-95. S.E.—13 to 15-3-95; 22 to 24-4-95; 27 to 29-8-95, and 23/24-9-95. A.S.E.—8 to 10-2-95; 18/19-3-95; 23 to 28-7-95; 21 to 24-9-95; and 26 to 29-10-95. Ag. A.S.E.—24 to 26-5-95.	(1) 9-8-90 ...	Yes ...	Completed	Prepared.	...	...	15-10-90	1,62,000	Water works completed in November 1895.
	3	Bellary	S.E.—19 to 22-9-95 ... A.S.E.—4 to 7-2-95 and 1 to 5-12-95.	(1) 15-10-90 ...	Yes ...	Completed	Under preparation.	...	...	...	...	Water-supply scheme estimated to cost Rs. 9,06,642 was finally abandoned, cost being prohibitive. The Copper Mountain scheme is under investigation.
3. Chingleput ...	4	Conjeeveram ...	A.S.E.—18-10-95 ...	(1) 19-12-90 ...	Yes ...	Completed	Prepared.	...	...	6-11-93	2,57,000	Scheme sanctioned and the work commenced in November 1895.
4. Coimbatore ...	5	Coimbatore ...	A.S.E.—17 to 20-3-93...	(1) & (2) 21-11-90.	Yes ...	Completed	Prepared.	...	...	1-10-92	(1) 4,01,000 (2) 3,72,000	Scheme ordered to lie over pending the amendment of District Municipalities Act IV of 1884 to enable the council to undertake the work.
	6	Erode	A.S.E.—16 to 19-12-91.	.....	Yes ...	...	...	Completed.	...	...	...	Scheme for drainage not yet drawn up. Temporary measure to improve the water-supply of this town suggested by the Sanitary Commissioner is under consideration.
	7	Karúr	A.S.E.—11 to 13-6-93 ...	.....	Yes ...	...	...	Completed.	Prepared.	28-11-93	95,853	The drainage scheme is in abeyance as water-supply is to precede it and a scheme for the latter is ordered to be prepared.
5. Cuddapah ...	8	Cuddapah	Ag. S.E.—8-3-94 and 5 to 15-12-94. A.S.E.—8/9-3-94.	(1) 3-9-90 (2) 17-9-91.	Yes ...	Completed	Works executed.	In progress.	...	...	...	Complete scheme of drainage ordered in G.O., No. 1311 M., dated 12th August 1895 on the Sanitary Board's Report submitted to Government on 25th June 1895.
6. Ganjám ...	9	Berhampur ...	S.E.— 17/18-1-91 ...	(1) & (2) 20-2-91.	...	Completed	Prepared by the Executive Engineer	...	...	...	* 33,480	* Inclusive of Rs. 23,430 for stoneware pipes for distribution purposes.
	10	Chicacole	S.E.—26-2-92	(1) & (2) 2-3-92.	...	...	...	...	...	...	...	Council has not taken any steps to improve its drainage.
	11	Parlákimedi ...	.....	.....	...	...	...	...	...	...	...	No major scheme proposed.
7. Gódávari ...	12	Cocanada	S.E.—5 to 7-3-92 ...	(1) & (2) 31-1-91 (1) 2-2-91.	Yes ...	Completed	Prepared.	...	...	7-11-92	(1) 4,36,830 (2) 3,89,000	Scheme abandoned, cost being prohibitive; but council has found funds and anxious to proceed. No orders of Government received.
	13	Ellore	A.S.E.—27/28-6-92 ...	(1) & (2) 7-2-91.	Yes ...	...	...	Completed.	...	...	...	Drainage scheme not yet drawn up as the council not yet shown its financial ability to take it up.
	14	Rajahmundry ...	A.S.E.—26/27-7-94 ...	(1) 9-2-91 ...	Yes ...	Completed	...	...	...	...	...	Estimate not yet framed.
8. Kistna ...	15	Bezwada	A.S.E.—7 to 10-7-94 ...	.....	Yes ...	Completed	Prepared.	...	...	† 4-9-95	2,62,000	Water-supply scheme prepared and is under the consideration of the Sanitary Board. † Date of submission to the Sanitary Board.
	16	Guntúr	A.S.E.—23 to 25-6-94.	(1) & (2) 15-2-91.	Yes ...	Completed by Local Fund Engineer	...	Completed by Local Fund Engineer.	...	...	...	Water-supply scheme not decided on yet.
	17	Masulipatam ...	S.E.—18/19-2-91 ...	(1) 25-2-91 ...	...	...	...	...	...	...	...	Both water-supply and drainage schemes are under discussion.
9. Kurnool ...	18	Kurnool	S.E.—11 to 15-12-95 ...	(1) 10-4-91 ...	...	Completed	Prepared.	...	...	6-12-92	2,39,380	Water works are in progress.
10. Madura ...	19	Dindigul	S.E.—11-7-95 and 18/19-12-95.	(1) 15-9-90 ...	...	Completed	Prepared.	...	...	12-12-90	80,000	Water works are in fair progress.
	20	Madura	S.E.—27/28-2-95 and 12-7-95.	(1) 8-4-90 ...	Yes ...	Completed	Prepared.	...	...	11-7-91	3,91,000	Water works completed. Scheme for drainage not yet drawn up.
	21	Palni	S.E.—23/24-10-91 ...	(1) & (2) 27-10-91.	Yes ...	Completed	...	Completed.	...	...	...	Scheme for water-supply not yet drawn up.
	22	Periyakulam ...	S.E.—20/21-10-91 ...	(1) & (2) 23-10-91.	...	...	...	...	...	...	...	Pumping scheme from the Varahanadhi did not meet with support and the proposal to utilize the Berigam Project for the water-supply of the town is under consideration.
11. Malabar ...	23	Calicut	Ag.S.E.—10 to 12-10-94.	(1) & (2) 2-8-91.	Yes ...	Completed	...	Completed.	...	...	...	Water-supply scheme not prepared, but the council now anxious for a scheme to be drawn up and provided funds.
	24	Cannanore	S.E.—26 to 28-7-91 ...	(1) & (2) 30-7-91.	..	...	...	...	...	...	...	Council has not taken steps to improve its water-supply which is urgently needed principally to the moplah quarters.

TABLE No. 1—*cont.*

Statement showing progress made in respect of Water-supply and Drainage of District Municipalities during 1895—cont.

District.	Serial number of Municipalities.	Town.	Date of inspection of town.	Date of preliminary report— (1) Water-supply. (2) Drainage.	Whether Council has sanctioned funds for surveys and levels.	Water-supply.		Drainage.				Remarks.
						Under survey or not.	Estimate under preparation or not.	Under survey or not.	Estimate under preparation or not.	Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	
											Rs.	
11. Malabar—*cont.*	25	Cochin	S.E.—6 to 14-9-95 ...	(1) & (2) 3-9-91 ...	...	...	Prepared.	...	...	...	...	Deep well in progress, but stopped meantime pending orders of Government on full report of all probable sources of supply.
	26	Palghat	S.E.—4-8-91 ...	(1) & (2) 6-8-91 ...	Yes ...	...	...	Completed.	...	...	...	Drainage scheme not yet drawn up.
	27	Tellicherry ...	S.E.—29 to 31-7-91 ...	.....	...	...	...	...	...	...	...	Works of water-supply or drainage not urgent in this town.
12. Nellore ...	28	Nellore	A.S.E.—21 to 23-10-92.	.....	Yes ...	Completed	...	Completed.	...	...	...	Council must wait till the District Municipalities Act is amended to take up any scheme.
	29	Ongole	S.E.—17 to 20-3-91 ...	(1) 7-4-91 ...	...	Completed	Prepared.	...	...	22-4-92	(1) 1,20,000 (2) 49,700	Scheme abandoned, cost being prohibitive.
13. Nilgiris ...	30	Coonoor	S.E.—28-6-95 and 1 to 4-7-95.	.....	Yes ...	Completed	Prepared.	Completed.	Works completed.		25-3-91 1,20,000	Sanctioned scheme is to be revised.
	31	Ootacamund ...	S.E.—3 to 8-4-95 and 8 to 30-6-95.	(1) 3-9-90 ...	...	Completed	Prepared.	Completed.	Kandal completed.		17-8-93 (1) 53,500 (2) 54,647	These figures under water-supply are for filter-beds, &c. Scheme is now under investigation for extension of storage tanks, &c.
14. North Arcot ...	32	Gudiyáttam ...	A.S.E.—4 to 6-11-95 ...	(1) 18-12-95 ...	...	...	...	...	...	...	42,000	Preliminary report on a cheap water-supply scheme suggested by the Sanitary Commissioner was made.
	33	Tirupati	S.E.—10/11-10-95 ... A.S.E.—11 to 15-2-95; 20 to 24-3-95; 2 to 5-4-95, and 10/11-10-95. Ag. A.S.E.—12 to 15-5-95.	(2) 1-7-90 ...	Yes ...	Completed	Prepared.	Completed.	Prepared.	* 18-10-95	1,89,000	Drainage scheme sanctioned, but execution deferred. Water-supply scheme prepared and is under the consideration of the Sanitary Board. * Date of submission to the Sanitary Board.
	34	Vellore	A.S.E.—6 to 8-12-95 ...	(1) & (2) 12-5-90...	...	Completed	Prepared.	...	...	9-12-91	3,13,000	Scheme abandoned, cost being prohibitive. Drainage works being done piece meal.
	35	Wálájapet	.....	.....	...	...	...	...	...	...	...	No major scheme proposed.
15. Salem	36	Salem	Ag. S.E.—14 to 19-5-94. A.S.E.—14 to 23-5-94.	(1) 30-9-91 ...	Yes ...	Completed	...	Completed.	...	...	...	Public Works Department was ordered to investigate a water-supply scheme proposed by Mr. Ellis.
	37	Tiruppattúr ...	A.S.E.—20 to 22-7-93 ...	(1) & (2) 26-12-91.	Yes ...	...	...	Completed.	...	...	...	Scheme for drainage not yet drawn up.
	38	Vániyambádi ...	A.S.E.—21/22-12-91 ...	(1) & (2) 26-12-91.	...	...	...	...	...	...	...	Nothing has been done with regard to its drainage scheme.
16. South Arcot ...	39	Chidambaram ...	S.E.—30-11 to 2-12-90.	.....	Yes ...	Completed	...	...	...	...	...	This is only a partial survey and levels by Public Works Department.
	40	Cuddalore	A.S.E.—6 to 8-12-94 and 21 to 25-12-94.	(1) & (2) 17-11-91.	Yes ...	Completed	Prepared.	† 8-1-95	3,70,000	Completed.	...	Scheme is approved by the Chief Engineer and is referred by Government to the Municipal Council for remarks. † Date of submission to the Sanitary Board.
17. South Canara ...	41	Mangalore ...	A.S.E.—31-8 to 11-9-90.	(1) & (2) 3-10-90.	...	...	...	...	...	...	...	Water-supply scheme for this town must remain in abeyance until other towns urgently requiring schemes have received attention.
18. Tanjore ...	42	Kumbakónam ...	S.E.—29-4-95 ...	.....	Yes ...	In progress.	...	...	Prepared.	‡ 19-12-95	5,600	Surface drainage scheme completed. Sewerage scheme for a small portion of the town was prepared and sent to the Sanitary Board on ‡ 19th December 1895.
	43	Mannárgudi ...	.....	.....	...	...	...	...	...	...	...	Water-supply scheme is under discussion.
	44	Máyavaram ...	.....	.....	...	...	...	...	...	...	...	No major schemes proposed in regard to these two towns.
	45	Negapatam ...	S.E.—23-10-95 ...	(2) 16-12-90 ...	Yes ...	...	...	...	...	...	...	
	46	Tanjore	Ag. S.E.—20/21-1-95 ... S.E.—24/25-2-95; 1-3-95; 28-4-95; 9-7-95, and 20 to 22-10-95. Ag. A.S.E.—7 to 12-8-95.	(1) 2-6-90 ...	Yes ...	Completed	Prepared.	Completed.	Prepared.	2-9-91	§ 4,47,420	Drainage scheme has been sanctioned, but execution is in abeyance pending the preparation of water-supply scheme. § Inclusive of Rs. 18,420 for Pudukolum road repairs. Water works completed.
19. Tinnevelly ...	47	Palamcottah ...	A.S.E.—20 to 23-8-95 ...	(1) 25-11-91 ...	Yes ...	In progress.	...	...	...	...	...	|| Date of submission to the Sanitary Board.
	48	Tinnevelly	A.S.E.—24-8-95 ...	(1) 25-11-91 ...	Yes ...	Completed	...	Completed.	...	...	(1) 68,400 (2) 45,700	Surveys and levels for a joint water-supply scheme with the Municipality and District Board of Tinnevelly.
								...	...	...	...	Surveys and levels for a joint water-supply scheme with the Municipality of Palamcottah and the District Board of Tinnevelly are in progress.

