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THE

TWENTY-EIGHTH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER

AND THE

SECOND REPORT

OF THE

SANITARY ENGINEER TO GOVERNMENT,

MADRAS,

1891.

WITH APPENDICES.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.
1892.

செப்பனிடுபவர் பெயர்
செப்பனிடுதற்கு எடுத்துக்
கொள்ளப்பட்ட நாள்.
செப்பனிட்டு முடித்த நாள்
மேற்பார்க்கும்
மே.பா.வி.
அலுவலகம்.
அ.பா.வி.
உதவியாளர்
கண்காணிப்பு.

PART I.

GENERAL SANITATION.

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GENERAL SANITATION.

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PART II.

SANITARY ENGINEERING, WITH APPENDICES.

TWENTY-EIGHTH ANNUAL REPORT

ANITARY COMMISSIONER FOR MADRAS, 1891.

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METEOROLOGY OF THE YEAR.

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a) Omitted by Order of Government, dated 20th April 1883, No. 419, Public.

b) Omitted by Orders of Government, dated 12th July 1886, No. 1475, and 3rd May 1886, No. 465, Public, and ted upon separately.

Table contrasting the Monthly Rainfall in the Madras Presidency during 1889, 1890 *and* 1891, *with the average of previous ten years ending* 1888—continued.

Districts.		Number of places of observation.	January.		February.		March.		April.		May.		June.		July.		August.		September.		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.
Kistna ...	Average of 10 years	13	0·08	0·1	0·03	0·1	0·37	0·6	0·10	0·4	1·83	3·1	4·43	7·2	4·17	8·6	5·91	9·4	5·25	8·5	5·11	8·0	5·44	5·0	0·75	1·0	33·50	52·0
	1889		...	...	...	...	0·14	0·2	0·08	0·2	0·67	2·3	5·68	8·3	6·12	11·7	5·86	12·5	7·23	10·9	10·15	9·7	0·78	1·5	0·09	0·3	36·80	57·5
	1890		...	...	...	...	0·58	0·8	0·07	0·2	0·22	0·5	6·24	10·0	5·67	9·5	4·47	9·2	4·17	7·4	3·73	4·7	6·42	5·5	0·27	0·8	31·84	48·6
	1891		...	...	0·39	0·4	0·30	0·4	0·18	0·6	0·49	1·3	1·70	3·0	5·08	9·8	4·40	8·7	6·26	8·7	2·22	3·8	0·18	0·2	...	...	21·20	36·9
Kurnool ...	Average of 10 years	12	0·04	0·1	0·03	0·1	0·21	0·4	2·30	0·7	1·40	3·0	3·25	6·3	2·78	8·1	4·34	9·2	4·55	8·1	4·52	7·2	2·57	4·6	0·45	0·9	26·44	48·7
	1889		...	...	...	...	0·34	0·5	0·79	1·7	0·46	1·5	3·29	7·5	8·93	12·5	4·07	8·7	8·41	9·7	8·25	8·3	1·07	2·1	0·15	0·3	35·76	52·8
	1890		...	...	...	...	0·12	0·2	0·79	2·0	0·78	2·8	4·91	8·2	2·51	8·3	6·70	10·5	7·87	12·7	3·05	4·7	2·09	5·2	0·32	1·4	29·14	56·1
	1891		...	...	...	...	0·02	0·1	0·75	1·4	0·33	0·6	2·98	4·0	2·40	4·3	3·27	5·5	2·49	4·9	2·93	5·3	0·24	0·8	...	...	15·41	26·9
Madras ...	Average of 10 years	1	0·94	3·8	0·25	0·2	0·27	1·1	0·18	0·3	1·43	2·1	2·63	11·4	3·84	14·9	4·76	14·2	4·16	11·2	14·02	16·3	18·27	16·7	7·11	9·5	57·89	100·7
	1889		0·05	2·0	...	...	...	...	2·05	3·0	0·01	1·0	1·09	11·0	5·67	16·0	4·36	18·0	5·86	10·0	7·47	8·0	5·08	8·0	11·85	7·0	43·39	84·0
	1890		0·35	2·0	...	...	...	...	0·17	1·0	...	...	6·07	12·0	7·33	15·0	2·21	12·0	2·59	12·0	4·17	12·0	4·61	12·0	0·49	5·0	27·99	83·0
	1891		...	...	0·62	3·0	...	...	...	...	0·49	3·0	0·20	4·0	0·97	15·0	2·41	12·0	2·16	10·0	13·42	18·0	4·87	12·0	5·29	17·0	30·48	94·0
Madura ...	Average of 10 years	20	0·48	1·1	0·43	0·5	0·82	...	0·12	2·9	2·33	4·2	1·06	2·6	1·14	2·5	2·38	4·9	2·35	4·7	6·98	10·4	16·79	10·1	4·35	6·3	39·23	51·6
	1889		0·32	0·9	0·01	0·1	0·88	1·5	5·04	5·3	2·22	4·8	1·18	2·6	2·59	4·9	2·36	5·2	4·23	7·2	4·47	6·6	2·89	4·3	2·03	3·8	28·22	47·2
	1890		0·64	1·3	0·68	1·4	0·53	1·8	2·87	4·6	1·67	3·6	1·74	3·6	1·40	2·9	2·48	5·0	2·27	4·4	9·52	8·2	3·73	6·8	0·96	1·5	28·82	45·1
	1891		0·20	0·3	2·16	4·1	1·34	2·4	1·47	1·7	2·00	3·1	1·14	2·7	0·29		0·86	2·0	1·03	1·9	17·17	19·5	5·40	7·2	3·13	5·9	36·19	51·5
Malabar ...	Average of 10 years	14	0·16	0·3	0·08	0·3	0·62	1·4	2·69	4·7	9·52	10·9	20·27	25·6	29·66	27·4	15·55	21·1	6·79	13·9	8·97	14·4	5·94	9·4	1·03	2·3	111·28	131·7
	1889		...	...	0·07	0·4	0·31	0·9	4·90	6·7	6·93	10·4	36·26	27·6	20·85	28·4	22·00	27·6	17·91	18·9	12·49	12·9	2·39	4·4	1·42	2·3	125·53	140·5
	1890		0·05	0·2	0·65	1·0	2·03	3·8	5·03	9·6	6·83	9·7	26·62	26·9	27·53	25·9	10·85	14·0	3·11	13·7	5·40	11·2	2·86	5·0	0·94	1·7	91·90	122·8
	1891		0·12	0·3	1·06	1·9	1·08	1·9	3·71	5·8	4·55	8·1	25·70	23·2	33·70	2·7	13·48	17·6	2·40	7·9	14·08	16·4	3·39	4·0	0·65	1·1	103·92	91·5
Nellore ...	Average of 10 years	16	0·37	0·7	0·04	...	0·14	0·3	0·13	0·3	1·43	1·7	1·76	3·9	1·92	4·9	2·65	5·1	2·81	5·1	10·45	9·3	12·57	9·7	2·74	3·0	37·06	44·0
	1889		0·03	0·2	...	...	0·12	0·2	0·46	0·9	0·45	0·9	2·07	4·1	3·36	7·8	3·06	6·9	3·93	6·6	9·19	7·0	1·89	3·6	4·51	3·6	29·07	41·8
	1890		0·02	0·2	...	...	0·31	0·3	0·20	0·4	0·27	0·5	2·88	6·2	1·91	5·1	2·02	5·7	3·75	6·1	3·83	6·9	6·56	6·9	2·17	3·6	23·95	41·9
	1891		1·08	1·0	1·07	1·4	0·08	0·2	0·38	0·4	0·08	0·3	0·56	1·3	1·65	5·1	1·85	4·3	3·22	5·4	5·26	8·3	1·46	2·9	2·49	3·5	19·18	34·1
North Arcot.	Average of 10 years	19	0·35	0·6	0·10	0·1	0·29	0·5	0·28	0·6	2·87	3·9	2·67	4·9	2·64	5·2	5·31	8·1	4·67	6·1	7·66	8·9	9·62	9·1	3·67	3·6	40·13	51·6
	1889		0·32	0·4	...	...	0·17	0·3	1·12	1·6	0·69	1·3	3·66	6·1	4·31	7·2	5·17	8·1	8·16	9·3	8·97	9·1	1·82	3·0	5·44	5·1	39·79	51·5
	1890		0·09	0·4	...	...	0·13	0·5	2·06	1·2	1·60	3·4	4·87	6·3	4·02	6·3	3·57	5·6	4·55	6·0	6·36	9·0	3·31	5·5	0·87	1·7	30·43	46·0
	1891		0·66	1·1	0·96	2·1	0·24	0·4	0·37	0·7	0·43	1·1	2·35	5·1	0·92	2·9	2·63	3·3	4·17	5·9	5·07	9·2	2·79	4·6	4·37	6·3	27·96	42·7
Nilgiris ...	Average of 10 years	11	0·65	1·7	0·40	0·9	0·69	2·3	3·06	6·4	6·31	12·2	9·12	15·5	10·88	19·0	7·93	16·8	5·62	13·2	10·42	17·5	8·65	14·6	3·72	6·7	67·45	127·8
	1889		0·31	1·2	0·08	0·5	2·17	3·8	4·51	6·2	4·60	9·8	7·37	17·4	15·73	22·9	12·75	21·8	11·09	21·5	12·62	15·5	3·12	6·7	3·05	5·3	77·40	134·2
	1890		0·69	1·6	2·59	1·9	2·69	5·7	6·02	11·5	5·36	12·4	9·06	17·3	10·54	17·2	6·12	18·0	4·28	12·9	8·87	14·5	3·68	8·0	2·46	3·2	62·46	124·2
	1891		1·50	1·3	4·91	5·2	1·69	1·5	1·80	5·8	4·27	8·3	6·70	12·7	18·84	16·1	6·71	9·4	2·09	5·5	11·66	20·4	3·47	6·2	2·46	5·1	65·50	97·5

Table contrasting the Monthly Rainfall in the Madras Presidency during 1889, 1890 *and* 1891, *with the average of previous ten years ending* 1888—continued.