TABLE No. 1—*cont.*

Statement showing progress made in respect of Water-supply and Drainage of District Municipalities during 1895—concluded.

District.	Serial number of Municipalities.	Town.	Date of inspection of town.	Date of preliminary report— (1) Water-supply. (2) Drainage.	Whether Council has sanctioned funds for surveys and levels.	Water-supply.		Drainage.				Remarks.
						Under survey or not.	Estimate under preparation or not.	Under survey or not.	Estimate under preparation or not.	Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	
19. Tinnevelly —*cont.*	49	Tuticorin	S.E.—8 to 12-8-92 ...	(1) 30-11-91 ...	Yes ...	Completed	Prepared.			2-7-93	Rs. (1) 3,18,710 (2) 2,34,670	Pumping scheme ordered to lie over, pending the amendment of District Municipalities Act in G.O., No. 180 M. Mis, dated 6th February 1895, and Sanitary Board's resolution on two other schemes of water-supply is under consideration of the Government.
	50	Srivilliputtur ...	.....	...	...	...	...	...	...	...	...	A new municipality organized in October 1894.
20. Trichinopoly ...	51	Srirangam ...	S.E.—16/17-9-90 ...	...	...	...	Under preparation.	...	...	...	...	The question of utilizing the present wells for the supply of water to Trichinopoly to this town also is under consideration.
	52	Trichinopoly ...	Ag. S.E.—21/22-1-95 ... S.E.—25/26-2-95; 28-2-95; 25 to 27-4-95; 5 to 8-7-95; 10-7-95; 23 to 26-7-95; 24/25-10-95, and 20-12-95.	(1) 21-4-90 ...	...	Completed	Prepared.	...	...	8-4-91	5,02,050	Water works are approaching completion.
21. Vizagapatam ...	53	Anakápalle ...	.....	...	...	...	...	...	...	...	...	No major schemes proposed.
	54	Bimlipatam ...	.....	...	...	...	...	...	...	...	...	
	55	Vizagapatam ...	A.S.E.—28-6 to 2-7-94, and 5/6-7-94.	(1) and (2) 31-1-91.	Yes ...	Completed	Prepared.	...	...	* 25-1-95	4,00,000	Water-supply scheme prepared and is under the consideration of the Sanitary Board. * Date of submission to the Sanitary Board.
	56	Vizianagram ...	A.S.E.—3/4-7-94 ...	...	Yes ...	...	...	...	...	...	...	No survey for drainage scheme can be undertaken until the question of drainage *versus* a water-supply scheme is decided in favour of one of them.
			,, 25-8-95 ...	(1) 25-11-91 ...	Yes ...	In progress.	...	...	...	...	...	...
		... ...	A.S.E.—24-8-95 ...	(1) 25-11-91 ...	Yes ...	Completed	...	...	...	...	...	...
								...	...	...	...	neve.
								...	...	Completed.	...	Surveys and leve... with the Munici... District Board of T...

TABLE No. 2.

WATER WORKS, ÁDÓNI.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Connecting pipe from Ramjeri spring to reservoir.	30·46	396	69·54	319	...	...	100	1,300	
2	Improving existing supply channel of Nallacheruvu tank.	...	...	...	...	100	1,000	100	1,000	
3	Raising the Nallacheruvu tank bund.	70·0	10,632	30·0	1,958	...	...	100	15,188	
4	Raising the present escape of Nallacheruvu tank new calingula.	94·70	4,617	5·30	794	...	...	100	4,875	
5	Constructing bund to prevent further water-spread at the northern extremity.	...	...	...	...	...	...	...	177	
6	Syphon arrangement...	95·60	2,868	4·40	44	...	...	100	3,000	
7	Constructing filter beds.	44·95	7,000	55·05	4,332	...	...	100	15,570	
8	Constructing service reservoir.	21·39	3,257	78·61	8,194	...	...	100	15,230	
9	Scour pipe from reservoir.	82·86	1,291	17·14	267	...	...	100	1,075	
10	Washing box	...	...	100	493	...	...	100	500	
11	Supply and delivery of pipes, &c.	88·23	48,166	11·77	6,427	...	...	100	43,664	
12	Laying and jointing pipes, &c.	80·87	6,000	19·13	2,484	...	...	100	7,419	
13	Land compensation payable to Government.	100	13,223	...	...	...	...	100	13,195	
14	Land compensation payable to owners.	100	18,508	...	...	...	100	100	17,980	
15	Bungalow and office ...	100	3,000	...	...	...	...	100	3,000	
16	Outlay up to date on preliminary operations and surveys.	100	763	...	...	...	...	100	763	
17	Contingencies	22·61	4,086	77·39	* 7,900	...	...	100	18,064	
	Total ...	78·3	1,23,807	21·0	33,212	0·7	1,100	100	1,62,000	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	...
	Total value of materials collected for the works (items 1, 2, 3 and 4) and remaining unused on 31st December 1895.	...
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4 'work done').	1,57,019
(*a*)	Grand Total	1,57,019
(*b*)	Total estimated cost	1,62,000
	† Percentage of work done (inclusive of materials at site, viz., items 1, 2, 3 and 4)	100 per cent.

* This includes Rs. 4,214 met from Provincial Revenues on account of pay, &c., of the Supervisors in charge of the works.

† As (*a*) to (*b*), *i.e.*, percentage (*a*) bears to (*b*).

TABLE No. 3.

WATER WORKS, DINDIGUL.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Pumping well	100	2,507	...	...	...	...	100	2,507	
2	Tunnel as already executed.	100	10,259	...	...	...	...	100	11,000	
3	Tunnel, extra 25 feet ...	...	...	...	...	100	500	100	500	
4	Service reservoir ...	...	...	17·22	1,350	82·78	6,489	100	7,839	
5	Engine and boiler house.	...	...	...	...	100	4,509	100	4,509	
6	Engines, pumps and boilers including erection.	...	...	...	...	100	9,500	100	9,500	
7	Pipes and fittings ...	...	...	90·51	26,847	9·49	2,815	100	29,662	
8	Laying and jointing pipes, &c.	..	...	50·00	2,979	50·00	2,980	100	5,959	
9	Tools and plant ...	100	807	...	...	...	...	100	750	
10	Establishment, office rent, &c.	72·0	* 2,880	28·0	* 1,620	...	...	100	4,000	
11	Contingencies	...	...	...	...	100	3,774	100	3,774	
	Total ...	20·56	16,453	40·99	32,796	38·45	30,567	100	80,000	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	350
	Total value of materials collected for the works (items 1, 2, 3, and 4) and remaining unused on 31st December 1895.	350
	Total expenditure incurred up to 31st December 1895 (as per table above columns 3 and 4 'work done').	49,249
(*a*)	Grand Total	49,599
(*b*)	Total estimated cost	80,000
	† Percentage of work done (inclusive of materials at site, viz., items 1, 2, 3 and 4)	62·00 per cent.

* These include Rs. 2,746 met from Provincial Revenues on account of pay, &c., of the Assistant Engineer and Supervisor in charge of the works.

† As (*a*) to (*b*), *i.e.*, percentage (*a*) bears to (*b*).

TABLE No. 4.

WATER WORKS, KURNOOL.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Off-take at channel ...	...	...	...	...	100	210	100	210	
2	Engine and boiler house.	...	...	...	...	100	4,500	100	4,500	
3	Fencing, levelling the site, forming road and compensation for land.	...	...	7·70	150	92·30	1,800	100	1,950	
4	Engines, pumps and boilers including erection.	...	...	...	...	100	13,500	100	13,500	
5	Pumping main ...	...	...	...	...	100	17,310	100	17,310	
6	Laying and jointing pumping main.	...	...	...	...	100	1,730	100	1,730	
7	Settling reservoir ...	...	...	14·20	4,555	85·7	27,501	100	32,056	
8	Masonry conduit ...	...	...	...	...	100	5,390	100	5,390	
9	Filter beds ...	...	...	4·43	937	95·57	20,217	100	21,154	
10	Service reservoir ...	...	...	0·23	35	99·77	15,251	100	15,286	
11	Pipes, bends, &c. ...	...	...	...	...	100	78,594	100	78,594	
12	Laying and jointing pipes, &c.	...	...	...	...	100	13,300	100	13,300	
13	Establishment, office rent, &c.	12·83	* 2,309	40·89	* 7,361	46·28	8,330	100	18,000	
14	Tools and plant ...	3·36	168	0·52	26	96·12	4,806	100	5,000	
15	Contingencies ...	1·53	175	0·42	48	98·05	11,177	100	11,400	
	Total ...	1·1	2,652	5·5	13,112	93·4	2,23,616	100	2,39,380	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	1,163
	Total value of materials collected for the works (items 1, 2, 3 and 4) and remaining unused on 31st December 1895.	1,163
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4 'work done').	15,764
(*a*)	Grand Total	16,927
(*b*)	Total estimated cost	2,39,380
	† Percentage of work done (inclusive of materials at site, viz., items, 1, 2, 3 and 4)	7·07 per cent.

* These include Rs. 7,526, pay, &c., of the Assistant Engineer met from Provincial Revenues.
† As (*a*) to (*b*), *i.e.*, percentage (*a*) bears to (*b*).

TABLE No. 5.

WATER WORKS, MADURA.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Filter bed including abandoned.	98	65,975	2	1,281	...	...	100	69,709	
2	Catchpit and valve house.	100	5,281	...	...	...	...	100	5,214	
3	Engine and boiler house.	100	36,711	...	...	..	...	100	39,584	
4	Engine Driver's quarters.	50	3,200	50	3,183	...	...	100	6,000	
5	Engines and pumps, &c.	100	59,699	...	...	...	...	100	62,000	
6	Supply and delivery of pipes, &c.	100	1,59,403	...	...	...	...	100	1,57,000	
7	Laying and jointing pipes, &c.	94	33,235	6	1,756	...	...	100	28,000	
8	Contingencies ...	37	9,094	63	* 15,667	...	...	100	32,493	
	Total ...	94	3,72,598	6	21,887	...	...	100	3,91,000	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	...
	Total value of materials remaining unused on 31st December 1895	4,404
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4) less value of materials in stock.	3,90,081
	Total estimated cost	3,91,000

* This includes Rs. 15,419 met from Provincial Revenues on account of pay, &c., of the Assistant Engineers in charge of the works.

TABLE No. 4.

WATER WORKS, KURNOOL.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Off-take at channel ...	...	...	...	...	100	210	100	210	
2	Engine and boiler house.	...	...	...	...	100	4,500	100	4,500	
3	Fencing, levelling the site, forming road and compensation for land.	...	...	7·70	150	92·30	1,800	100	1,950	
4	Engines, pumps and boilers including erection.	...	...	...	...	100	13,500	100	13,500	
5	Pumping main ...	...	...	...	...	100	17,310	100	17,310	
6	Laying and jointing pumping main.	...	...	...	...	100	1,730	100	1,730	
7	Settling reservoir ...	...	...	14·20	4,555	85·7	27,501	100	32,056	
8	Masonry conduit ...	...	...	...	...	100	5,390	100	5,390	
9	Filter beds ...	...	...	4·43	937	95·57	20,217	100	21,154	
10	Service reservoir ...	...	...	0·23	35	99·77	15,251	100	15,286	
11	Pipes, bends, &c. ...	...	...	...	...	100	78,594	100	78,594	
12	Laying and jointing pipes, &c.	...	...	...	...	100	13,300	100	13,300	
13	Establishment, office rent, &c.	12·83	* 2,309	40·89	* 7,361	46·28	8,330	100	18,000	
14	Tools and plant ...	3·36	168	0·52	26	96·12	4,806	100	5,000	
15	Contingencies ...	1·53	175	0·42	48	98·05	11,177	100	11,400	
	Total ...	1·1	2,652	5·5	13,112	93·4	2,23,616	100	2,39,380	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	1,163
	Total value of materials collected for the works (items 1, 2, 3 and 4) and remaining unused on 31st December 1895.	1,163
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4 'work done').	15,764
(*a*)	Grand Total	16,927
(*b*)	Total estimated cost	2,39,380
	† Percentage of work done (inclusive of materials at site, viz., items, 1, 2, 3 and 4)	7·07 per cent.

* These include Rs. 7,526, pay, &c., of the Assistant Engineer met from Provincial Revenues.
† As (*a*) to (*b*), *i.e.*, percentage (*a*) bears to (*b*).

TABLE No. 5.

WATER WORKS, MADURA.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Filter bed including abandoned.	98	65,975	2	1,281	...	...	100	69,709	
2	Catchpit and valve house.	100	5,281	...	...	...	...	100	5,214	
3	Engine and boiler house.	100	36,711	...	...	..	...	100	30,584	
4	Engine Driver's quarters.	50	3,200	50	3,183	...	...	100	6,000	
5	Engines and pumps, &c.	100	59,699	...	...	...	...	100	62,000	
6	Supply and delivery of pipes, &c.	100	1,59,403	...	...	...	...	100	1,57,000	
7	Laying and jointing pipes, &c.	94	33,235	6	1,756	...	...	100	28,000	
8	Contingencies ...	37	9,094	63	* 15,667	...	...	100	32,493	
	Total ...	94	3,72,598	6	21,887	...	...	100	3,91,000	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractors and paid for	...
4	Supplied by contractors and unpaid for	...
	Total value of materials remaining unused on 31st December 1895	4,404
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4) less value of materials in stock.	3,90,081
	Total estimated cost	3,91,000

* This includes Rs. 15,419 met from Provincial Revenues on account of pay, &c., of the Assistant Engineers in charge of the works.

TABLE No. 6.

WATER WORKS, TANJORE.

Statement of work done during the year 1895.

1	2	3		4		5		6		7
No.	Main head.	Work done previously.		Work done during 1895.		Work to be done.		Total estimated cost.		Remarks.
		Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	Percentage.	Value.	
			Rs.		Rs.		Rs.		Rs.	
1	Filter bed	100	48,938	...	...	...	...	100	49,000	
2	Catchpit and valve house.	93	14,383	7	1,120	...	...	100	15,450	
3	Engine and boiler house including store shed and land.	50·5	14,386	49·5	14,113	...	...	100	33,100	
4	Engines, pumps, &c. ...	88·8	55,105	11·2	6,958	...	...	100	70,000	
5	Engine Driver's quarters.	...	...	...	47	100	6,303	100	6,000	
6	Supply and delivery of pipes, &c.	99·1	1,65,796	·9	1,501	...	...	100	1,70,000	
7	Laying and jointing pipes, &c.	81·4	19,368	18·6	4,395	...	...	100	28,200	
8	Contingencies ...	68·7	*38,160	30·6	*17,023	·7	356	100	57,250	
9	Improvements to Pudukottai Road.	...	...	100	16,001	..	...	100	18,420	
	Total ...	84·0	3,56,136	14·4	61,158	1·6	6,659	100	4,47,420	

	Materials at site.	Rs.
1	Departmentally collected and paid for	...
2	Departmentally collected and unpaid for	...
3	Supplied by contractor and paid for	...
4	Supplied by contractor and unpaid for	...
	Total value of materials collected for work and remaining unused on 31st December 1895 ...	...
	Total value of work done up to 31st December 1895 (as per table above columns 3 and 4 'work done').	4,17,294
(a)	Grand Total	
(b)	Total estimated cost	4,47,420
	† Percentage of work done (inclusive of materials at site, viz., items 1, 2. ... ... and 4)	98·4 per cent.

* These include Rs. 14,644, pay, &c., of the A... ... ...

TABLE No. 8.

Statement giving particulars of works of sanitary nature referred to the Sanitary Board for scrutiny from Municipalities.

Municipalities.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Cocanada	Laying out the village site for Tirupupett.	...	...	...	...	...	...	...	1	...	...	No. 2204, 8th August 1895, and No. 2455, 29th August 1895.	Disapproved for reasons given.
Chidambaram	Constructing an open latrine to the east of Ayacoolam.	...	...	..	...	...	...	...	...	...	...	No. 2209, 8th August 1895.	Standard plan of the Sanitary Board or any modification of the standard plan was recommended.
Cochin	Reclaiming the Irravelli swamp ...	...	...	...	...	...	1	4,866	1	...	...	No. 2304, 15th August 1895.	Information were called for to give opinion or advice of the Sanitary Board.
Conjeeveram	Constructing a rice market at Hudsonspett.	...	...	...	...	...	1	510	1	...	...	No. 2208, 8th August 1895.	Plan and estimate were returned.
	Repairing the Municipal hospital.	...	...	...	...	...	1	820	...	...	...	Do.	Disapproved.
	Erecting an out-patients' building attached to the local hospital.	1	...	...	...	...	...	...	...	...	Standard plan of a dispensary.	No. 3054, 18th October 1895.	A standard plan of a dispensary was furnished.
Coonoor	Constructing matron's quarters in the hospital compound.	...	...	...	...	...	1	823	1	...	...	No. 3375, 15th November 1895.	Disapproved with remarks.
	Constructing drinking water cistern in hospital compound.	...	...	...	...	...	1	290	1	...	...	Do.	
	Constructing latrine at Ottupatrai.	...	...	...	...	...	1	419	1	...	...	Do.	
	Constructing two corrugated iron-roofed open stalls in the Coonoor market.	...	...	...	...	...	1	964	1	...	...	Do.	Plan and estimate were returned without remarks for certain reasons.
Trichi	Sinking two wells in the maidan ...	...	...	...	...	1	1	3,280	1	...	Plan of a well.	No. 1648, 7th June 1895.	A plan of a well designed on sanitary principles was furnished for adoption.
	Extending the slaughter-house at Ellore.	...	...	...	...	...	1	1,300	1	...	...	No. 79-T, 10th July 1895, and No. 2986, 10th October 1895.	Disapproved with remarks.
Vániyambán	Improving the Robinson tank ...	...	...	...	...	...	...	...	1	...	...	No. 382, 15th February 1895.	The plan was returned with suggestions.
Vellore	Constructing a sluice to the Black tank.	...	...	...	...	...	1	700	1	...	...	No. 1524, 27th May 1895.	Approved.
	Constructing a fish market ...	...	...	...	...	...	1	3,400	2	...	...	No. 1525, 27th May 1895.	Plans and estimates were returned for revision with remarks.
	Constructing a beef market ...	...	...	...	...	...	1	430	1	...	...	Do.	
Kumbakónam	Supplying the tanks in the town of Kumbakónam with water from the Cauvery.	...	...	...	...	...	7	36,250	11	...	...	No. 1, 25th January 1895.	A scheme costing a large sum of money could not be recommended.
	Constructing a Branch dispensary at Kumbakónam.	1	...	...	...	.	1	8,550	1	...	Plan of dispensary.	No. 2060, 24th July 1895.	Plans and estimates were returned with remarks.
	Constructing a slaughter-house and fish and meat market in Malakavery division.	...	1	...	1	...	1.	1,960	1	...	Plan of slaughter-house; plan of market.	Do.	
Madura	Altering the configuration of the north bank of the river Vigai near the filter beds.	...	...	...	...	..	1	1,510	1	...	...	No. 2352, 20th August 1895.	Plans and estimates were forwarded to Government for approval.
Mangalore	Constructing a Municipal branch dispensary at Mangalore.	1	...	...	...	...	1	2,000	1	...	Plan of a rural dispensary.	No. 344, 11th February 1895, and No. 574, 8th March 1895.	Approved.
Masulipatam ...	Re-constructing oil and sweetmeat stalls.	...	...	...	...	...	1	2,050	1	...	...	No. 2059, 16th September 1895.	Plans and estimates were returned with remarks.
	Constructing a double iron latrine on standard design No. 4 of the Sanitary Board.	...	...	1	...	...	1	884	1	...	Plan of latrine.	No. 2964, 9th October 1895.	Approved with remarks.
	Constructing an hospital for women and children.	1	...	...	...	...	...	...	...	...	Standard plan of women and children's dispensa	No. 3823, 19th December 1895.	A standard plan of dispensary was furnished for adoption.
Palamcottah	Constructing a labour ward in the hospital compound.	1	...	..	...	...	1	2,575	1	...	Sketch plan of hospital and design for lying-in hospital.	No. 646, 14th March 1895, and No. 3785, 17th December 1895.	A sketch plan of hospital and a design for lying-in hospital were furnished.
Palni	Improving the cattle market well.	...	...	...	...	1	...	...	...	2,250	Plan of well.	No. 2450, 28th August 1895.	Plan and estimate were furnished by the Sanitary Board.
Palghat	Repairing two latrines	...	...	...	...	...	2	808	...	...	...	No. 3646, 6th December 1895.	Approved.