Districts.		Number of places of observation.	January.		February.		March.		April.		May.		June.		July.		August.		September.		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.
Salem ...	Average of 10 years	18	0·29	0·3	0·11	0·2	0·63	0·9	0·91	1·9	4·45	7·0	2·22	4·7	2·90	5·2	5·88	7·9	4·52	6·6	6·67	9·4	5·51	8·4	1·67	2·9	35·76	55·4
	1889		0·10	0·4	...	...	0·46	0·9	2·74	3·8	2·82	4·9	2·55	5·8	5·62	8·6	4·99	10·4	7·13	9·9	7·18	10·8	0·70	1·8	1·88	3·8	36·12	61·1
	1890		0·20	0·7	...	...	0·72	1·5	1·32	3·2	3·62	6·8	2·59	5·8	2·48	6·2	5·19	7·3	3·77	7·4	5·55	8·8	4·12	6·1	0·65	0·9	30·21	54·7
	1891		0·38	0·6	0·92	2·6	0·72	0·9	0·86	1·6	0·96	1·5	26·10	5·3	0·53	3·0	1·54	3·4	3·62	5·0	5·83	9·7	1·41	3·3	0·87	3·3	43·74	40·2
South Arcot.	Average of 10 years	17	0·52	0·8	0·04	0·1	0·38	0·7	0·29	0·5	2·91	3·5	1·89	4·3	2·70	5·3	6·16	8·7	5·02	7·0	9·25	10·5	10·90	10·9	6·17	6·1	46·23	58·4
	1889		0·23	0·4	...	...	...	...	0·91	1·5	1·07	2·2	2·95	5·6	6·76	8·0	4·72	8·2	4·32	6·5	4·73	6·8	2·54	3·8	4·86	4·8	33·19	48·0
	1890		0·56	0·6	...	...	0·13	0·2	0·70	1·0	1·13	2·2	3·86	5·4	3·64	6·4	4·06	6·8	6·58	7·5	7·86	9·2	4·59	7·8	0·84	2·4	33·45	50·5
	1891		1·40	1·7	2·21	3·5	0·23	0·2	0·13	0·4	1·60	2·4	1·54	3·1	0·44	1·4	1·84	5·1	3·79	4·7	12·72	13·3	4·41	6·7	10·37	10·4	40·68	52·9
Tanjore ...	Average of 10 years	17	0·88	0·8	0·30	0·4	0·51	0·6	0·40	0·7	2·39	3·2	2·13	3·7	1·84	3·6	4·75	7·0	3·92	6·4	9·48	11·2	12·91	12·6	10·09	9·9	49·51	60·1
	1889		0·34	1·1	...	...	0·16	0·5	1·62	3·2	2·51	3·1	1·15	2·8	5·56	7·6	4·73	7·8	4·33	5·1	6·08	7·1	4·04	3·7	5·66	4·4	36·18	46·4
	1890		1·28	1·9	0·25	0·5	0·07	0·2	0·93	1·6	0·47	0·8	3·05	5·1	2·19	4·7	5·01	7·6	6·35	7·9	11·73	12·4	7·62	12·7	0·94	2·0	39·89	57·4
	1891		0·21	0·6	1·91	3·2	0·07	0·1	0·05	0·2	3·90	3·4	0·77	1·2	0·80	1·9	1·87	3·4	1·30	2·4	14·71	18·8	5·99	7·6	16·83	15·4	48·41	58·2
Tinnevelly ...	Average of 10 years	11	0·66	1·5	0·67	1·1	0·41	2·3	1·46	2·7	2·17	3·8	1·07	2·5	0·92	2·3	0·93	2·5	1·73	2·2	6·78	9·6	8·24	10·7	4·68	6·5	29·72	47·7
	1889		0·17	0·7	...	...	2·70	3·7	2·83	4·6	2·84	6·5	0·32	1·4	0·98	3·0	0·58	1·5	2·83	6·8	3·39	6·7	3·62	9·0	2·60	3·4	22·86	47·3
	1890		0·20	0·7	1·67	2·0	1·46	3·5	2·43	4·4	0·61	1·6	0·51	1·7	0·32	1·4	1·18	2·7	0·47	1·2	5·00	6·7	2·79	6·4	2·14	3·2	18·78	35·5
	1891		0·76	0·6	2·65	4·6	3·91	5·3	2·03	3·6	1·15	2·5	1·25	1·5	0·24	0·9	0·23	0·5	0·87	1·2	15·29	19·9	8·55	8·7	3·68	6·6	40·61	55·9
Trichinopoly.	Average of 10 years	11	0·35	0·9	0·02	...	0·44	0·8	0·88	1·2	3·67	5·9	1·36	2·5	1·43	2·4	4·15	6·3	3·79	6·1	7·20	10·7	7·00	10·5	3·68	6·1	33·97	53·4
	1889		0·27	0·7	...	...	0·06	0·2	2·87	3·5	2·59	3·9	0·60	1·4	4·95	5·9	8·31	6·6	4·94	8·3	7·82	10·2	1·25	2·6	4·45	3·6	33·11	46·9
	1890		0·53	1·6	0·05	0·3	0·19	0·6	1·59	2·1	2·07	4·1	3·12	4·9	1·63	3·2	5·10	7·5	3·92	7·2	11·13	11·7	4·44	7·9	0·13	0·5	33·90	51·6
	1891		0·04	0·2	2·95	4·4	0·61	0·7	0·48	1·2	1·50	2·7	1·41	2·4	0·26	0·7	2·91	2·8	2·70	4·0	11·53	14·6	2·46	5·5	3·86	8·5	30·71	47·7
Vizagapatam.	Average of 10 years	26	0·13	0·4	0·17	0·3	0·65	1·3	0·67	1·5	3·17	4·8	5·32	7·4	6·81	12·2	7·66	12·1	6·98	10·6	6·03	7·5	1·56	4·9	0·83	1·1	39·98	64·1
	1889		...	...	...	...	0·47	0·8	0·41	1·3	2·04	5·0	6·56	11·0	11·55	16·9	9·41	15·0	11·26	10·5	8·17	12·0	3·00	4·8	0·69	1·8	53·56	79·1
	1890		...	...	...	...	0·69	1·8	1·39	3·0	1·56	3·6	8·93	12·3	6·62	13·8	10·55	15·6	9·38	15·0	4·83	7·2	3·56	5·5	0·60	1·1	48·11	78·9
	1891		0·02	0·1	0·89	1·8	2·49	4·3	1·01	2·2	1·42	4·5	2·56	5·0	6·74	1·2	9·06	14·8	6·48	11·8	2·09	3·8	0·52	0·8	0·04	0·1	33·32	50·4
Total ...	Average of 10 years	317	0·33	0·7	0·16	0·3	0·39	0·9	0·80	1·6	3·13	4·8	5·80	7·6	6·22	9·0	6·12	9·8	4·75	8·0	7·55	10·1	7·72	8·6	2·83	3·8	45·80	65·2
	1889		0·13	0·4	0·01	0·1	0·41	0·7	1·77	2·6	2·00	4·0	7·34	8·6	8·21	11·8	6·78	11·4	7·76	10·5	8·52	9·5	2·57	3·9	2·88	3·0	48·38	66·5
	1890		0·24	0·6	0·27	0·3	0·61	1·3	1·59	3·1	1·85	3·7	6·78	9·1	7·22	9·3	5·19	9·0	4·62	9·0	6·26	8·6	4·01	6·6	0·85	1·8	39·49	62·4
	1891		0·36	0·4	1·21	2·1	0·77	1·2	0·88	1·6	1·63	2·6	5·40	5·4	5·96	5·5	5·23	8·4	3·35	6·0	7·96	10·8	2·61	4·1	2·90	4·5	38·26	52·6

PRICES OF FOOD.

3. The following table shows the prices of the three grains in general use in the Madras Presidency during 1889, 1890 and 1891, compared with the average of ten years. *Rice.*—In all the districts, with the exception of Vizagapatam, the prices of this staple article of food were above the average. The prices (omitting the Nílgiris) varied from 16·6 seers for the rupee in the Ganjam district to 10·5 in the Madras district. *Cholum.*—Omitting South Canara and Malabar districts, where this grain is not sold, the prices were above the average in all the districts, with the exception of Ganjam and Vizagapatam, where they were below. The prices ranged from 31·1 seers for the rupee in the Ganjam district to 13·2 in Chingleput. In the Trichinopoly and Madura districts the prices were very much above the average of ten years, viz., 23·9 and 18·9, respectively, in 1891 against 39·8 and 32·4, respectively, the averages of ten years. *Ragi.*—This grain was dearer in all districts, with the exception of Vizagapatam and Malabar, where it was cheaper. The prices (omitting Nílgiris) ranged from 30·8 seers for the rupee in the Ganjam district to 18·0 in Chingleput. In the Chingleput, North Arcot and Tinnevelly districts this grain was unusually dear, only 18·0, 20·6 and 18·1 seers, respectively, being obtained for the rupee in 1891, while the rates for the average of ten years were 30·1, 34·0 and 31·6, respectively.

Table showing the Average Quantities of Food Grains, in seers of 80 tolahs, procurable for a Rupee in the Madras Presidency during 1889, 1890 *and* 1891, *compared with the average of previous ten years ending* 1888.

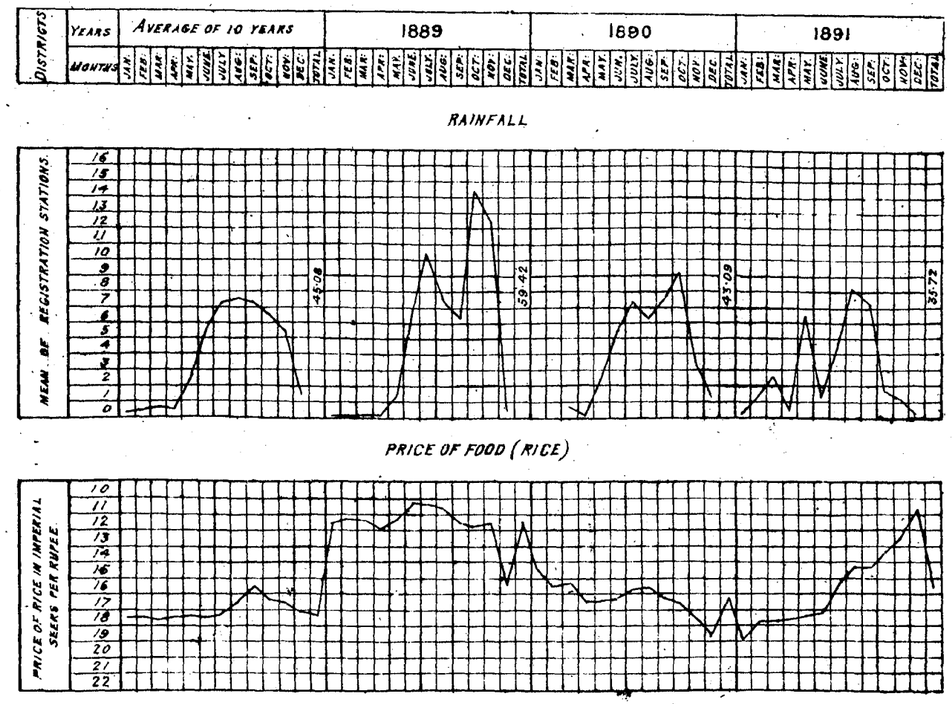
Grain.	—	Ganjam.	Vizagapatam.	Godávari.	Kistna.	Nellore.	Cuddapah.	Anantapur.	Bellary.	Kurnool.	Madras.	Chingleput.	N. Arcot.	S. Arcot.	Tanjore.	Trichinopoly.	Madura.	Tinnevelly.	Coimbatore.	Nilgiris.	Salem.	S. Canara.	Malabar.
Rice	January ... Average of 10 years...	18·6	14·1	14·9	13·2	14·6	14·7	*	14·0	13·2	13·4	15·5	16·2	16·0	15·6	14·7	14·3	13·9	14·3	11·3	12·8	14·7	14·2
	1889	11·6	12·3	15·8	13·3	15·0	15·4	15·5	12·8	12·7	13·4	16·3	16·2	16·3	15·0	14·4	13·5	13·2	13·8	10·9	14·9	14·8	13·8
	1890	15·3	14·7	15·7	14·1	13·6	13·8	15·0	13·0	12·1	11·3	12·7	13·3	13·1	12·8	12·2	11·5	10·9	12·2	10·6	13·4	13·7	11·3
	1891	19·9	18·3	15·1	13·8	11·8	11·5	13·1	11·8	12·4	10·8	11·7	11·4	12·8	13·4	11·2	11·1	10·5	11·4	9·8	12·5	13·7	11·7
	February ... Average of 10 years...	18·5	14·6	15·0	14·6	14·0	14·9	*	14·0	12·1	13·7	16·1	16·4	16·8	16·3	15·1	15·0	14·3	14·5	11·6	12·6	15·1	14·2
	1889	11·3	12·3	15·7	15·2	13·9	15·2	15·3	13·1	12·7	13·4	17·9	16·3	16·5	15·9	14·6	13·6	13·6	13·7	13·1	14·9	14·3	12·9
	1890	16·4	15·3	15·7	14·4	13·7	13·8	15·4	12·9	12·5	11·5	12·3	13·7	12·8	13·7	12·4	11·5	11·0	12·7	10·8	13·6	14·0	12·8
	1891	15·9	16·1	15·3	14·0	12·6	11·6	15·6	12·1	12·4	10·7	11·9	11·6	12·6	13·3	11·3	11·3	10·6	11·5	9·6	12·0	13·7	11·8
	March ... Average of 10 years...	18·8	15·4	15·2	14·0	14·5	15·2	*	14·0	13·2	13·6	15·1	16·4	16·7	16·7	15·4	15·5	14·8	14·6	11·9	12·8	14·7	14·1
	1889	11·2	12·3	15·2	15·0	13·8	14·9	15·2	13·5	12·4	13·4	17·3	16·1	16·4	16·3	14·8	14·3	14·0	13·6	12·3	14·7	14·2	13·5
	1890	16·2	15·2	15·5	14·4	13·5	13·8	15·4	12·7	12·5	11·2	13·1	13·4	12·1	12·0	12·1	11·9	10·9	12·6	10·6	13·5	14·1	12·2
	1891	18·9	18·0	15·2	14·0	12·1	11·0	13·0	11·0	12·4	10·9	11·7	11·7	12·5	13·4	11·6	11·4	11·2	11·5	9·8	12·0	13·7	12·6
	April ... Average of 10 years...	18·6	14·4	15·2	14·5	14·9	15·1	*	13·5	13·1	13·9	16·3	16·6	16·7	16·6	15·5	15·2	14·8	14·9	11·7	12·8	14·9	14·0
	1889	12·0	11·9	14·8	14·4	14·5	14·6	15·3	13·0	12·4	13·4	17·1	15·7	16·2	15·7	14·5	14·7	14·1	13·7	12·8	13·8	13·3	13·0
	1890	[illegible]	13·3	[illegible]	14·2	13·4	13·6	14·6	12·5	12·0	11·7	15·0	13·2	12·1	12·2	11·9	11·7	10·8	12·6	10·7	13·4	14·1	12·7
	1891	13·6	17·9	14·9	14·0	11·9	11·7	13·1	11·6	12·5	11·0	11·8	11·7	12·7	13·6	12·1	11·7	11·2	11·2	9·8	12·1	13·4	11·7
	May ... Average of 10 years...	18·4	14·8	14·6	14·3	15·1	15·2	*	13·7	13·1	14·0	16·3	16·7	15·7	16·3	15·2	15·3	14·7	14·6	11·6	12·8	14·5	13·9
	1889	11·1	11·6	14·4	14·3	14·4	14·5	14·9	13·9	12·2	13·3	16·6	15·6	15·9	14·5	14·0	14·4	13·7	13·5	13·0	14·4	12·9	12·0
	1890	17·3	14·7	15·8	14·1	13·3	13·6	14·7	12·3	12·0	11·7	12·4	12·0	12·2	12·1	11·7	11·3	10·5	12·2	9·9	12·1	13·9	11·7
	1891	18·3	17·8	14·9	14·0	12·9	11·7	13·0	11·3	12·4	11·0	11·3	11·6	12·5	13·6	12·6	11·6	11·0	11·2	9·7	12·0	13·2	11·8
	June ... Average of 10 years...	18·5	14·1	14·8	14·4	15·1	15·3	*	13·9	13·0	13·7	16·3	16·2	16·2	15·9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12·0	14·2	12·6
	1889	10·8	11·2	14·3	14·4	14·7	14·4	15·6	12·6	12·0	13·0	15·7	[illegible]	[illegible]	14·1	13·6	14·1	13·2	13·3	12·9	14·2	[illegible]	[illegible]
	1890	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12·3	12·9	12·1	11·0	11·4	11·0	10·2	11·2	9·6	12·7	12·2
	1891	18·1	17·5	14·1	13·8	11·9	11·5	13·9	11·3	11·9	11·4	11·0	11·4	12·4	13·5	11·6	11·5	10·7	11·1	9·3	11·6	12·0	11·7
	July ... Average of 10 years...	18·1	14·0	14·7	14·4	15·2	15·3	*	13·7	12·9	13·5	15·2	15·9	15·7	15·3	14·5	14·8	13·3	14·6	11·4	11·4	14·1	12·6
	1889	10·4	11·3	14·4	13·8	14·3	14·6	14·6	12·8	12·0	12·6	15·2	15·1	14·9	13·7	13·3	13·9	12·6	13·2	12·1	13·6	12·1	12·3
	1890	16·9	13·5	15·0	13·5	15·2	15·0	14·8	12·8	11·9	11·6	12·8	12·5	11·9	11·5	10·7	10·3	9·8	11·3	9·0	12·4	13·7	11·1
	1891	16·3	17·1	13·9	12·8	12·4	11·9	12·8	11·3	12·0	11·0	10·2	10·6	12·1	12·9	11·0	11·1	10·6	10·9	9·2	11·3	11·4	10·7
	August ... Average of 10 years...	17·6	13·4	13·9	14·3	15·2	15·1	*	13·8	12·9	13·7	15·0	15·9	15·5	15·0	14·1	14·1	13·5	13·7	11·2	11·4	13·9	13·5
	1889	10·5	11·7	14·5	13·7	14·3	14·4	14·6	12·8	11·8	12·8	14·8	15·0	14·9	13·9	13·3	13·6	12·4	12·8	12·2	13·9	12·6	12·1
	1890	16·7	14·8	15·0	13·5	12·8	13·7	15·8	12·3	11·8	11·0	11·8	12·3	12·0	11·2	10·6	10·3	9·8	11·2	9·8	12·2	13·0	10·6
	1891	15·2	16·0	13·7	12·8	11·4	10·9	12·8	11·1	11·9	10·5	10·1	10·2	11·2	12·6	10·8	10·7	10·4	10·4	9·0	10·8	11·3	10·9
	September.. Average of 10 years...	10·7	13·1	13·4	14·2	15·1	14·2	*	13·8	13·1	13·5	15·1	15·8	15·6	15·0	14·1	13·9	13·4	13·7	11·2	11·4	14·0	13·2
	1889	11·2	11·9	14·2	13·8	14·0	14·3	14·2	12·8	12·0	12·8	14·3	14·7	15·1	13·9	13·4	13·2	12·3	12·6	12·2	14·1	11·2	13·2
	1890	17·0	14·9	14·9	13·6	12·7	13·6	14·1	12·4	11·9	11·0	11·7	12·2	11·7	11·4	10·8	10·3	9·9	11·4	9·9	12·3	13·5	11·1
	1891	16·3	14·7	13·0	12·6	11·3	10·4	11·0	10·8	11·2	10·2	10·0	10·0	11·2	12·0	10·7	10·5	10·2	10·3	8·7	10·4	11·0	11·3
	October ... Average of 10 years...	17·4	13·0	14·0	13·9	14·9	14·9	*	13·7	13·0	13·5	15·0	15·9	14·6	15·4	13·3	13·7	13·8	13·0	11·5	11·5	14·0	14·1
	1889	11·9	12·3	15·6	14·3	14·2	14·3	15·2	12·6	12·1	12·5	14·2	14·0	13·9	14·3	13·7	13·2	12·6	12·8	10·5	14·4	11·3	12·8
	1890	17·8	15·4	14·7	13·3	12·7	13·8	14·2	12·5	12·0	11·0	11·8	12·1	11·7	12·1	10·8	10·5	10·1	11·4	9·0	12·4	13·7	11·4
	1891	14·0	12·2	12·8	12·7	11·4	10·1	11·0	10·3	10·9	10·0	10·0	10·3	11·1	12·0	10·5	10·4	10·3	10·9	7·9	10·7	10·8	11·7
	November.. Average of 10 years...	17·6	13·4	13·5	14·0	13·8	14·9	*	13·7	13·1	13·3	15·3	16·0	15·8	16·2	14·8	14·1	14·1	14·7	10·9	12·2	14·1	14·2
	1889	11·5	12·8	15·9	14·4	14·3	14·7	15·3	12·6	12·0	11·9	13·0	14·0	13·9	14·4	13·7	13·1	12·8	12·9	10·5	14·5	13·1	12·3
	1890	18·2	16·0	14·6	13·5	12·3	13·2	14·0	12·2	12·2	10·8	11·6	12·0	12·3	12·9	12·1	10·9	10·3	11·4	9·5	12·3	13·6	12·1
	1891	13·4	11·9	11·7	11·6	10·9	9·3	9·2	9·4	9·5	9·8	10·0	10·2	11·2	12·4	10·7	10·6	10·4	10·8	8·0	10·5	11·8	11·2
	December... Average of 10 years...	16·0	13·3	14·2	14·1	13·1	15·1	*	13·9	13·2	13·5	15·6	16·3	17·2	15·9	14·9	14·3	14·3	14·7	11·4	12·6	14·7	14·7
	1889	15·3	13·3	15·5	14·8	13·0	13·9	15·5	12·9	12·2	10·8	11·8	12·7	12·1	12·1	10·9	10·5	10·5	12·0	9·8	13·2	14·1	11·8
	1890	19·2	16·0	14·7	13·6	11·8	11·9	13·8	12·0	12·2	10·3	11·7	11·4	12·4	13·1	12·2	11·2	10·4	11·7	9·6	12·8	13·6	11·2
	1891	21·8	16·4	12·1	10·3	9·3	7·6	7·9	8·1	8·4	9·1	9·6	9·3	11·2	12·3	10·4	10·3	10·3	9·9	7·8	9·2	12·9	11·8
	Average ... Average of 10 years...	18·2	13·8	14·6	14·3	14·3	15·1	*	13·9	13·0	13·7	16·0	16·3	16·1	15·9	14·7	14·4	13·9	14·3	11·4	12·0	14·4	14·0
	1889	11·5	12·1	15·1	14·4	14·2	14·5	15·1	12·8	12·2	12·3	15·3	15·1	15·2	14·5	13·7	13·5	12·9	13·2	11·0	14·3	13·0	12·7
	1890	17·1	15·1	15·3	13·9	13·0	13·5	15·7	12·4	12·1	11·3	12·1	12·7	12·0	12·3	11·4	11·1	10·4	11·9	10·9	12·8	13·8	11·6
	1891	16·6	15·8	13·7	13·0	11·5	10·8	11·8	10·9	11·5	10·5	10·7	10·8	12·0	12·1	11·2	11·0	10·6	10·9	9·0	11·8	12·4	11·5