TABLE No. 8.

Statement giving particulars of works of sanitary nature referred to the Sanitary Board for scrutiny from Municipalities.

Municipalities.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Cocanada	Laying out the village site for Tirupupett.	...	...	...	...	...	...	...	1	...	...	No. 2204, 8th August 1895, and No. 2455, 29th August 1895.	Disapproved for reasons given.
Chidambaram	Constructing an open latrine to the east of Ayacoolam.	...	...	..	...	...	...	...	...	...	...	No. 2209, 8th August 1895.	Standard plan of the Sanitary Board or any modification of the standard plan was recommended.
Cochin	Reclaiming the Irravelli swamp ...	...	...	...	...	...	1	4,866	1	...	...	No. 2304, 15th August 1895.	Information were called for to give opinion or advice of the Sanitary Board.
Conjeeveram	Constructing a rice market at Hudsonspett.	...	...	...	...	...	1	510	1	...	...	No. 2208, 8th August 1895.	Plan and estimate were returned.
	Repairing the Municipal hospital.	...	...	...	...	...	1	820	...	...	...	Do.	Disapproved.
	Erecting an out-patients' building attached to the local hospital.	1	...	...	...	...	...	...	...	...	Standard plan of a dispensary.	No. 3054, 18th October 1895.	A standard plan of a dispensary was furnished.
Coonoor	Constructing matron's quarters in the hospital compound.	...	...	...	...	...	1	823	1	...	...	No. 3375, 15th November 1895.	Disapproved with remarks.
	Constructing drinking water cistern in hospital compound.	...	...	...	...	...	1	290	1	...	...	Do.	
	Constructing latrine at Ottupatrai.	...	...	...	...	...	1	419	1	...	...	Do.	
	Constructing two corrugated iron-roofed open stalls in the Coonoor market.	...	...	...	...	...	1	964	1	...	...	Do.	Plan and estimate were returned without remarks for certain reasons.
... ...	Sinking two wells in the maidan ...	...	...	...	...	1	1	3,280	1	...	Plan of a well.	No. 1648, 7th June 1895.	A plan of a well designed on sanitary principles was furnished for adoption.
... ...	Extending the slaughter-house at Ellore.	...	...	...	...	...	1	1,300	1	...	...	No. 79-T, 10th July 1895, and No. 2986, 10th October 1895.	Disapproved with remarks.
Vániyambán	Improving the Robinson tank ...	...	...	...	...	...	...	...	1	...	...	No. 382, 15th February 1895.	The plan was returned with suggestions.
Vellore	Constructing a sluice to the Black tank.	...	...	...	...	...	1	700	1	...	...	No. 1524, 27th May 1895.	Approved.
	Constructing a fish market ...	...	...	...	...	...	1	3,400	2	...	...	No. 1525, 27th May 1895.	Plans and estimates were returned for revision with remarks.
	Constructing a beef market ...	...	...	...	...	...	1	430	1	...	...	Do.	
Kumbakónam	Supplying the tanks in the town of Kumbakónam with water from the Cauvery.	...	...	...	...	...	7	36,250	11	...	...	No. 1, 25th January 1895.	A scheme costing a large sum of money could not be recommended.
	Constructing a Branch dispensary at Kumbakónam.	1	...	...	...	.	1	8,550	1	...	Plan of dispensary.	No. 2060, 24th July 1895.	Plans and estimates were returned with remarks.
	Constructing a slaughter-house and fish and meat market in Malakavery division.	...	1	...	1	...	1	1,960	1	...	Plan of slaughter-house; plan of market.	Do.	
Madura	Altering the configuration of the north bank of the river Vigai near the filter beds.	...	...	...	...	..	1	1,510	1	...	...	No. 2352, 20th August 1895.	Plans and estimates were forwarded to Government for approval.
Mangalore	Constructing a Municipal branch dispensary at Mangalore.	1	...	...	...	...	1	2,000	1	...	Plan of a rural dispensary.	No. 344, 11th February 1895, and No. 574, 8th March 1895.	Approved.
Masulipatam ...	Re-constructing oil and sweetmeat stalls.	...	...	...	...	...	1	2,050	1	...	...	No. 2659, 16th September 1895.	Plans and estimates were returned with remarks.
	Constructing a double iron latrine on standard design No. 4 of the Sanitary Board.	...	...	1	...	...	1	884	1	...	Plan of latrine.	No. 2964, 9th October 1895.	Approved with remarks.
	Constructing an hospital for women and children.	1	...	...	...	...	...	...	...	...	Standard plan of women and children's dispensary.	No. 3823, 19th December 1895.	A standard plan of dispensary was furnished for adoption.
Palamcottah	Constructing a labour ward in the hospital compound.	1	...	...	...	...	1	2,575	1	...	Sketch plan of hospital and design for lying-in hospital.	No. 646, 14th March 1895, and No. 3785, 17th December 1895.	A sketch plan of hospital and a design for lying-in hospital were furnished.
Palni	Improving the cattle market well.	...	...	...	...	1	...	...	...	2,250	Plan of well.	No. 2450, 28th August 1895.	Plan and estimate were furnished by the Sanitary Board.
Palghat	Repairing two latrines	...	...	...	...	...	2	808	...	...	...	No. 3646, 6th December 1895.	Approved.

TABLE No. 8—*continued.*

Statement giving particulars of works of sanitary nature referred to the Sanitary Board for scrutiny from Municipalities—cont.

Municipalities.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Rajahmundry	Constructing a latrine in hospital compound, Rajahmundry.	...	...	1	...	...	1	525	1	...	Plan of latrine.	No. 235, 30th January 1895.	One of the standard types of latrine with roof sent was recommended for adoption.
Salem	Constructing masonry drains by the owners in front of their houses.	...	...	...	...	...	...	...	...	...	...	No. 116, 17th January 1895.	Certain informations were called for.
Tanjore	Cementing the pillars to 6 feet high and whitewashing the remaining portions of the vegetable market, Fort.	...	...	...	...	...	...	280	...	...	...	No. 1998, 16th July 1895.	Sanctioned with remarks.
	Repairing the floor of the open verandah in the vegetable market.	...	...	...	...	...	...	252	...	...	...	Do.	
Tinnevelly	Constructing new drains at Karunthattangudi.	...	...	...	...	...	1	...	2	...	...	No. 2306, 15th August 1895.	Certain informations were given.
	Letting filtered water from the Vennár into the existing tanks.	...	...	...	...	...	...	...	...	...	...	No. 2926, 5th October 1895.	Disapproved with remarks.
	Constructing petty drains in the municipality.	...	...	...	...	...	...	...	...	...	...	No. 2975, 10th October 1895.	Certain suggestions were forwarded.
	Constructing shops in Pennington market.	...	...	...	...	...	1	2,727	1	...	...	No. 3060, 18th October 1895.	Certain suggestions were forwarded as regards drainage, &c.
Tiruppattúr	Constructing a lying-in ward attached to the Municipal hospital.	...	...	...	...	...	1	650	1	...	...	No. 63-T, 27th June 1895.	Plan and estimate were returned for revision with remarks.
Trichinopoly	Rebuilding the collapsed walls of the Shanian tank.	...	...	...	...	1	1	1,350	1	3,000	1 section ...	No. 685, 18th March 1895.	A revised estimate and section were furnished for information.
	Rebuilding the southern and western retaining walls of the Gulamalle Khan tank.	...	...	...	...	1	1	1,250	1	...	1 sketch ...	No. 1405, 17th May 1895.	Plan and estimate were returned for revision with remarks.
	Repairing the outfall of the big bazaar drain at Trichinopoly.	...	...	...	...	...	1	1,100	1	...	...	No. 1559, 28th May 1895.	
Vániyambádi	Constructing a hospital	1	...	1	...	...	1	...	1	3,220	Plan of dispensary.	No. 524, 6th March 1895.	Two plans with estimates were furnished for adoption.
											Plan of latrine.	No. 663, 15th March 1895.	
Vellore	Constructing a slaughter-house for large cattle.	...	1	...	...	...	1	1,190	1	...	Plan of a bullock slaughter-house.	No. 1119, 19th April 1895.	Plan and estimate were returned for revision with certain remarks.
Vizagapatam	Constructing a public market at Waltair.	...	...	...	...	...	1	980	1	...	...	No. 739, 21st March 1895.	Certain informations were called for.
	Constructing a masonry latrine ...	...	...	2	...	...	1	400	1	...	Plans of latrines.	No. 3185, 1st November 1895.	Plans of latrine were furnished for adoption.
	Constructing an egg-shaped drain in Kottapetta.	...	...	...	...	1	1	400	1	...	1 sketch ...	No. 3530, 27th November 1895.	Certain informations were called for.