* Information not available.

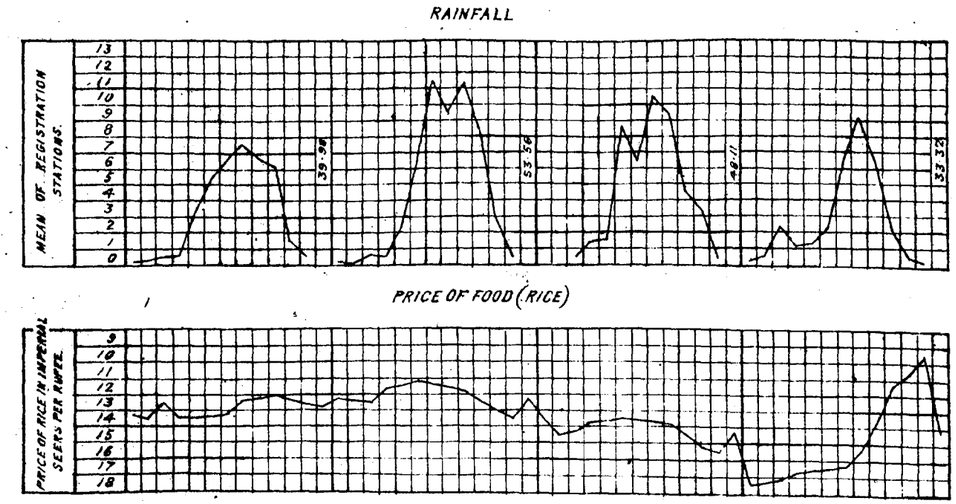
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICTS OF GANJAM & VIZAGAPATAM.

FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

GANJAM



VIZAGAPATAM



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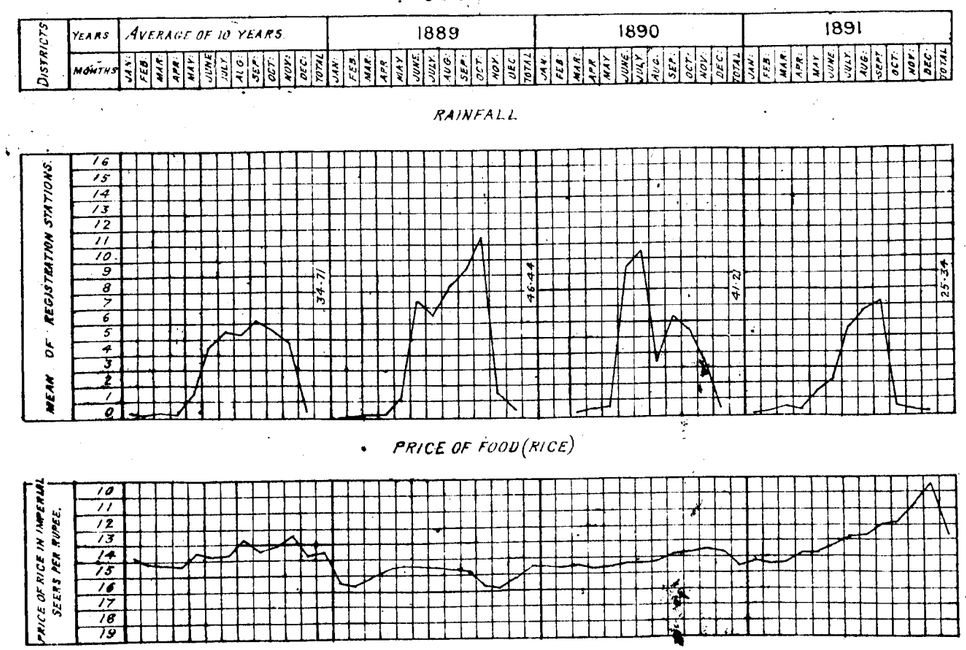
1892.

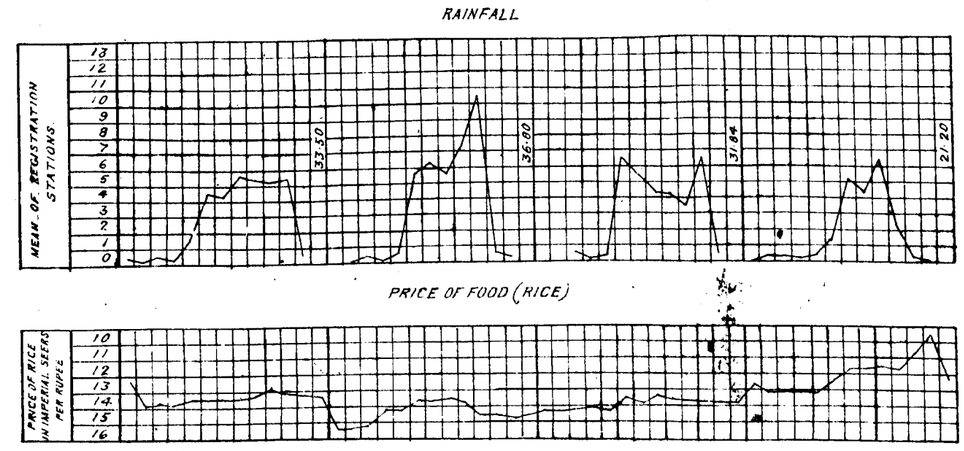
10

DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICTS OF GODAVARI & KISTNA FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

GODAVARI



KISTNA



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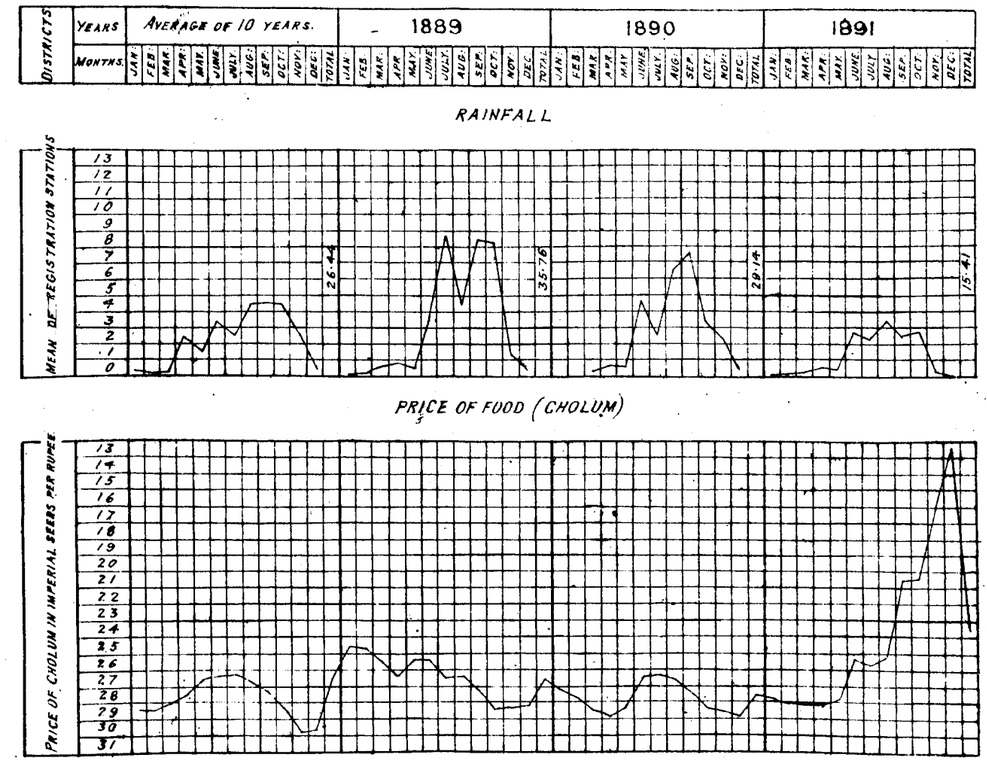
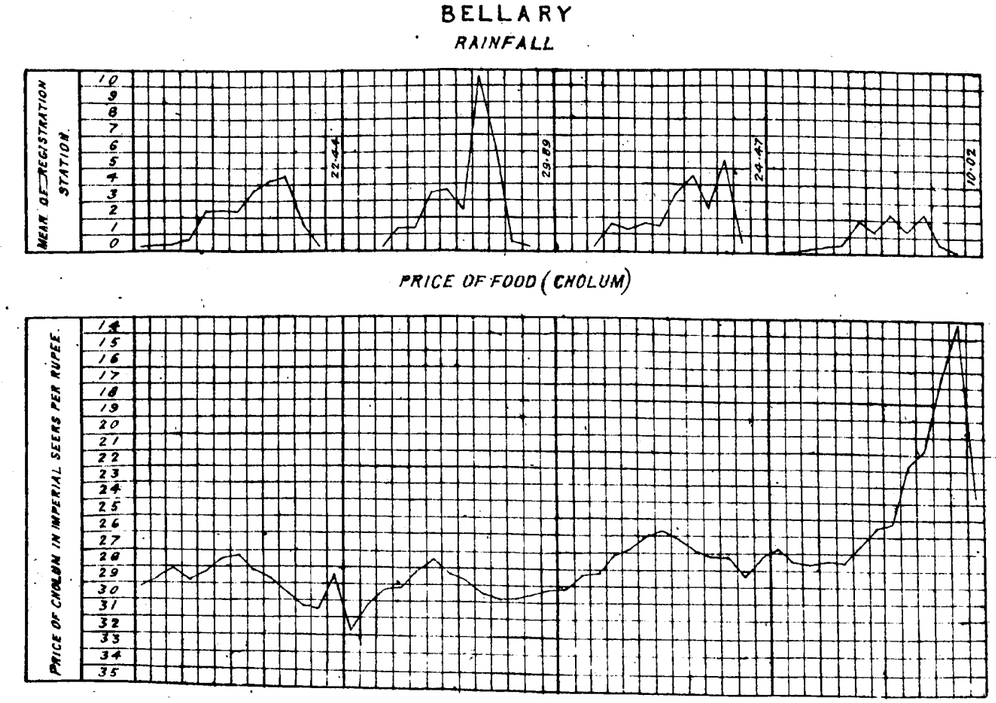
ZINCO. SURVEY OFFICE, MADRAS.
1892.

DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (CHOLUM) IN THE DISTRICTS OF KURNOOL & BELLARY FOR, 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

KURNOOL



BELLARY



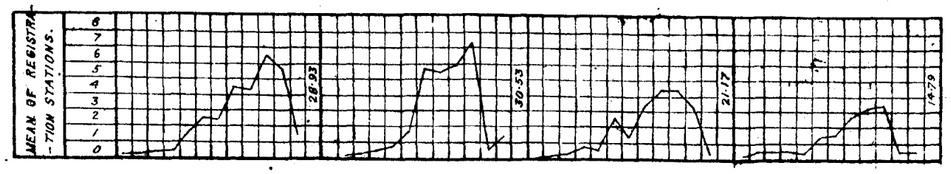
ZINCO, SURVEY OFFICE, MADRAS.
1892

DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (CHOLUM) IN THE DISTRICTS OF CUDDAPAH & ANANTAPUR FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

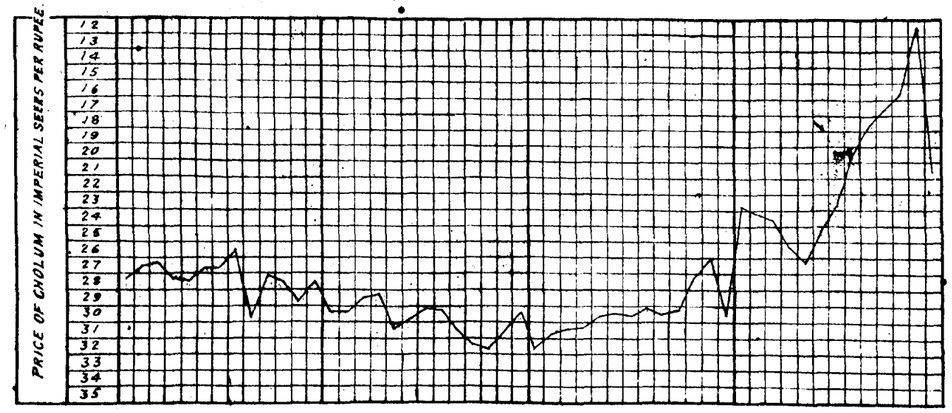
CUDDAPAH.

DISTRICTS	YEARS	AVERAGE OF 10 YEARS										1889										1890										1891									
	MONTHS	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

RAINFALL

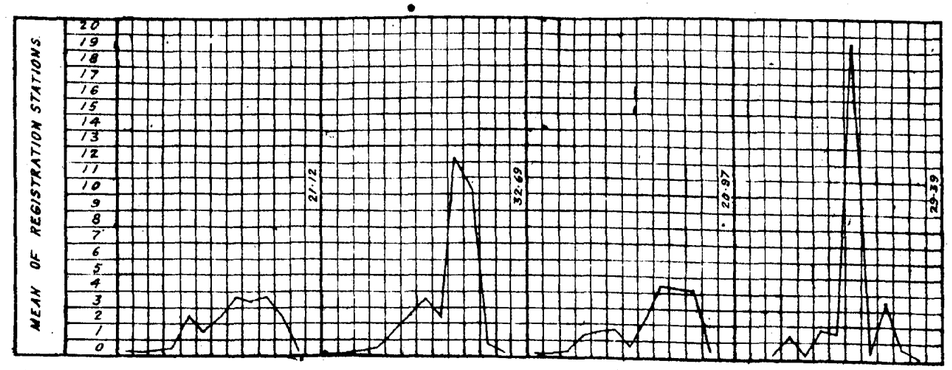


PRICE OF FOOD (CHOLUM)



ANANTAPUR

RAINFALL



PRICE OF FOOD (CHOLUM)

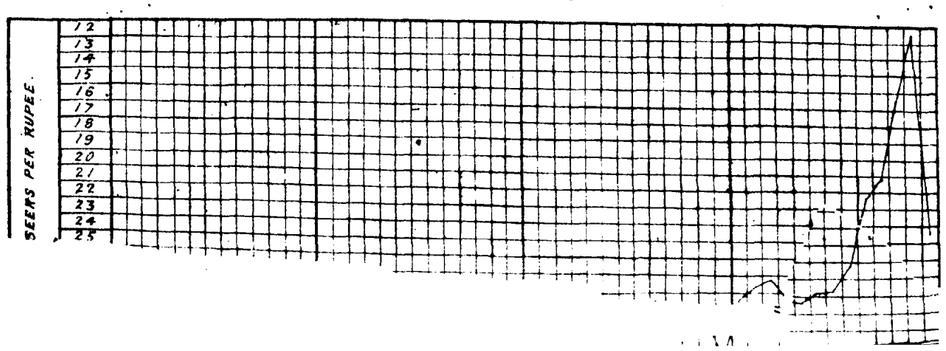


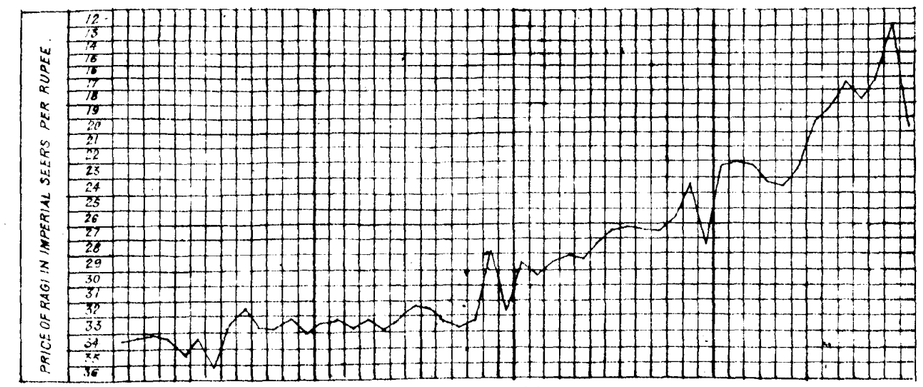
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RAGI) IN THE DISTRICTS OF NORTH ARCOT & NELLORE FOR 3 YEARS ENDING 1891 COMPARED WITH THE AVERAGE OF 10 YEARS

NORTH ARCOT

DISTRICTS	YEARS	AVERAGE OF 10 YEARS											1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAC	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

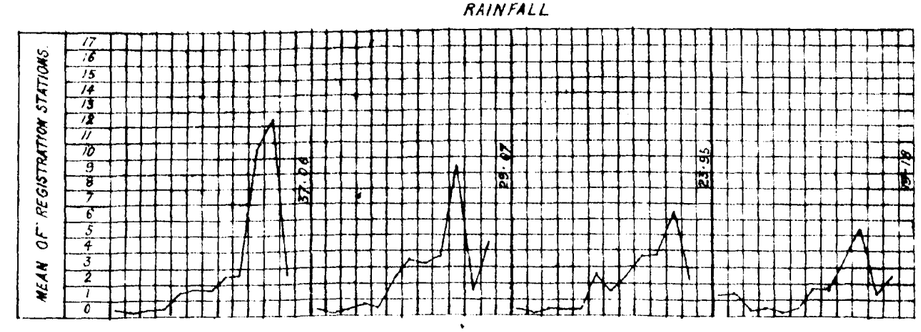
RAINFALL

PRICE OF FOOD (RAGI)



NELLORE

RAINFALL



PRICE OF FOOD (RAGI)

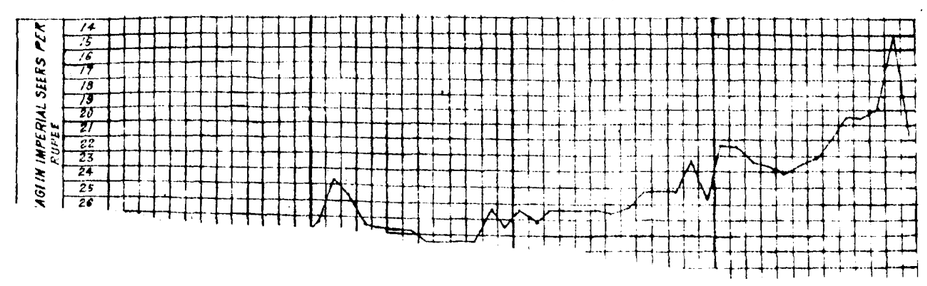
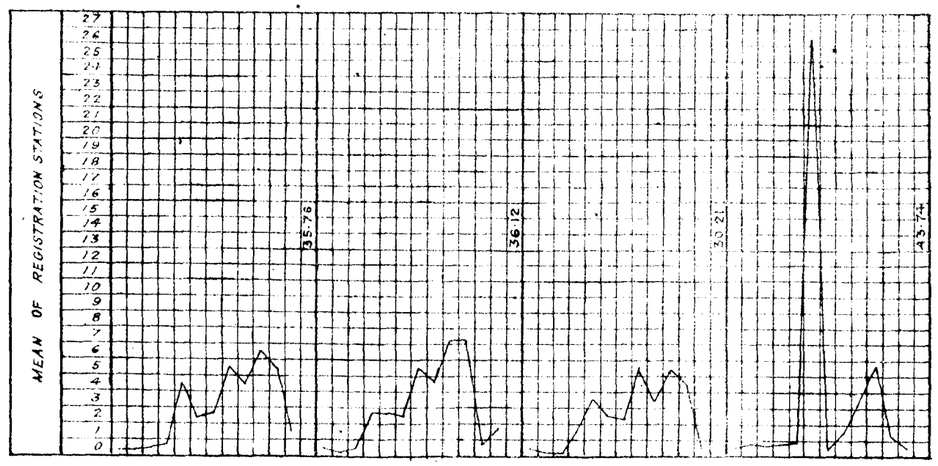


DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RAGI) IN THE DISTRICT OF SALEM & CUMBU IN THE DISTRICT OF SOUTH ARCOT FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