TABLE No. 8—*continued.*

Statement giving particulars of works of a sanitary nature referred to the Sanitary Board for scrutiny from District Boards.

District Boards.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Anantapur	Replacing the existing irrigation channel running through Tadpatri town by an inverted syphon.	...	...	...	...	...	...	20,000	...	...	...	No. 3150, 29th October 1895.	Suggesting certain improvements to the drainage of the town of Tadpatri.
North Arcot	Repairing the Peishkars' tank and its supply channel at Rénigunta.	...	...	...	...	...	1	9,800	10	...	...	No. 1044, 11th April 1895.	Plans and estimate were returned for revision with remarks.
	Constructing a dispensary at Puttúr.	...	...	...	...	...	1	3,100	2	...	...	No. 2707, 20th September 1895.	Approved with remarks.
Coimbatore	Constructing a women and children's dispensary with quarters for lady apothecary.	1	...	...	...	...	...	...	...	...	Plan of dispensary.	No. 3245, 6th November 1895.	Estimate was called for.
Cuddapah	Improving the main drains in Kummara and Kumma streets in the town of Madanapalle.	...	...	...	...	...	1	3,000	1	...	...	No. 2570, 6th September 1895.	Plan and estimate were returned with certain remarks.
Chingleput	Constructing a drain to convey sewage from the Railway workmen's quarters to the Local Fund drain at Agaram in Sembiem union.	...	..	...	...	...	1	910	1	...	...	No. 2630, 12th September 1895. No. 3349, 13th November 1895.	Approved.
	Extending Agaram drain and constructing cesspools, &c., in Sembiem union.	...	...	...	...	...	1	940	1	...	...	No. 2630, 12th September 1895. No. 3349, 13th Novem ber 1895.	Disapproved with remarks.
	Constructing Thomas' out-patient ward to be attached to Chingleput hospital.	...	...	...	...	...	1	2,128	1	...	...	No. 2962, 9th October 1895.	District Board was informed that a standard plan of a dispensary will be furnished on application.
Gódávari	Constructing hospital buildings ...	...	...	...	...	...	...	6,792	2	...	...	No. 3739, 13th December 1895.	Certain informations were called for.
	Repairing a well at Kollur, Répalle taluk.	...	...	...	...	...	1	433	1	...	...	No. 386, 16th February 1895.	Approved with remarks.
	Sinking a well at Vaddivanipalem in Rytepalli in Répalle taluk.	...	...	...	...	...	1	343	1	...	...	No. 387, 16th February 1895.	
	Deepening the tank at Sreerangapuram.	...	...	...	...	...	1	600	1	...	...	No. 858, 29th March 1895.	Plan and estimate were returned with remarks.
	Digging a fresh water well at Mandigudi, Sattenapalle taluk.	...	...	...	...	...	1	226	1	...	...	No. 2683, 19th September 1895.	
	Repairing the tank at Agathavarappadu, Gúntúr taluk.	...	...	...	...	...	1	600	1	...	...	No. 902, 2nd April 1895.	Plan and estimate were returned for revision with remarks.
	Constructing in-patient wards in the compound of dispensary at Cherala.	...	...	...	...	...	1	17,650	1	...	...	No. 2210, 8th August 1895.	Certain informations were called for.
	Constructing cook-room to be attached to in-patient wards in dispensary compound at Cherala.	...	...	...	...	...	1	1,094	...	...	...	No. 2274, 14th August 1895. Do. do. ...	Revised plans were called for.
Kistna	Constructing a Local Fund dispensary at Kykalur.	1	...	...	...	...	1	5,360	1	...	New design of dispensary.	No. 2571, 6th September 1895.	
	Deepening the east tank at Gudivada.	...	...	...	...	1	1	800	2	...	1 sketch ...	No. 3660, 9th December 1895.	Approved.
	Constructing bunds and providing feeding sluice for the tank at Prattipad.	...	...	...	...	1	1	300	2	...	Do. ...	No. 2692, 19th September 1895. No. 2693, 19th September 1895.	Sketches prepared by the Sanitary Board were recommended for adoption.
	Converting a descending fresh water well at Phiranghipuram into a draw well.	...	...	...	...	...	1	547	1	...	...	No. 2787, 26th September 1895.	Plan and estimate were returned with certain suggestions.
	Constructing a well at Nallapadu, Guntúr taluk.	...	...	...	...	4	1	334	1	...	Plans of wells.	No. 3149, 29th October 1895.	Plans of wells were furnished for information.
	Sinking a brick well at Ponnur, Bápatla taluk.	...	...	...	...	4	1	245	1	...	Do. ...	No. 3274, 7th November 1895.	A covered design of well was recommended for adoption.
	Constructing a Local Fund choultry at Mylavaram.	...	...	...	...	...	1	2,600	1	...	...	No. 3642, 5th December 1895.	Disapproved.
Kurnool	Constructing a third-class hospital building at Nandyal.	1	...	...	...	...	1	24,246	3	...	...	No. 855, 28th March 1895.	Plans and estimates were returned with certain remarks.
	Extending and improving the Nandyal market.	...	...	...	...	...	1	5,678	2	...	...	No. 2715, 20th September 1895.	Plans and estimate were returned for revision in the light of certain remarks.
	Constructing retaining wall to the Pallars' well at Kambam, Periyakulam taluk.	...	...	...	...	...	1	384	1	...	...	No. 121, 18th January 1895.	Approved.
	Improving the new well at Kovilpatty village.	...	...	...	...	...	1	350	1	...	...	No. 242, 30th January 1895.	Approved with remarks.
Madura	Constructing a well at Cumbum ...	...	...	...	...	1	1	520	1	...	Sketch showing the method of drawing water.	No. 668, 16th March 1895.	The method of drawing water by pulleys and buckets was recommended.
	Sinking a well in the market compound at Kumbam, Periyakulam taluk.	...	...	...	...	...	1	420	1	...	...	No. 26-T, 13th June 1895.	Standard plans for wells will be issued for guidance.

TABLE No. 8—*continued.*

Statement giving particulars of works of a sanitary nature referred to the Sanitary Board for scrutiny from District Boards—cont.

District Boards.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Madura—*cont.* ...	Constructing market sheds at Emakalapuram and Ayampalayam.	...	...	...	...	...	1	1,260	1	...	...	No. 2303, 15th August 1895.	Approved with remarks.
	Constructing a dispensary at Bódináyakkanúr.	...	...	...	...	...	1	3,385	1	...	...	No. 3272, 7th November 1895.	
	Constructing a market shed at Virupakshi.	...	...	...	1	...	1	1,120	1	...	Standard plan of market.	No. 2631, 12th September 1895.	
	Constructing a slaughter-house for sheep or goats suitable for small villages.	...	...	...	...	...	...	...	1	...	...	No. 3112, 25th October 1895.	
	Improving the Chetti Urani at Sivaganga.	...	...	...	...	...	2	3,000	3	...	...	No. 3271, 7th November 1895.	Disapproved for certain reasons.
												No. 3702, 11th December 1895.	Disapproved.
Nellore	Deepening and improving the good-water pond at Brahmanakaka.	...	...	...	...	...	1	450	1	...	...	No. 154, 22nd January 1895.	Approved.
	Constructing a dispensary building at Sullurpett.	...	...	...	...	...	1	3,233	...	...	...	No. 1106, 18th April 1895.	
	Constructing a dispensary building at Allúru.	...	...	...	...	...	1	3,000	1	...	...	No. 1152, 22nd April 1895.	Approved with remarks.
	Constructing a dispensary building at Addanki.	...	...	...	...	...	1	3,000	1	...	...	No. 22-T, 12th June 1895.	Approved.
	Constructing a choultry at Kaligiri.	...	...	...	...	1	1	3,900	1	...	Plan of choultry.	No. 3053, 18th October 1895.	A revised plan of the Sanitary Board was forwarded for adoption.
Nilgiris	Improving the water source above the Gádalúr hospital.	...	...	...	...	...	1	290	1	...	...	No. 140, 21st January 1895.	Proposal of the District Board Engineer was approved.
												No. 573, 8th March 1895.	
Salem	Constructing a dispensary building at Talli.	1	...	...	...	...	1	1,500	1	...	Standard plan of dispensary.	No. 2318, 16th August 1895.	Standard plan of Sanitary Board was recommended for adoption.
	Constructing a shed in the shanday compound at Nallampalli.	...	...	...	...	...	1	600	1	...	...	No. 2389, 22nd August 1895.	
	Constructing a shed in the shanday compound at Karimangalam.	...	...	...	...	...	1	1,030	1	...	...	Do.	Plans and estimates were returned with certain suggestions.
	Constructing a shed in the shanday compound at Dharmapuri.	...	...	...	...	...	1	720	1	...	...	Do.	
	Constructing a hospital assistant's quarters with latrine attached to it.	...	...	...	...	...	1	1,220	1	...	...	No. 2786, 26th September 1895.	
Tanjore	Repairing the Poigai tank at Tirunagiri, Shiyali taluk.	...	...	...	...	...	1	1,140	1	...	...	No. 478, 28th February 1895.	Approved.
	Constructing a drainage sluice to Tirumailadi tank.	...	...	...	...	...	1	285	1	...	...	Do. do. ...	
	Deepening the tank at Munivannangudi, Máyavaram taluk.	...	...	...	...	...	1	500	1	...	...	No. 1375, 15th May 1895.	Plan and estimate were returned again with remarks.
	Repairing the tank at Achalpuram, Shiyali taluk.	...	...	...	...	...	1	1,000	1	...	...	No. 59-T, 27th June 1895.	
	Deepening the Srivisvanathaswamy temple tank at Anakudi, Kumbakónam taluk.	...	...	...	...	...	1	950	2	...	...	No. 1534, 27th May 1895.	Attention of the District Board was drawn to this office circular No. 65-T.
												No. 2192, 8th August 1895.	
Tinnevelly	Constructing drains in certain streets of Virudupatti union.	...	...	...	...	...	1	670	2	...	...	No. 69-T, 29th June 1895.	Plan and estimates were returned with remarks.
												No. 3708, 12th December 1895.	
Trichinopoly	Sinking a well at Kutthappar village, Trichinopoly taluk.	...	...	...	...	...	1	500	1	...	...	No. 530, 6th March 1895.	Approved with remarks.
Vizagapatam	Constructing godowns in the market at Kothavalsa Dabal.	...	...	...	...	1	...	6,793	1	...	Plan of godowns.	No. 2317, 16th August 1895.	Plan and estimate were returned with remarks.
												No. 3516, 26th November 1895.	Approved with remarks.