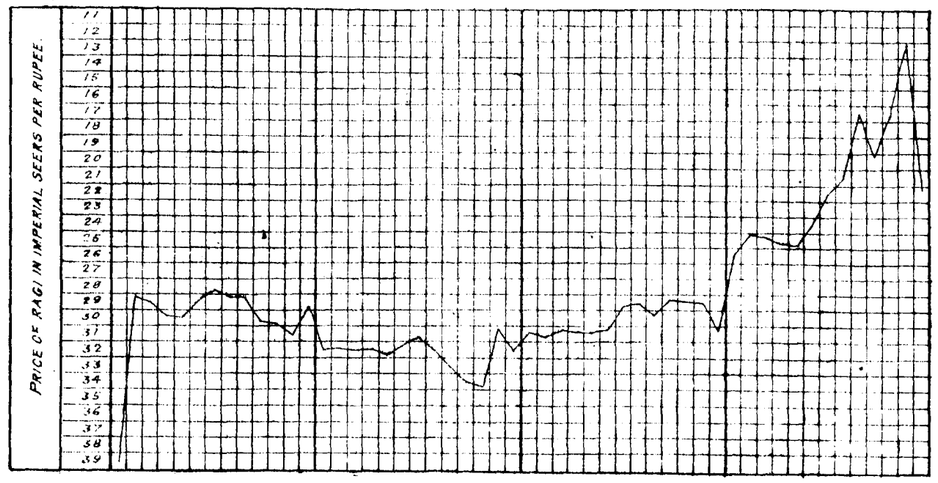
SALEM

DISTRICTS	YEARS	AVERAGE OF 10 YEARS											1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

RAINFALL

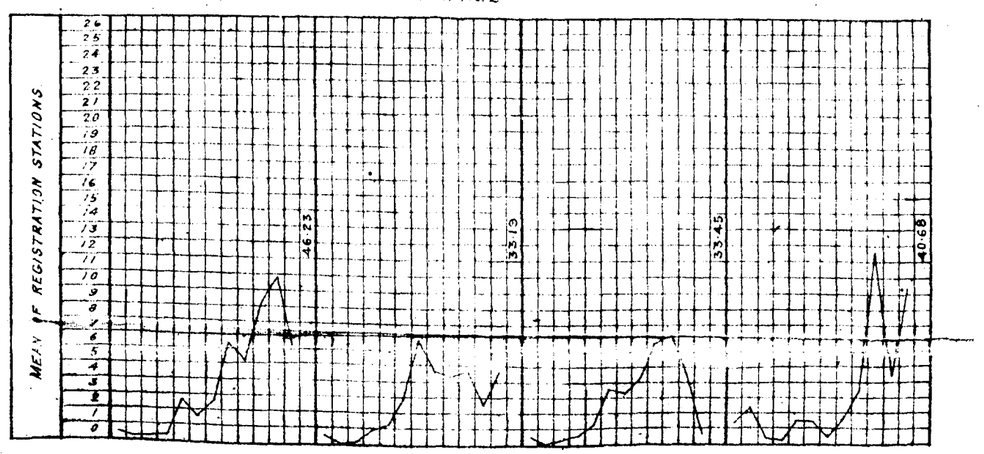


PRICE OF FOOD (RAGI)

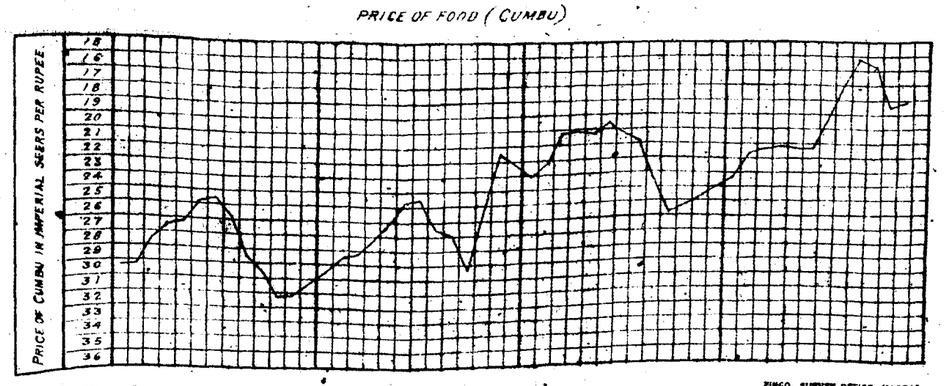


SOUTH ARCOT

RAINFALL



PRICE OF FOOD (CUMBU)



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1892

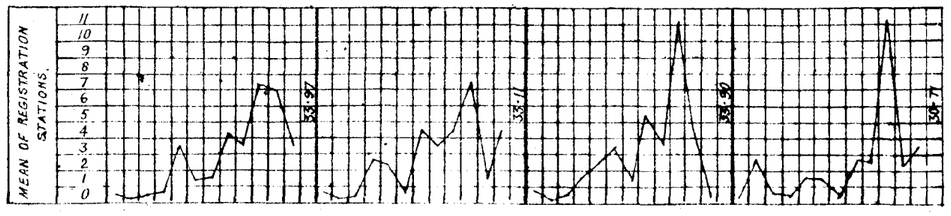
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (CUMBU) IN THE DISTRICT OF TRICHINOPOLY AND (RICE) IN THE DISTRICT OF TANJORE FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS

16

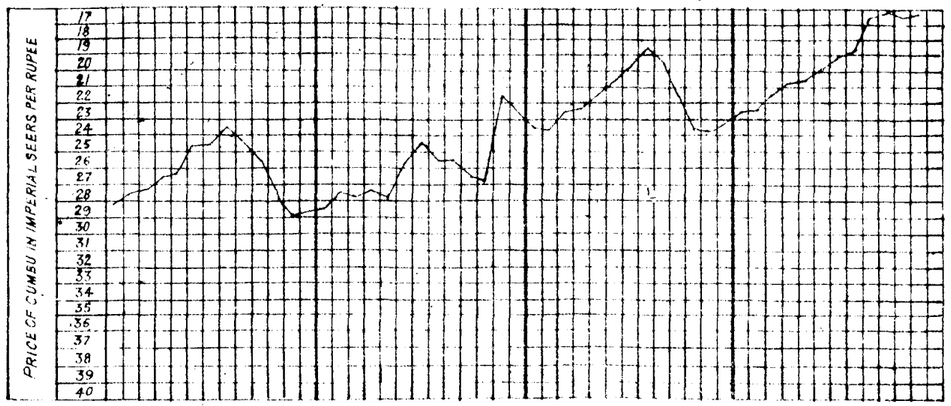
TRICHINOPOLY

DISTRICTS	YEARS	AVERAGE OF 10 YEARS												1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEM.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEM.	TOTAL	JUN.	FEB.	MAR.	APL.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

RAINFALL

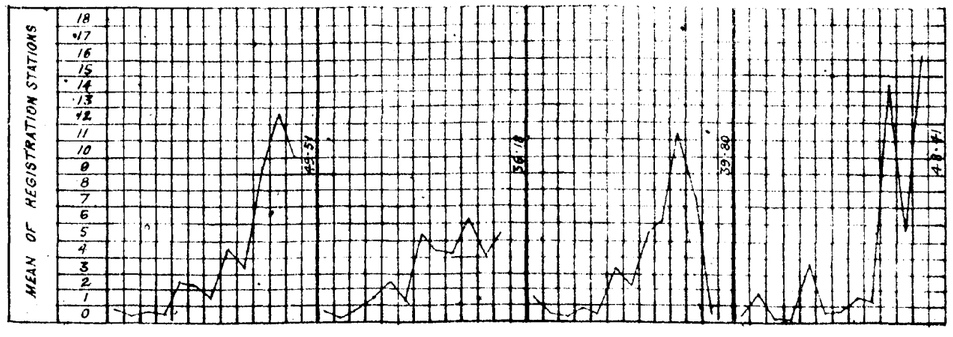


PRICE OF FOOD (CUMBU)



TANJORE

RAINFALL.



PRICE OF FOOD (RICE)

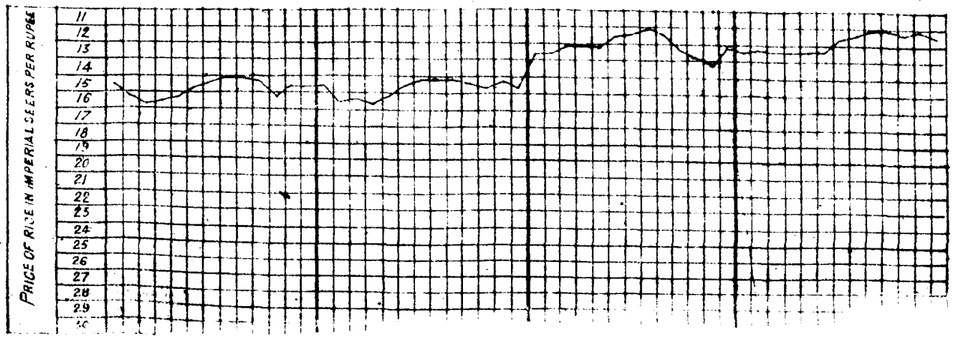
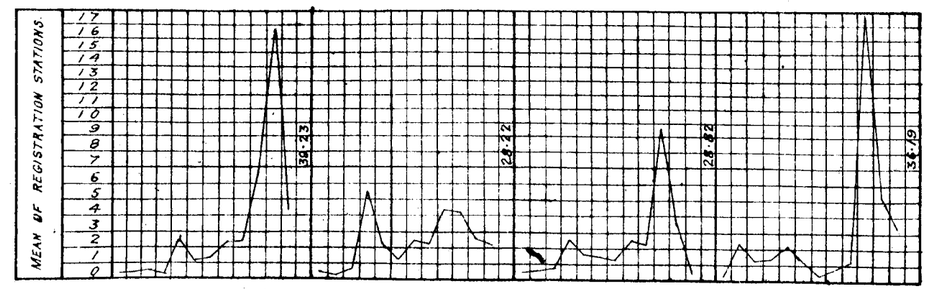


DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RAGI) IN THE DISTRICT OF MADURA & (CUMBU) IN THE DISTRICT OF TINNEVELLY FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

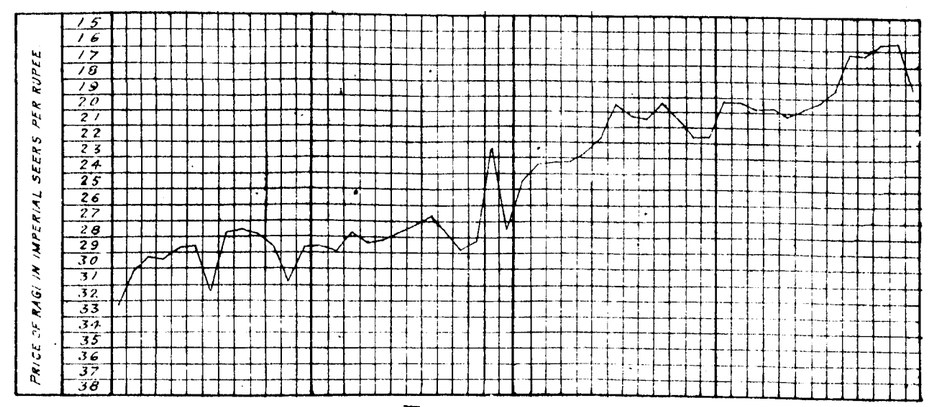
MADURA

DISTRICTS	YEARS	AVERAGE OF 10 YEARS.												1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APL.	MAY.	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB	MAR.	APR.	MAY	JUNE.	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE.	JULY.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

RAINFALL

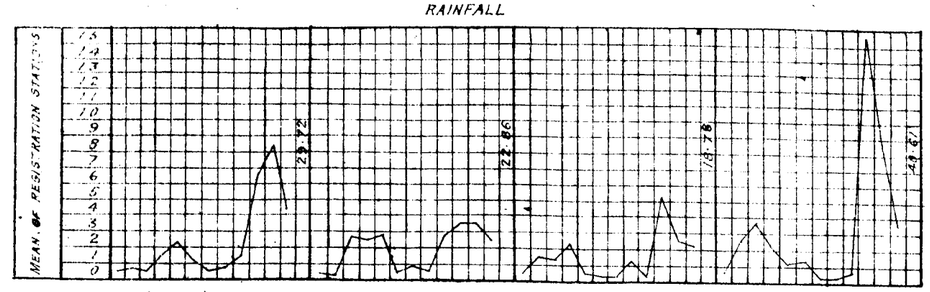


PRICE OF FOOD (RAGI)

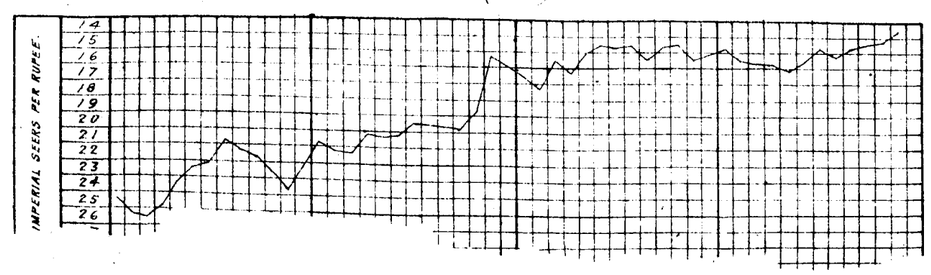


TINNEVELLY

RAINFALL



PRICE OF FOOD (CUMBU)