TABLE No. 8—*continued.*

Statement giving particulars of works of a sanitary nature referred to the Sanitary Board for scrutiny from Taluk Boards.

Taluk Boards.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Arni	Constructing a dispensary at Polur	...	...	...	...	...	1	3,000	1	...	...	No. 2046, 23rd July 1895.	Approved with remarks.
Chidambaram	Constructing hospital assistant's quarters at Mannárgudi.	...	...	...	...	...	...	1,604	1	...	...	No. 3332, 12th November 1895.	Disapproved with remarks.
Chingleput	Constructing a latrine at Wallajabad union.	...	...	...	...	...	1	214	1	...	...	No. 3520, 27th November 1895.	Approved with remarks.
	Constructing a latrine in the Chingleput union.	...	...	...	...	...	...	222	1	...	...	Do. ...	
	Do. do. ...	...	...	...	...	...	1	573	1	...	...	No. 3703, 11th December 1895.	
Cocanada	Constructing patient wards for Tuni dispensary.	1	...	...	...	...	1	2,300	1	...	Plan of dispensary.	No. 1153, 22nd April 1895.	Plans and estimates were returned for revision with remarks.
	Constructing a kitchen in the dispensary compound at Tuni.	...	...	...	...	...	1	550	1	...	...	Do. ...	
	Constructing a latrine for the use of dispensary at Tuni.	...	...	...	...	...	1	290	1	...	...	Do. ...	
	Constructing a main drain and outlet and inlet sluice for a tank at Nadakudura village.	...	...	...	...	...	1	720	2	...	...	No. 1234, 2nd May 1895.	Plans and estimates were returned for revision with certain suggestions.
	Constructing a well in the village of Attikanivaripalem in Tuni division.	...	...	...	...	...	1	800	1	...	...	No. 2211, 8th August 1895.	Plan and estimate were returned for revision with remarks.
Coimbatore	Constructing three latrines ...	...	...	...	...	...	1	975	...	...	...	No. 303, 7th February 1895.	Approved with remarks.
Dindigul	Digging a well in the market compound at Allinagaram.	...	...	...	...	4	1	420	1	...	Plans of wells.	No. 3296, 11th November 1895.	Covered design of a well was recommended for adoption.
Ellore	Constructing market sheds in Attily, Relangi and Pentapadu.	...	...	...	...	...	...	...	1	...	...	No. 2305, 15th August 1895.	Certain informations were called for.
Hospet	Constructing market sheds at Chitwadegi.	...	...	...	...	...	1	2,820	1	...	...	No. 2708, 20th September 1895.	Approved with remarks.
	Constructing market sheds at Hospet.	...	...	...	...	...	...	1,410	1	...	...	Do. ...	
Námakkal	Constructing a market shed at Mahanore.	...	...	...	...	...	1	800	1	...	...	No. 118-T, 22nd September 1895.	Plan and estimates were returned with remarks.
	Constructing a market shed at Sultanpet.	...	...	...	...	...	...	800	1	...	...	Do. ...	
	Constructing a market shed at Puliancholai.	...	...	...	...	...	...	800	1	...	...	Do. ...	
	Extending the dispensary building at Tiruchengódu.	...	...	...	...	...	1	2,190	1	...	...	No. 2970, 10th October 1895.	Disapproved with remarks.
	Constructing a dispensary at Sendamangalam.	1	...	...	...	...	1	...	1	...	Standard plan of dispensary.	No. 3056, 18th October 1895.	A standard plan of a dispensary was forwarded for adoption.
Narsapur	Enclosing an open piece of land which serves the purpose of a latrine for the union of Narsapur.	...	...	...	...	...	1	1,255	1	...	...	No. 643, 14th March 1895.	Disapproved for certain reasons.
Negapatam	Repairing the Appen tank in the Nannilam union.	...	...	...	...	...	1	880	1	...	...	No. 100, 16th January 1895.	Approved.
	Repairing the Vanian tank in the Nannilam union.	...	...	...	...	...	1	735	1	...	...	No. 104, 16th January 1895.	
	Deepening the Cikkilpathu Thiruvasal tank.	...	...	...	...	...	1	700	1	...	...	No. 217, 28th January 1895.	
	Deepening the tank at Parithiyoor village, Nannilam taluk.	...	...	...	...	...	1	325	1	...	...	No. 630, 13th March 1895.	
	Deepening the tank opposite to Renugathavi temple at Vizayapuram, Negapatam taluk.	...	...	...	...	...	1	220	1	...	...	No. 631, 13th March 1895.	
	Repairing the Manalur tank in the Negapatam taluk.	...	...	...	...	...	1	300	1	...	...	No. 61-T, 27th June 1895, and No. 2920, 5th October 1895.	Plan and estimate were returned with remarks.
	Repairing the Eravanjeri tank in the Negapatam taluk.	...	...	...	...	1	1	250	1	...	Standard plan of open drinking tank.	No. 62-T, 27th June 1895, and No. 3700, 11th December 1895.	Plan and estimate were returned with remarks.
Ongole	Constructing a dispensary at Singarayakonda.	1	...	...	...	...	...	...	...	...	Plan of dispensary.	No. 60-T, 27th June 1895.	Taluk Board was advised to accept the proposal of Local Fund Engineer for reasons given.
Pollachi	Constructing a dispensary at Vattaikaranpudur.	1	...	...	...	...	1	2,900	1	...	Do. ...	No. 2381, 22nd August 1895.	Disapproved for want of certain information.
Proddatur	Constructing a slaughter-house in Proddatur market compound.	...	...	...	...	...	2	1,440	2	...	...	No. 190, 25th January 1895.	Approved with remarks.
Tindivanam	Constructing a latrine in Villupuram.	...	...	2	...	...	1	580	1	...	Standard plans for latrines.	No. 2471, 30th August 1895.	Two standard designs of latrines were furnished for adoption.
	Constructing a lying-in ward for 4 women in Villupuram hospital.	1	...	...	...	...	...	...	...	...	Plan of lying-in ward.	No. 3354, 14th November 1895.	Sanitary Board's design was recommended for adoption.

TABLE No. 8—*continued.*

Statement giving particulars of works of a sanitary nature referred to the Sanitary Board for scrutiny from Taluk Boards—cont.

Taluk Boards.	Description of works.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous.	Number of estimates received for scrutiny.	Amount.	Number of plans received for scrutiny.	Amount of revised estimate.	Description of new plans furnished.	Number and date of Sanitary Board's Proceedings.	Purport of the Proceedings.
								Rs.		Rs.			
Tinnevelly	Sinking a well in front of the Local Fund chuttrum in Gangaikondan.	...	...	...	...	...	1	410	1	...	...	No. 95, 16th January 1895.	Approved.
	Improving the Teppakulam at Chinthamony in Puliankudi union in Sankaranayinárkóyil taluk.	...	...	...	...	...	1	650	1	...	...	No. 296, 6th February 1895, and No. 45-T, 20th June 1895.	Certain informations were again called for.
	Improving the southern Teppakulam in Pettai union.	...	...	...	...	...	1	875	1	...	...	No. 298, 6th February 1895.	Approved with remarks.
	Constructing sheds in Sankaranayinárkóyil market.	...	...	...	...	...	1	1,620	1	...	...	No. 3429, 19th November 1895.	
Tirumangalam	Constructing market shed at Thummakundu.	...	...	...	...	...	1	1,275	1	...	...	No. 3273, 7th November 1895.	

Errata to Sanitary Report for 1895.

No.	Reference as to form and page, &c.	Substitute.			For.		
		Male.	Female.	Total.	Male.	Female.	Total.
1	Form No. II, page 151B., column 10: Mean ratio of deaths per 1,000 during previous five years last line.	34·28	32·42	33·38	34·23	32·38	33·34
2	Form No. VI, page 161B, column 12: Mean ratio of previous five years last line.			33·08			33·60
3	Form No. VI, page 165B., column 12: Mean ratio of previous five years—last line.			33·38			33·34

Reply to questions asked by the Hon'ble Members on the Sanitary Commissioners and the Sanitary Engineer's reports for 1895.

H.M.

[100—18-11-95.]

GOVERNMENT OF MADRAS.

SANITARY BOARD OFFICE.

GENERAL SANITATION ~~DEPARTMENT~~ Branch.

Municipal Dept. Branch No. 1417

Proceedings of the Sanitary Board, No. 220 S.B., dated 18th May 1896.

PRESENT.

SURGEON-LT.-COL. W. G. KING, M.B., C.M., D.P.H., AG. SANITARY COMMISSIONER, MADRAS,

J. A. JONES, ESQ., M.I.C.E., F.R.S.E., SANITARY ENGINEER TO GOVERNMENT.

READ the following:—

G.O. No. 359 L, dated 21st February 1896 and G.O. No. 651 L, dated 4th April 1896.

Resolution. The Board resolves to submit to Government the Sanitary Report of the Sanitary Commissioner for Madras and the Report of the Sanitary Engineer to Government for 1895 bound together in one volume, as directed in the G.Os. read above.

2. The diagrams and map appearing in the Sanitary Report will be inserted in the bound copies when issued.

W. G. King D.P.H.
Surgeon Lt Col
Secretary, General Sanitation Branch
Sanitary Board

Chief Secretary to Gove[illegible]

Review of the Sanitary Commissioner's and the Sanitary Engineer's reports for 189

Curr No 1417 D

V.E

H.M
P.S

Note.

This is due to the Govt of India on the 1st July/96. It will be put in type, as usual, as soon as it is passed by the A.S., before being sent up to the C.S and H.M. The two spare copies of the report submitted with this, may be sent up to the C.S and H.M at once for perusal in advance of the review.

V.R
4/6/96

Madras Office

I have retained the file as it is so large — not necessary for the printing of this order.

[illegible]
11.6.96

V.E

Press Please put this in type at once and send proof on broadsheets by 3 P.M on Monday the 15th Inst.

[illegible]
13.6.

The Sanitary Comm'r's and the Sanitary Engineer's Reports for 1895

(For C.S)

Despatcher
Please stitch this with the orig'l of the sanitary report for 1895 [illegible]
[illegible]

Submitted to C.S. for perusal while the draft review is being passed & put in type. A copy is also submitted for H.M.'s perusal.
WWD
5.6.96

Returned to Madras office
Office
File this slip [illegible]
with the original
[illegible] 2/7/96

O.

Neg

everam, as no trained Supervisor was
t time the North-East monsoon had
rivers' quarters was taken in hand.

by the Sanitary Board for the water-
d to the municipal councils concerned
hem. Two other schemes for water-
the Sanitary Engineer to the Sanitary
stated to be still under consideration.

otacamund received attention, and the
carry out the works of filling in the
and to give effect to the suggestions
he defects in the intercepting sewer.
dations for improving the water-supply
, late Chief Engineer for Irrigation,
he necessary plans and estimates.

G.O 689 In / 27-4-96

estimates for 133 sanitary works—42
t Rs. 2,69,342 in the aggregate, and
cessary. The action of the municipal
graph 146 of the report, in executing
in cost, without reference to the Sani-
., dated 16th January 1891, is ~~most~~ to be regretted
hat the special attention of the local
s of the last two annual reports. The
not be allowed to recur. The taluk
Vinukonda will now be requested to
with the instructions issued in G.O.,
xplain why they did not reply to the
January 1896.

and dispensary buildings, for which
y Board in 1895, have not yet been
rnment, but it is understood that the
ped that the work will be completed
sanitary works were issued by the

G.O 852 L / 8-5-96

ould have been considerably reduced
edings which have been reproduced *in*
been quite sufficient. The remarks of
are, in the opinion of Government, out

He should bear this in mind in future

the testimony borne by the Sanitary
officers referred to in paragraph 168

~~Under Secretary, P.W.D.~~
~~for Chief Secretary.~~

Jn 20/6/96.

Madras. 18.6.96

Despatcher
Please return this
to me after despatch

/7/96
14/7/96

1896.
, Home Department. 3 cs disp. 11/7/96

~~Under Secretary, P.W.D.~~
~~for Chief Secretary.~~

ad again rose from 270,456 to 277,337.
giris (19·2), Vizagapatam (18·2), Cud-
t in Tanjore (2·3) and Anantapur (2·8).
l, higher than in rural tracts, a rate of
Cuddapah again exhibits the highest
rate of 14·2. On the other hand, Coca-
e the least affected towns.

is recorded under these heads numbered
rate being 0·7 per mille in districts and
ctively, in that year; the higher rate in
lready mentioned in paragraph 8 above
were in Chingleput (1·9), Malabar (1·6),
owest in Kurnool (0·2). The mortality
10·4), Karúr (7·6), and Tuticorin (6·2),
In Madras, the rate fell from 5·3 to

from injuries and suicides fell from
ed causes rose again from 312,583 to

s reported upon by the Sanitary Com-
d in the reviews of the administration
he General Municipal and Local Fund
ks in paragraphs 49 to 54 regarding
al councils for attention.

regarding the necessity for insisting
rims proceeding to Mecca will be com-
nuation of paragraph 19 of G.O., No.

issioner and his Deputy visited twenty-
nd other villages, against fifty-two and
e decrease in the former case being due
s a general rule, conducted only every
an annual inspection were not sufficient
e District Medical and Sanitary Officers
against forty-seven in the previous
g restricted to municipal towns and
festivals are held. The Government
itary Commissioner has written notes
y Dr. King to the good work done by

not received in the Government office
) relating to the Madras town, and
boards, might have been condensed,
107 regarding cholera and small-pox.

ERING.

is the sixth since the organization of
fourteen towns and the Assistant
xteen, respectively, in the previous

ost Rs. 16,87,850 in the aggregate;
and Tanjore works were completed,
opoly. Fair progress was also made
of Dindigul. In Kurnool, however,
prepared and sanctioned during the
and they were not commenced until

4

Rathna

G.O 2140-m
21-12-95

of the schemes proposed by Mr. Cousins
osals for the more satisfactory disposal
f incinerators were also sanctioned by
nade for the purpose and for the pur-
iary steps were taken with a view to
; and surveys were made preparatory
overcrowded parts of the town. It is
cause a real advance in the sanitary
also high in Tinnevelly (25·0) and
d from Ganjám (13·6) points to in-

this and
and forward the permanent sanitary im-
provements among contemplation

es was 19·0 per mille against 19·2 in
and Tinnevelly (24·8 each), while in
Cuddapah, Kurnool, Tanjore, Trichi-
m 20·4 to 22·5. In the remaining
njám (13·2). In rural towns also the
),—Kayalpatnam, however, returning
e of births, this may be due to defec-
e registration, as is evidenced by the
es in the towns marginally noted. The
lectors concerned are requested to
port what measures they propose to
opt to improve registration.

e trustworthy statistics are available,
30·0 in the previous year, while the
m to 16·5 in Anantapur. It was high
2), in nine towns it was above 30, and
in the remaining three—Anantapur,
. It is evident that Kali ~~is~~ ~~is~~ ~~is~~

3

Venkatadey

... to any

...

...pur, North Arcot, South Canara, Ganjám, ... the highest birth-rate was recorded in ... receding two years, and in South Arcot, ...adura, Salem and Tinnevelly the rate was ... Malabar and Ganjam it ranged from 24·3 ... there was some improvement as compared ...alities, Vániyambádi returned the highest ... The rate was more than 40 per mille in ... Gudiyáttam, Dindigul, Periyakulam, Can... which similar results were achieved in 1894 ...een 30 and 40, while in thirteen others it ...ing reported from Cocanada (20·2), Chicacole ...3·2), Chidambaram (24·0), and Berhampur ...missioner in this connection in paragraphs ...d to the municipal councils concerned for ...trusts that greater energy will be displayed ...or failure to register births, and in seeing ...ect are duly observed.

only

— a matter which has been the subject of very frequent remark in the reviews of Munl. Admn. reports —

...exhibits the number of deaths per mille of ... under review compared with the figures of

...890.	† 1891.	† 1892.	† 1893.	† 1894.	† 1895.
1·2	2·9	2·3	1·0	1·3	0·6
1·0	1·2	1·3	0·8	0·3	0·1
9·2	7·3	8·3	7·7	8·0	8·3
0·9	1 0	1·0	0·7	0 7	0·7
0·4	0·4	0·3	0·3	0·4	0·3
0·1	9·4	9·1	8·8	9·3	9·6
2·8	22·2	22·3	19·3	20·0	19·6

† Calculated on the census population of 1891.
...owel-complaints also.

...) was less than that recorded in any of the ...t if the rates calculated on the estimated ...ded to paragraph 26 of the Sanitary Commis... ...t may be concluded, as stated by that officer, ...ovement in the general health of the population, ...ne and compared favourably with the average ...lity among infants under one year of age was ... during the year against 160·6 in 1894, but ...6 to 223. Infantile mortality was very high ...iris (220·9), and Tanjore (206·1), while in ...enty-four in 1894, the rate was more than 200 ...ading the list with 293·7 per mille. As Dr. ...nicipalities may be due to the deaths of infants ...of the subordinates responsible for their regis... ...the municipal towns being far from satisfactory.

and the districts of

...y, the highest death-rate (38·0) was, as usual, ...ich may be partly ascribed to the greater ...e insanitary condition of ~~the~~ city. The town ...issioner in 1894, and from the notes then ...bstantial improvement has been effected in its ...rs, however, have deferred carrying out the ...tes until the requirements of the water-supply ...onsidered. A sum of four lakhs was borrowed ...ension and improvement of the water-supply; ...um and the drainage and water-supply schemes

that

Vide current No. 2536 M of 1895 ordered to be overd

G.O. 1623 M / 9-10-95

pur, pared with the previous year. There was
the soon in all districts, except in those of the
rece In Ganjám, Vizagapatam and South Arcot
adu e of the ten years ending 1892 by more
Mal
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alitie g table shows the prices of the principal
The preceding two years and the average for
Gudi
whi

Number of seers for the rupee.			Average for the ten years ending 1892.
95.	1894.	1893.	
12·8	12·5	11·2	13·9
23·5	23·5	20·1	27·4
21·5	21·3	18·1	25·2

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ars ending 1892. Compared with 1894,
all districts except in Anantapur, Coim-
egards rice, in Madura and Tinnevelly as
y as regards rice and cholam.

890.
1·2
1·0
9·2
0·9
0·4
0·1
2·8 for which returns of births and deaths
the census of 1891, or 127,337 less than
e decrease occurs in Vizagapatam, where
ved not being known, the total population
The system of registration which was in
ge, but proposals to improve it are still
tment, and since the close of the year a
wel- prescribed for all municipalities. The
increased attention was bestowed on the
) w hat the Sanitary Commissioner and his
it if g their inspections. The report promised
ded made by the Collector of Coimbatore to
t ma vaccination in this direction has just been
ovem The suggestion made in the latter portion
ne a a separate communication.
lity
du gistered during the year was 976,572, or
6 tagainst 26·4 in the previous year, and was
irisar 1891. Taking the census population,
entyainst 27·7 in 1894, the rates for muni-
adin being 35·3, 25·2 and 28·7 per mille,
nicin that year. Municipal towns and rural
of t towns remained stationary. In munici-
the to have been indirectly effected by the
y, t No. 1502 M., dated 19th October 1894,
ich of compulsory vaccination. The advance
e i sure be ascribed to the increased attention
issi ct by Revenue officers. The indifferent
bst ,000 inhabitants, is no doubt due to the
rs, rk of registration, and this state of affairs
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ons y 1894. Taking the districts individually,
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ulians and Eurasians numbering some 40,000; the succeeding
ticulars regarding Europeans and Eurasians will be found in

C. Rajagopalan

Para. 13 of the Sanitary Commissioner's report.
Para. 9 of do —
Para. 12 of do —
Current No. 1650 L.

pur, pared with the previous year. There was
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The preceding two years and the average for
Gudi

which	Number of seers for the rupee.		Average for the ten years ending 1892.
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d t			
trust 2·8	12·5	11·2	13·9
or fa 3·5	23·5	20·1	27·4
ect a 3·5	21·3	18·1	25·2

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unde e referred to, the prices of these grains
ars ending 1892. Compared with 1894,
all districts except in Anantapur, Coim-
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adin being 35·3, 25·2 and 28·7 per mille,
nicin that year. Municipal towns and rural
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the l to have been indirectly effected by the
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ticulars regarding Europeans and Eurasians will be found in

C Raghavalu

Para 13 of the Sanitary Commissioner's report.