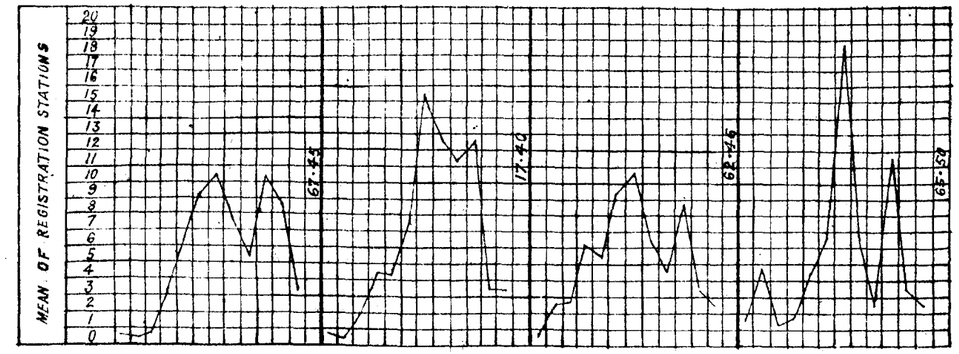
SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICT OF NILGIRIS & (CUMBU) IN THE DISTRICT OF COIMBATORE FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS

18

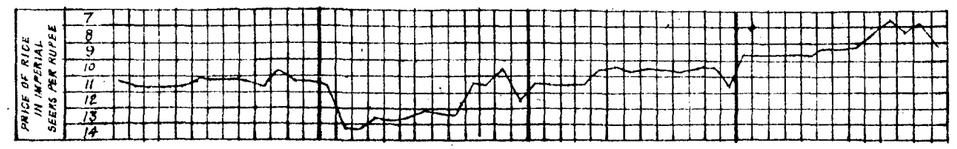
NILGIRIS

DISTRICTS	YEARS	AVERAGE OF 10 YEARS												1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APL.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL

RAINFALL

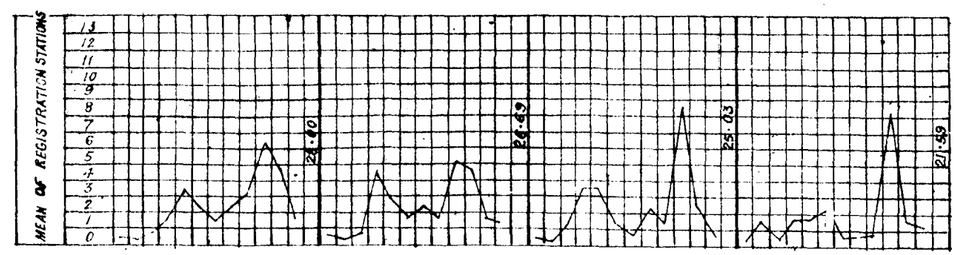


PRICE OF FOOD (RICE)



COIMBATORE

RAINFALL



PRICE OF FOOD (CUMBU)

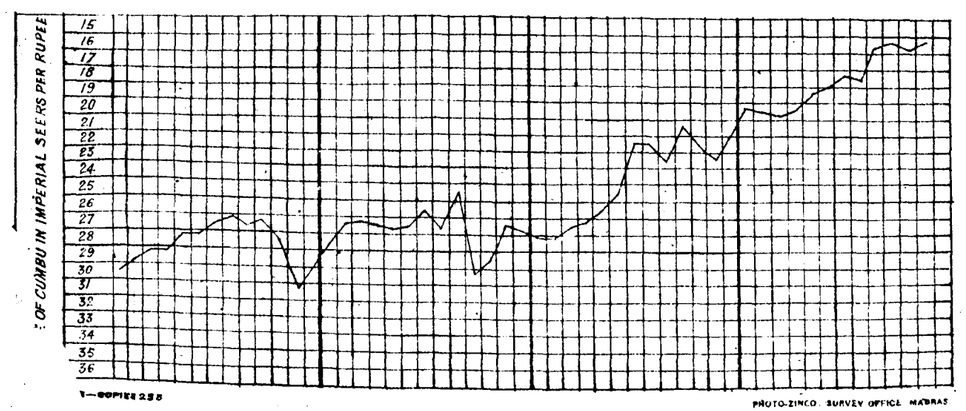


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DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICTS OF SOUTH CANARA & MALABAR

FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS

SOUTH CANARA

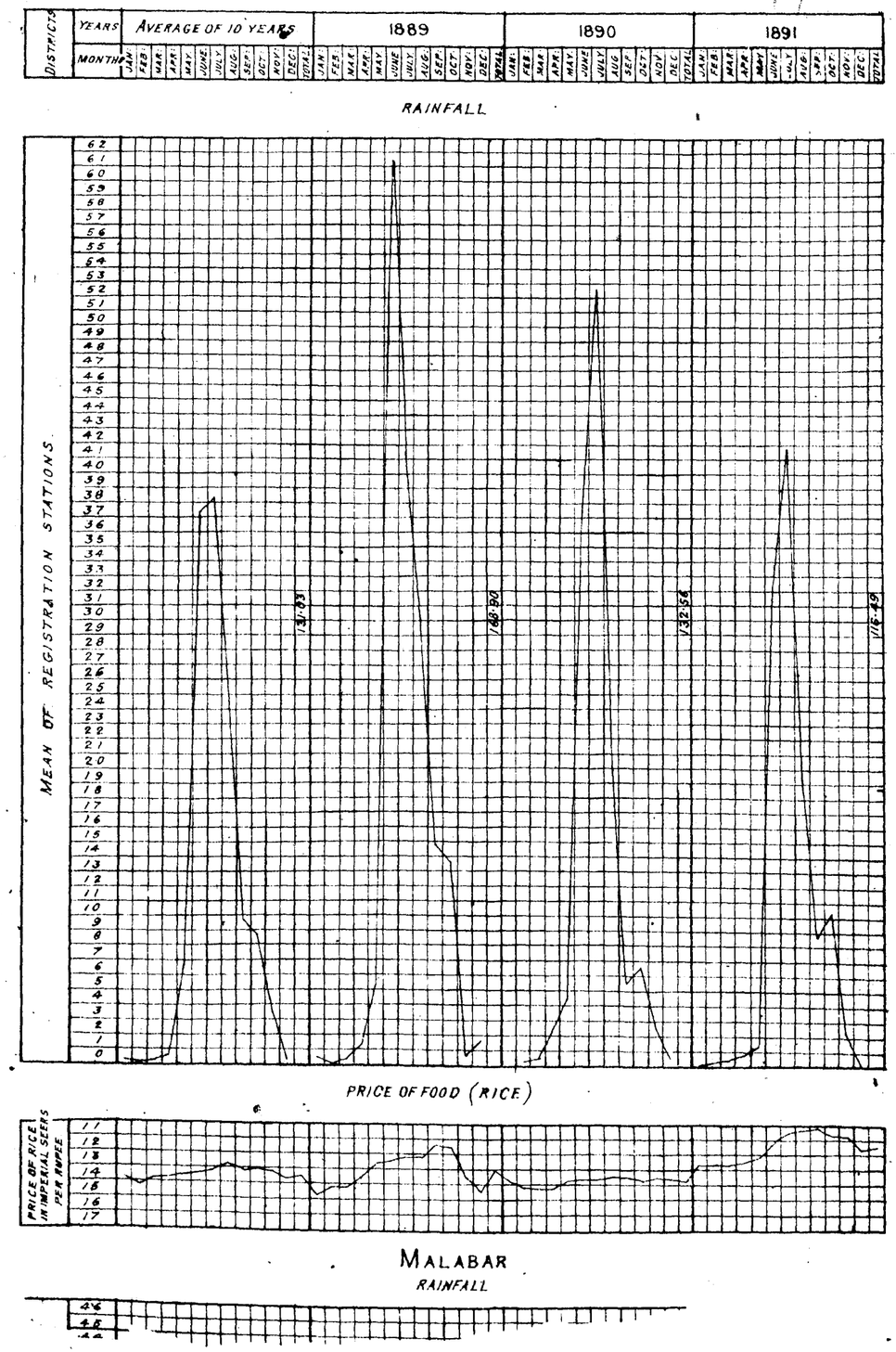


DIAGRAM SHOWING THE RAINFALL IN DIFFERENT GROUPS OF DISTRICTS (NORTHERN, EASTERN, SOUTH EASTERN, CENTRAL & WESTERN) OF THE MADRAS PRESIDENCY DURING 1891 COMPARED WITH PREVIOUS YEARS.

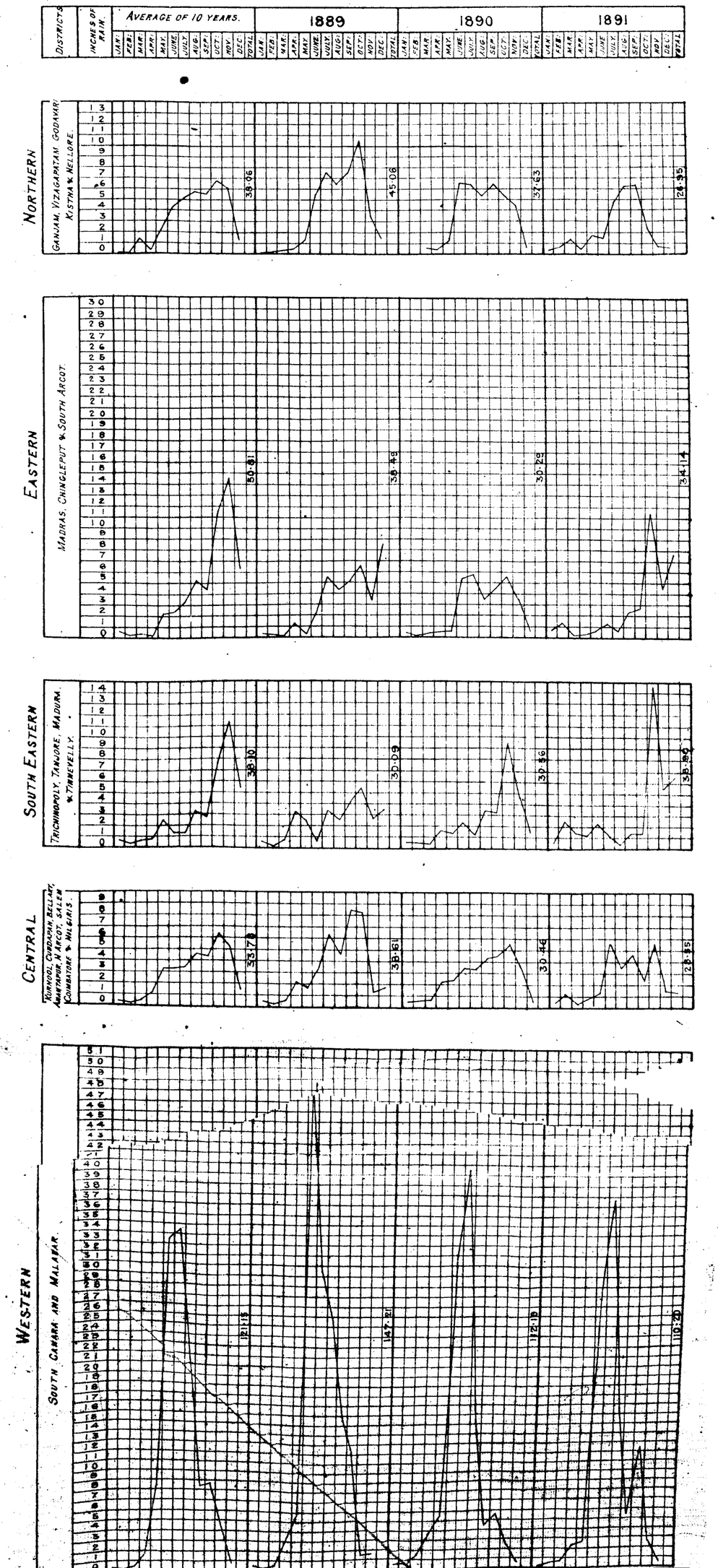


Table showing the Average Quantities of Food Grains, in seers of 80 tolahs, procurable for a Rupee in the Madras Presidency during 1889, 1890 *and* 1891, *compared with the average of previous ten years ending* 1888—continued.

Grain.	—	Ganjam.	Vizagapatam.	Godavari.	Kistna.	Nellore.	Cuddapah.	Anantapur.	Bellary.	Kurnool.	Madras.	Chingleput.	N. Arcot.	S. Arcot.	Tanjore.	Trichinopoly.	Madura.	Tinnevelly.	Coimbatore.	Nilgiris.	Salem.	S. Canara.	Malabar.
Cholum.	January ... Average of 10 years...	29·1	29·0	28·6	24·4	25·0	28·1	*	30·0	20·5	17·4	22·0	26·6	32·5	26·6	39·8	36·0	25·0	24·2	20·8	25·2	...	...
	1889	20·0	22·9	26·4	23·5	23·2	29·4	31·3	31·8	24·5	...	...	28·0	26·9	...	29·4	26·0	23·7	21·7	19·4	23·7	...	...
	1890	23·1	27·0	28·0	21·9	22·4	31·9	32·9	32·2	27·0	21·1	18·4	26·0	23·5	...	29·8	22·8	18·8	23·6	22·1	24·8	...	...
	1891	33·6	36·4	24·1	21·2	20·9	23·9	28·5	27·8	28·8	18·7	17·4	22·2	24·8	26·1	28·1	21·6	15·9	18·6	19·4	26·8	...	...
	February ... Average of 10 years...	32·3	29·1	29·2	24·6	25·2	27·7	*	29·7	29·5	20·7	21·4	25·8	33·6	28·1	48·1	33·7	23·8	24·1	20·6	25·1	...	...
	1889	19·5	22·5	26·2	22·0	20·9	29·2	30·7	30·1	24·9	...	...	27·2	32·8	...	30·0	26·7	23·9	21·4	23·9	24·6	...	...
	1890	23·4	25·5	17·9	22·0	24·2	30·7	32·5	28·3	27·8	20·9	18·4	28·0	24·2	...	29·3	23·2	17·6	22·2	21·7	23·0	...	...
	1891	34·4	36·1	26·8	21·5	21·2	24·0	27·7	28·5	29·0	18·7	18·7	20·0	23·5	28·6	27·4	22·6	15·7	18·5	15·7	20·3	...	...
	March ... Average of 10 years...	32·2	28·2	29·9	25·2	25·4	27·8	*	29·0	29·0	21·0	19·7	26·8	32·3	28·2	48·6	33·6	24·2	24·7	20·4	25·6	...	...
	1889	19·6	22·3	27·1	23·5	20·9	28·8	30·4	29·4	25·5	...	...	25·9	32·8	...	32·1	27·5	24·2	22·1	24·7	24·1	...	...
	1890	24·3	24·8	27·5	22·1	22·0	30·4	31·6	28·0	28·4	18·8	18·4	27·3	23·5	...	29·7	23·2	18·0	22·7	20·8	24·7	...	...
	1891	34·0	35·7	27·2	22·0	21·8	24·4	27·3	28·6	26·0	18·7	18·7	20·4	21·8	26·1	26·7	24·0	15·6	19·4	18·0	20·8	...	...
	April ... Average of 10 years...	32·1	28·2	29·0	25·4	25·9	28·2	*	29·5	28·6	20·9	20·1	26·9	25·9	29·2	47·6	33·5	26·3	25·3	20·2	26·2	...	...
	1889	19·9	22·8	26·8	22·2	23·0	28·4	31·3	29·0	26·1	...	...	25·1	23·5	...	31·4	30·5	24·8	21·9	25·6	24·7	...	...
	1890	24·7	25·4	27·2	21·7	25·3	30·3	32·3	27·2	28·9	18·9	18·4	26·3	23·0	...	29·5	24·4	19·0	22·6	20·4	24·3	...	...
	1891	34·5	33·9	27·5	21·6	22·5	26·1	28·0	28·4	29·0	19·2	17·3	26·8	23·5	...	25·9	23·1	17·9	19·4	18·5	21·5	...	...
	May ... Average of 10 years	29·6	27·5	29·6	23·6	24·9	28·4	*	29·3	27·7	20·1	20·5	26·6	28·3	28·0	46·6	34·3	26·3	24·9	19·9	26·3	...	...
	1889	18·7	20·4	26·3	21·5	22·8	30·3	31·1	29·0	26·7	...	...	24·8	32·8	...	31·3	32·4	24·0	22·3	24·5	25·8	...	...
	1890	23·8	24·9	26·1	21·3	22·9	29·7	32·6	26·9	28·3	18·9	18·4	26·8	24·4	18·2	26·8	23·8	19·9	22·8	20·8	24·5	...	...
	1891	36·5	34·0	26·7	21·9	22·2	27·0	28·4	28·4	28·8	19·4	18·0	21·7	23·5	23·4	26·0	20·4	19·8	18·5	18·4	21·2	...	...
	June ... Average of 10 years...	28·8	26·5	29·2	23·0	26·0	27·8	*	28·5	27·5	20·7	21·1	26·3	29·8	26·7	40·9	34·3	26·1	24·4	19·6	26·8	...	...
	1889	16·7	18·1	25·7	21·1	22·4	30·0	30·3	27·5	25·6	...	...	25·6	20·3	...	32·3	25·7	26·1	22·8	24·9	25·7	...	...
	1890	24·2	21·9	25·8	20·4	23·8	29·6	30·3	26·0	26·7	18·4	19·1	26·3	21·0	18·1	26·2	23·1	17·8	22·1	22·2	24·4	...	...
	1891	36·6	33·0	26·0	20·9	22·3	25·1	27·8	27·5	26·3	18·5	...	20·1	22·1	24·0	26·3	21·0	20·2	18·9	17·6	21·8	...	...
	July ... Average of 10 years...	28·0	25·3	28·1	23·6	25·7	27·8	*	28·4	27·4	20·8	18·2	27·7	28·0	26·1	38·9	32·0	24·9	23·6	20·3	26·3	...	...
	1889	15·4	18·6	25·8	20·9	22·6	29·0	31·2	28·1	26·6	...	...	24·8	20·3	...	30·8	21·6	24·3	22·0	24·1	24·0	...	...
	1890	25·6	24·6	24·6	20·4	23·6	28·8	29·5	27·8	26·8	18·5	18·4	24·8	19·6	17·5	24·3	18·3	16·3	19·0	20·7	22·6	...	...
	1891	28·7	30·1	25·0	19·4	21·3	23·5	27·7	26·4	26·7	16·5	...	18·8	17·9	22·7	22·9	18·7	19·7	17·2	17·5	19·4	...	...
	August ... Average of 10 years...	24·0	25·6	27·6	23·2	25·3	26·7	*	26·0	27·9	20·9	19·9	28·8	27·3	24·5	35·1	30·7	24·6	23·4	20·0	25·6	...	...
	1889	15·7	19·7	26·4	21·6	23·1	29·1	31·2	28·7	26·7	16·4	...	25·0	22·4	...	31·8	23·7	24·6	21·9	23·9	26·2	...	...
	1890	25·1	26·9	24·1	20·3	22·6	29·0	27·9	26·0	26·5	18·7	16·0	26·3	19·3	...	23·9	17·0	16·8	19·4	19·8	22·3	...	...
	1891	31·6	28·4	23·3	18·4	20·7	26·0	*	26·1	26·1	15·6	15·2	17·9	16·4	21·1	22·8	17·5	19·5	17·9	17·5	18·9	...	...
	September... Average of 10 years...	24·7	25·8	27·4	23·6	23·9	30·3	*	29·7	28·2	21·0	20·5	28·4	27·7	25·3	34·4	24·2	26·3	23·6	20·3	27·1	...	...
	1889	17·2	21·7	26·4	21·7	22·0	30·1	31·8	29·4	27·1	18·1	...	27·3	24·8	...	30·1	23·8	25·7	23·0	24·8	27·2	...	...
	1890	26·3	29·1	28·6	19·7	22·0	29·5	27·6	26·8	27·4	19·3	18·1	26·4	24·8	...	24·8	16·8	17·6	19·4	20·4	22·7	...	...
	1891	32·2	27·2	21·7	18·0	19·7	18·8	22·4	22·7	21·6	16·3	14·2	15·9	15·4	18·3	21·4	15·2	17·4	15·9	16·6	16·2	...	...
	October ... Average of 10 years...	25·9	25·1	27·0	23·6	25·0	28·3	*	30·4	29·1	21·4	20·9	27·6	28·1	26·9	34·9	29·7	26·5	24·0	22·3	27·9	...	...
	1889	16·5	24·4	28·7	22·4	23·7	31·2	33·7	29·9	28·1	20·1	...	30·3	25·2	20·7	29·4	28·1	25·2	23·2	21·4	28·5	...	...
	1890	26·5	28·7	23·2	20·0	22·0	29·1	29·0	27·0	28·2	19·3	17·8	25·4	23·9	22·1	24·0	15·9	17·0	18·5	21·1	22·0	...	...
	1891	24·9	21·3	20·8	18·4	19·6	17·8	21·0	21·9	21·5	15·1	14·3	16·2	16·1	18·3	20·9	14·9	16·9	16·5	14·5	16·0	...	...
	November... Average of 10 years...	24·9	25·3	25·9	24·0	25·1	28·7	*	31·5	30·8	21·4	21·2	28·4	23·9	28·9	35·1	30·1	25·4	24·5	20·7	28·2	...	...
	1889	17·0	23·2	28·4	22·6	23·3	31·8	34·3	29·9	28·2	21·2	...	28·9	25·2	20·7	30·2	25·3	23·1	24·8	22·0	29·3	...	...
	1890	27·9	30·8	23·4	20·2	21·8	27·1	33·5	27·1	28·4	17·9	16·0	24·8	26·0	27·8	25·0	16·0	16·6	18·7	20·3	21·5	...	...
	1891	22·5	21·2	19·6	17·5	18·6	16·4	19·6	17·1	17·1	14·4	13·3	15·0	15·2	21·2	20·5	13·9	16·2	16·2	15·3	15·0	...	...
	December... Average of 10 years...	27·7	28·0	27·7	24·8	25·4	29·3	*	31·6	30·6	21·5	21·5	28·4	30·8	16·2	37·7	33·6	26·0	28·0	21·3	27·6	...	...
	1889	20·0	27·7	28·1	22·0	22·0	30·7	34·6	29·5	28·0	21·1	19·2	24·1	20·8	19·9	28·3	21·9	17·0	22·3	22·2	25·5	...	...
	1890	31·2	34·8	24·2	20·3	21·3	26·9	28·6	28·0	28·4	18·7	15·2	25·1	21·8	26·2	25·9	19·8	16·1	18·8	20·3	21·6	...	...
	1891	16·6	17·0	15·1	14·0	12·7	12·4	14·2	13·3	12·7	11·5	11·4	13·7	20·7	19·4	13·1	15·2	13·1	12·6	13·0	...	...	...
	Average ... Average of 10 years...	28·6	26·9	28·3	23·9	25·4	28·5	*	29·6	27·6	20·9	19·7	27·4	30·1	26·9	39·8	32·4	25·5	24·3	20·4	26·6	...	...
	1889	18·0	22·0	27·0	22·1	22·3	29·8	31·8	29·3	26·4	19·4	19·2	26·4	25·6	20·4	30·6	25·8	23·9	22·4	23·3	25·8	...	...
	1890	25·5	27·2	27·0	20·9	22·8	29·4	30·3	27·2	27·7	19·1	17·7	25·9	22·9	21·5	26·5	20·4	17·7	20·7	20·9	23·4	...	...
	1891	31·1	29·5	23·8	19·7	20·4	21·7	24·5	24·8	24·8	17·0	13·2	18·4	19·5	20·6	23·9	18·9	17·5	17·4	16·9	18·6	...	...
Ragi.	* January ... Average of 10 years...	32·6	28·8	30·2	29·7	28·5	31·4	*	33·9	32·7	26·3	30·4	34·5	30·0	29·6	30·2	33·0	34·7	29·8	21·0	39·5	20·3	19·5
	1889	19·3	23·4	29·2	25·4	26·2	32·9	36·8	47·0	27·0	26·9	28·7	32·6	29·9	28·8	27·5	26·6	28·4	28·6	20·7	31·3	23·2	27·2
	1890	25·8	28·3	29·1	29·0	25·6	32·7	36·1	39·0	29·2	27·6	25·4	29·9	24·4	23·0	25·7	24·5	22·7	28·8	23·2	30·4	22·9	20·8
	1891	35·5	38·9	27·6	26·3	22·4	26·0	35·0	33·0	28·0	22·4	21·3	25·4	24·1	23·3	23·6	20·2	19·1	22·9	20·4	26·5	20·8	22·6
	February .. Average of 10 years...	30·7	38·5	30·6	30·4	28·2	31·4	*	33·8	30·1	26·3	30·1	34·8	30·8	30·7	30·8	31·1	33·6	29·4	21·1	28·0	20·0	19·9
	1889	18·0	22·1	25·4	20·4	23·7	32·6	36·3	46·1	27·6	26·4	28·3	32·4	29·2	30·0	28·5	26·6	27·9	28·2	24·5	31·3	23·4	25·7
	1890	23·6	27·1	28·5	29·2	26·0	32·7	36·0	36·9	29·4	27·0	26·3	30·2	23·5	23·8	25·9	23·2	20·4	28·8	23·1	30·7	22·7	25·6
	1891	35·2	33·3	27·4	27·2	22·5	26·2	30·4	32·9	28·2	22·1	20·6	23·1	22·8	22·9	23·4	20·2	18·3	22·1	18·6	25·0	20·5	21·8
	March ... Average of 10 years...	32·2	28·4	31·0	30·8	28·3	31·6	*	33·9	28·9	26·0	26·7	34·1	29·3	30·5	30·4	30·2	33·0	29·9	21·3	29·4	19·8	19·9
	1889	18·8	22·0	25·5	25·4	25·0	32·7	35·8	38·8	27·2	27·7	28·5	32·7	28·5	29·3	27·8	27·8	27·1	27·9	26·4	31·5	23·0	20·2
	1890	25·3	26·3	27·5	29·0	25·5	32·9	35·2	35·8	28·7	26·1	25·7	29·5	22·7	22·2	25·0	23·1	20·1	29·6	22·9	30·2	22·4	20·6
	1891	34·2	33·3	27·5	27·1	23·4	27·0	23·9	33·1	27·2	22·0	20·9	23·2	22·2	21·6	23·3	20·9	18·4	23·0	19·0	26·3	19·5	22·1
	April ... Average of 10 years...	32·1	28·6	30·8	30·6	29·3	32·2	*	34·3	28·9	25·9	30·4	34·4	28·4	29·4	30·3	30·4	31·3	31·6	21·5	30·4	19·5	20·1
	1889	18·8	22·1	24·8	23·5	20·5	33·0	34·3	38·3	26·8	27·9	28·5	32·3	27·1	29·1	28·5	28·0	26·8	28·5	25·5	31·6	22·2	23·9
	1890	26·3	30·3	29·0	27·6	25·4	33·2	35·2	34·8	26·5	26·5	25·4	29·0	22·9	20·5	24·2	23·1	19·7	28·6	22·0	30·4	22·4	26·5
	1891	34·4	33·3	27·3	26·5	23·8	28·4	29·4	32·8	27·6	22·0	20·8	24·2	22·0	22·1	22·5	20·8	18·3	23·2	19·2	22·8	19·3	21·6
	May ... Average of 10 years...	31·9	28·4	30·6	30·4	29·5	31·5	*	35·7	30·4	26·0	30·6	35·3	28·2	29·0	29·1	29·8	32·0	30·3	21·3	30·5	19·6	19·4
	1889	17·4	20·5	24·6	25·4	26·9	33·9	34·7	37·4	26·2	28·1	28·4	32·9	23·5	27·2	28·1	26·2	28·8	26·3	21·8	30·2	21·7	20·2
	1890	25·6	26·2	27·7	26·1	25·4	32·9	35·2	34·4	27·8	26·7	25·2	29·0	22·9	22·2	22·8	22·9	19·7	28·8	21·4	30·4	22·2	20·2
	1891	34·6	32·7	26·9	27·4	24·0	28·5	29·3	32·1	27·2	22·4	20·7	24·4	22·2	22·6	22·2	21·0	18·5	23·2	19·1	25·9	19·6	21·1
	June ... Average of 10 years...	31·2	27·4	31·0	30·6	29·4	32·3	*	32·8	29·9	26·1	29·7	34·4	27·9	28·1	28·7	29·5	30·7	29·4	20·7	29·6	19·2	19·1
	1889	15·9	19·5	24·8	25·5	26·0	33·3	34·5	36·9	27·1	27·6	28·0	32·3	26·1	27·0	27·0	27·8	25·5	29·1	25·9	31·3	21·5	25·2
	1890	25·0	26·1	27·6	23·1	25·5	32·0	33·9	34·0	28·3	25·7	24·7	28·2	23·8	21·7	22·6	21·7	18·5	27·6	22·0	30·2	22·0	25·5
	1891	31·0	32·3	24·6	27·1	23·8	27·9	25·7	30·6	27·5	21·8	19·3	23·6	22·0	22·8	21·5	20·9	18·6	22·4	18·8	24·4	19·0	20·4
	July ... Average of 10 years...	30·5	27·2	30·5	29·7	29·6	32·8	*	32·5	29·3	24·7	29·1	36·1	27·6	27·4	28·2	32·4	29·6	29·5	20·6	32·8	20·9	19·3
	1889	15·9	19·6	24·5	25·6	26·9	33·1	34·4	38·0	28·5	25·7	27·3	31·2	25·3	26·0	26·7	27·0	24·5	28·9	25·7	30·9	21·2	23·0
	1890	25·1	26·1	27·5	28·7	25·7	31·6	32·9	32·2	28·3	24·6	26·1	27·7	22·3	21·7	[illegible]	19·4	17·3	24·6	21·3	28·9	21·9	23·6
	1891	29·5	26·5	25·5	25·8	23·2	25·9	25·6	29·2	27·3	19·9	17·0	20·2	21·6	22·3	21·8	20·1	18·6	21·0	17·6	22·6	18·6	19·8
	August ... Average of 10 years...	32·5	27·7	29·2	29·6	29·2	31·2	*	32·4	28·4	25·7	29·2	33·7	27·5	26·7	31·1	28·9	29·1	23·0	20·3	29·0	18·8	19·2
	1889	18·8	23·0	25·2	26·6	27·4	33·2	34·9	37·3	28·1	25·4	27·4	31·3	26·4	26·8	26·5	26·5	23·7	28·7	20·3	31·6	20·3	23·6
	1890	26·8	28·1	27·3	25·3	25·0	31·0	32·0	33·0	27·5	22·3	22·9	27·1	22·0	21·6	19·8	20·0	18·1	24·8	21·4	26·0	21·2	23·2
	1891	29·8	26·0	25·4	25·5	22·1	23·1	28·3	29·9	27·4	18·9	17·5	19·1	18·6	21·1	19·8	19·5	18·2	21·2	18·0	21·4	18·2	18·3
	September... Average of 10 years...	31·3	29·2	29·4	29·9	28·9	31·2	*	32·5	28·4	25·9	28·5	32·6	28·9	27·7	28·5	28·5	30·2	28·5	20·7	29·2	18·7	19·3
	1889	24·7	25·8	26·5	27·1	27·5	33·7	36·2	36·0	27·7	26·0	27·1	32·2	27·2	24·2	27·7	27·5	24·7	29·9	26·1	32·5	18·7	24·9
	1890	28·7	31·3	26·8	24·9	24·2	31·3	31·5	31·8	28·2	23·9	23·3	27·2	23·1	21·8	20·6	20·4	18·6	23·5	22·0	26·0	21·1	21·8
	1891	30·7	28·9	24·2	23·8	20·5	20·8	23·4	25·1	23·6	17·4	15·5	17·3	17·0	16·0	15·8	17·1	17·5	18·4	16·1	17·6	16·1	18·4
	October ... Average of 10 years...	33·3	27·9	28·6	26·3	26·0	31·6	*	34·1	28·8	26·3	30·1	33·7	31·1	29·8	30·0	28·5	31·3	29·3	20·9	30·8	19·2	19·9
	1889	30·5	27·7	28·1	27·9	27·0	34·8	39·6	36·4	27·9	27·2	26·0	32·7	28·1	23·6	30·7	28·8	24·7	30·5	22·3	32·4	19·0	24·8
	1890	33·1	33·1	26·2	25·3	24·1	31·7	33·0	32·7	28·2	22·7	24·0	27·3	26·1	25·2	21·0	19·4	18·0	23·4	22·0	26·3	21·8	23·3
	1891	28·4	24·3	22·7	23·9	20·5	19·3	22·5	24·5	24·2	16·9	15·8	16·9	17·3	20·1	17·9	17·1	17·8	19·7	14·2	20·0	18·0	17·4
	November... Average of 10 years...	33·4	28·6	28·2	26·8	28·3	32·4	*	35·1	29·6	26·5	30·1	33·9	32·3	30·2	30·0	29·7	30·8	31·1	20·9	30·9	20·0	19·5
	1889	27·5	28·9	28·1	28·2	27·0	34·6	37·7	35·6	28·6	26·2	27·2	32·1	30·2	27·1	26·3	28·1	25·2	30·2	22·8	33·8	20·1	25·6
	1890	31·4	32·7	26·5	24·6	24·2	31·0	34·0	32·1	28·6	22·5	23·6	26·8	25·6	28·0	22·9	20·5	17·8	24·7	21·0	28·3	21·9	22·9
	1891	24·3	21·7	20·3	21·3	20·0	17·9	19·3	19·6	18·9	16·0	14·7	17·2	18·3	22·7	17·9	16·7	17·0	19·0	13·7	17·7	13·3	18·1
	December... Average of 10 years...	33·2	29·0	30·4	29·9	29·0	33·0	*	36·0	29·2	27·0	29·4	33·3	32·2	30·6	31·2	31·8	31·3	31·6	21·6	33·4	20·9	20·3
	1889	27·1	28·7	27·6	29·1	25·2	32·6	36·0	36·5	28·9	28·8	24·4	27·8	23·9	22·7	22·4	22·7	21·1	27·3	22·5	30·0	23·6	27·9
	1890	35·0	33·0	27·4	25·1	22·5	27·9	33·3	32·1	28·7	22·9	22·5	24·8	24·3	27·8	25·6	21·7	19·6	24·4	21·0	24·4	21·8	23·1
	1891	19·5	17·1	18·2	17·6	15·0	14·0	14·3	15·7	14·8	12·5	11·9	15·0	16·8	18·3	16·4	16·5	17·2	16·3	12·0	18·1	17·3	17·3
	Average ... Average of 10 years...	30·9	28·5	30·1	30·0	28·8	30·9	*	33·8	29·4	26·1	30·1	34·0	29·5	29·3	29·6	28·8	31·6	29·6	21·0	29·9	19·7	19·7
	1889	21·0	23·3	26·9	25·8	26·5	33·4	36·0	36·2	27·6	26·6	27·6	31·9	27·0	27·6	27·5	25·6	28·9	24·7	21·7	31·7	21·4	25·8
	1890	27·9	28·7	27·5	26·6	24·0	31·8	34·1	34·1	28·4	24·8	24·2	26·9	26·5	23·3	23·9	19·2	18·1	26·7	22·0	30·0	22·0	24·7
	1891	30·8	29·1	24·9	24·3	21·6	23·3	26·1	25·2	25·0	19·4	18·9	20·2	20·3	21·9	20·7	19·2	18·1	20·9	17·3	22·1	18·9	20·0