Para 9 of 20 —

Para 12 of 20 —

Current No 1650 L.

and Kurnool there was a deficiency as com
also an improvement in the North-east mo
East Coast—North, Nellore and Kurnool.
the aggregate rainfall exceeded the avera
than ten inches in each case.

4. *Prices of Food-grains.*—The follow
food-grains as compared with those of th
the ten years ending 1892 :—

Rice	
Ragi	
Cholam	

In spite of the favourable rainfall ab
were still above the average for the ten
however, there was a satisfactory decline
batore, Madras, North Arcot and Salem as
regards cholam and ragi, and in Trichinop

5. * *Vital Statistics.*—The population
were received was 33,605,784 according t
the figure for the preceding two years. T
the population for which returns were recei
of the district was adopted in those years.
force in previous years underwent no chan
under consideration in the Revenue Depar
uniform system of registration has been
Government is, however, glad to learn that
subject by the Revenue authorities and t
Deputy undertook to verify registration duri
in paragraph 9 regarding the suggestion
utilize the services of Deputy Inspectors of
received and will be disposed of separately.
~~of paragraph 12 should form the subject of~~

6. *Births.*—The number of births re
27·0 per mille of the estimated population
the highest yet ~~registered~~ except in the y
the Presidency rate was 29·1 per mille ag
cipalities, rural towns and rural villages
respectively, against 33·2, 25·2 and 27·4 i
villages showed some advance, while rural
palities considerable improvement is state
working of the system laid down in G.O.
for the better checking of the results
noticeable in rural villages may in a mea
said to have been bestowed on the subje
results in rural towns, containing over 1
want of a separate staff to attend to the w
will probably continue until the Local Boa
graph 5 of G.O., No. 1210 L., dated 2nd Ju

* The figures given in this paragraph include Europe
paragraphs give statistics relating to Natives only. Full pa
Appendix XII.

there was an advance in all except Anant
Nilgiris and Salem. Excluding Madras
Chingleput (38·4 per mille), as in the
Bellary, South Canara, Kistna, Kurnool,
above 30 per mille, while in Gódávari,
to 17·3, though in the first two districts
with the previous year. Among munici
birth-rate (53·0), as in the previous year,
Anantapur, Adóni, Coimbatore, Palghat,
nanore and Tiruppattúr, in the last four o
also. In thirty-three towns it was betwe
ranged from 30 to 20, the worst results bep
(21·6), Cuddapah (22·7), Trichinopoly (2
(24·2). The remarks of the Sanitary Co
19 to 22 of his report will be communica
very careful attention. The Government
by them in future in prosecuting people
that the provisions of the Act in this res

7. *Deaths.*—The annexed statement
the population recorded during the year
the preceding five years :—

Cholera						
Small-pox						
Fevers						
Dysentery and diarrhœa						
Injuries						
Other causes						
Total ..						

* Calculated on the census population of 1881.
‡ Includes other

8. The mortality in 1895 (658,719
preceding four years, except 1893; b
population and shown in the table appe
sioner's report are taken into account,
that although there was no decided impr
the year was, on the whole, a healthy o
of the preceding five years. The morta
162·3 per mille of the births registered
the rate for municipalities rose from 2
in the districts of Madras (278·9), Nil
twenty-nine municipal towns against tw
per mille, Negapatam, as in that year, h
King remarks, these higher rates in mu
in rural areas escaping the observation
tration and to the sanitary condition of

9. Taking the districts individuall
recorded in Madras — a result wh
accuracy of the returns and partly to t
was inspected by the Sanitary Comm
recorded by him it appears that no su
sanitary condition. The Commissione
recommendations contained in those n
and drainage schemes have been first c
by them for expenditure upon the ext
a scheme for the purification of the Co

drawn up by Mr. Ellis, forming in reality parts in ~~1880~~, were approved by Government. Proj of the rubbish of the city by the construction Government, and a grant of Rs. 3,50,000 was chase of necessary conservancy plant, preliminclosing burial-grounds within municipal limits, to opening out streets in some of the most hoped that the execution of these works wil condition of the city. The death-rates were Nilgiris (24·9), while the very low rate reporte accurate registration.

10. The average death-rate in rural villa 1894, the mortality being highest in Nilgiris eight others—South Arcot, Bellary, Chinglepu nopoly and Vizagapatam—the rate varied f districts it was below 20, being lowest in G rates were generally low, the average being 18 a rate of 42·9. As already observed in the ca

Pithápuram	..	..	..	..	7·7
Samalkot	..	..	..	..	5·7
Ambur	..	..	..	..	6·1
Shendamangalam	..	..	..	..	9·1
Tiruvannámalai	..	..	..	..	8·4

11. Turning to municipalities, where mo the average rate was 28·9 per mille against individual rate varied from 37·1 in Periyakul in Periyakulam (37·1) and Chidambaram (35· in forty-two it ranged from 30 to 20, whil Cocanada and Srívilliputtúr—it was below 20.

12. *Principal Diseases—Cholera.*—The n than that recorded in any year since 1887. the last three months of the year very few d except Gódávari, Kistna and Nílgiris were s and South Arcot were the most affected, the n respectively. Dr. King attributes this to these districts. The average death-rate in 0·8 per mille against 2·1 in 1894, and that i municipalities, Chidambaram headed the li Periyakulam followed with a rate of 7 per m twenty-six other towns was below 3·3 per mil enjoyed perfect immunity. Among rural Kalladakurchi and Kulasekarapatnam in Ti circle fared worst, the rates being 12·1, 9·4, 6·

13. *Small-pox.*—The number of deaths per mille of the population, against 11,207 and 43,757 in 1892. This continued fall is lity in districts was 0·2 and in municipalities 1894. The disease was severe in the distric carrying off 0·5, 0·6 and 0·6, respectively, Malabar, where it was destructive in the prev per mille. The lowest death-rate (0·006) wa vaccination is carried on in an efficient and sy cipalities, Vellore heads the list with a rate mundry with a rate of 0·9, while twenty-two year, enjoyed perfect immunity from this ca noticed when the vaccination report for 1895-

14. *Fevers.*—The mortality under this he
The highest death-rates were recorded in N
dapah (16·0) and Kurnool (15·1), and the lowe
The death-rate in municipalities was, as usu
10 per mille being exceeded in eleven towns.
rate (18·2) and is followed by Madras with a
nada (2·6), Ellore (3·9) and Cochin (4·0) wer

15. *Dysentery and Diarrhœa.*—The deat
23,937 against 24,801 in the previous year, th
3·4 in municipalities against 0·7 and 3·5, resp
the latter case is probably due to the causes
regarding infant mortality. The highest rate
South Canara (1·3) and Nilgiris (1·2), and the
in municipalities was highest in Vizagapatam
and least in Anantapur and Adoni (0·1 each
4·9.

16. *Injuries, &c.*—The number of death
11,332 to 10,357, while those from unspeci
320,805. It is remarkable how constant the

17. *Sanitary Works—Civil.*—The subje
missioner under this head will be fully discus
reports of the local bodies concerned and in
reviews. In the meantime Dr. King's rem
sewage-farming will be commended to munici

18. Dr. King's remarks in paragraph 8
upon the vaccination or re-vaccination of pil
municated to the Public Department in cont
1177 L., dated 8th July 1895.

19. *General Remarks.*—The Sanitary Com
eight municipalities and eighty-seven unions
forty-five, respectively, in the previous year, t
to the inspection of municipalities being now
second year, as it was found that the benefits c
to justify the expenditure of time required. T
inspected on an average only twenty-four pla
year, the decrease being due to their visits
unions and the villages where the larger fairs a
is glad to observe that since June 1895 the S
on 117 sanitary works. The testimony borne
Surgeon-Major Mallins is noted with satisfact

20. The report, though dated 7th May, w
until the 19th idem. Paragraphs 50 and 69
paragraphs 70 and 73 to 78 relating to distri
as also the information given in paragraphs 99

SANITARY ENGI

21. During the year under review, whic
this department, the Sanitary Engineer vis
Sanitary Engineer nine, against eleven and
year.

22. Six water-supply works, estimated t
were under execution, and of these, the Adó
while very little remained to be done at Trich
in carrying out the scheme for the water-supp
fresh estimates for the water-works had to b
year in consequence of a change in the site

about the end of the year. In the case of Con
available until November 1895, and as by th
begun, nothing beyond the construction of the

23. The schemes submitted to Governmer
supply of Cuddalore and Tirupati were referr
for report as to how they proposed to finance
supply and two for drainage were submitted b
Board in the course of the year, all of which a

24. The improvement of the drainage of
Public Works Department has undertaken t
upper lake and draining the portion filled in,
made by the Sanitary Board for remedying
The Sanitary Board also made certain recomme
of Ootacamund, and the services of Mr. Walc
have since been secured for the preparation of

25. The department scrutinized plans an
municipal and 91 local fund—estimated to c
furnished new plans and designs wherever n
councils and taluk boards, mentioned in par
works of a sanitary nature, exceeding Rs. 20
tary Engineer, as required in G.O., No. 79
reprehensible, especially in view of the fact
bodies was drawn to this matter in the revie
Government trusts that this irregularity wil
boards of Bezwada, Guntúr, Masulipatam an
state whether they have in all cases complied
No. 79 L., dated 16th January 1891, and to
Sanitary Board's Circular, No. 198, dated 22n

26. Type plans and estimates for hospit
rough sketches were furnished by the Sanit
prepared by the Consulting Architect to Go
matter is engaging his attention, and it is
without further delay. Type designs for ni
Sanitary Board.

27. The report of the Sanitary Engineer
by the omission of many of the letters and pro
extenso; a brief summary of them would hav
the Sanitary Engineer in paragraphs 162 to 16
of place in an administration report.

28. The Government notes with pleasu
Engineer to the services rendered by the seve
of the report.

(True Ext

To the Sanitary Commissioner.
" the Sanitary Engineer.
" the Sanitary Board.
" the Surgeon-General.
" the Public Works Department.
" the Public Department.
" the Revenue Department.
" the Lieutenant-General Commanding the Force
" the Inspector-General of Police.
" the Inspector-General of Prisons.
" the Accountant-General.
" all Collectors.
" all Presidents of District Boards.
" all Chairmen of Municipal Councils.
" the President, Municipal Commission, Madras.
Editors' Table.

ENDORSEMENT—No. 1174 L., dated 25th Ju
Copy to the Government of

Sanitary Engineering
1895.

C. No. 1417

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N.M.
P.S.

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