* Information not available.

VITAL STATISTICS OF THE GENERAL POPULATION.

4. No change has taken place in the mode of registering births and deaths since last annual report, and, although there has been an improvement on the whole in this work, yet real accuracy cannot at present be expected considering the agency—an uneducated one in most cases—through which these statistics have to be collected. In para. 10 of the memorandum by the Army Sanitary Commission on the Indian Sanitary Reports for 1889, it is suggested that the vaccination staff should examine the registers of births and deaths in their tours to test their accuracy. This plan has been adopted in the Madras Presidency since 1879. All Deputy Inspectors of Vaccination are required to examine the birth and death registers of any village or town they visit, and in their weekly diaries they report on the condition, &c., of the registration of births and deaths as found on personal inspection.

5. The record of births and deaths during the year under report does not extend to the whole population as ascertained at the census of 1881, viz., 30,835,771; there are certain tracts of zemindary estates, &c., for which no birth and death returns are received. The total population, for which returns were furnished in 1891, was 28,513,734, being 2,322,037 short of the total population.

BIRTHS.

6. The total number of births registered during 1891 amounted to 924,238 against 893,645 in 1890, showing an increase of 30,593 for the year under report. The ratio per 1,000 of population was 32·4, which is the highest birth-rate recorded in any year in the presidency. The following table shows the number of births registered in each of the past 21 years, and it is satisfactory to find that the steady improvement, which has been observed for several years past, continued in the year under report:—

Table showing the births and deaths for a series of years and their ratios per 1,000 of population.

Years.	Population for which returns were received.	Births.	Birth-ratio per mille.	Deaths.	Death-ratio per mille.
1871	24,555,046	506,707	20·6	444,371	18·0
1872	30,147,779	543,325	18·02	501,482	16·6
1873	30,287,842	527.363	17·4	506,894	16·4
1874	30,360,221	569,631	18·7	516,848	17·0
1875	30,278,903	625,953	20·6	641,260	21·1
1876	29,157,056	619,748	21·2	680,384	23·3
1877	29,209,512	467,543	16·01	1,556,312	53·2
1878	29,127,205	341,388	11·7	810,921	27·8
1879	28,991,267	467,938	16·1	549,390	18·9
1880	28,778,097	641,769	22·3	454,101	15·7
1881	28,676,375	716,672	24·9	465,682	16·2
1882	28,387,111	743,777	25·7	470,700	16·2
1883	28,503,100	774,754	27·2	541,930	19·0
1884	28,151,952	810,102.	28·8	650,335	23·1
1885	28,118,178	807,105	28·7	615,449	21·8
1886	28,043,538	837,077	29·8	553,927	19·7
1887	27,907,840	849,551	30·4	604,775.	21·6
1888	27,852,474	838,345	29·9	597,015	21·4
1889	28,050,087	867,523	30·9	661,178	23·5
1890	28,522,313	893,645	31·3	650,394	22·8
1891	28,513,734	924,238	32·4	747,553	26·2

7. The subjoined table shows the birth and death rates in each district of the presidency contrasted with those of 1890 and the mean of ten years:—

No.	Districts.	Ratio of births per mille of population. 1891.	Ratio of births per mille of population. 1890.	Average of birth-ratio for previous 10 years.	Ratio of deaths per mille of population. 1891.	Ratio of deaths per mille of population. 1890.	Average of death-ratio for previous 10 years.
1	Anantapur	40·0	39·4	36·1	30·6	26·1	21·5
2	Bellary						
3	Chingleput	38·4	40·3	39·4	32·8	24·0	24·6
4	Coimbatore	35·5	34·7	28·3	26·0	21·9	17·3
5	Cuddapah	30·0	29·9	28·6	25·4	24·6	19·6
6	Ganjam	25·8	18·2	21·9	13·5	13·4	19·7
7	Godávari	22·7	22·5	23·7	22·3	19·3	20·0
8	Kistna	36·4	36·0	32·7	30·6	23·0	21·3
9	Kurnool	40·4	41·2	36·8	32·9	29·7	24·2
10	Madras	44·7	43·6	40·3	59·4	42·7	39·6
11	Madura	38·5	35·5	31·0	29·0	23·9	19·9
12	Malabar	23·6	23·8	24·0	21·4	17·5	18·8
13	Nellore	28·7	27·4	25·3	20·5	16·3	14·8
14	Nilgiris	28·3	23·2	17·5	25·4	24·4	17·0
15	North Arcot	34·5	33·1	27·8	26·3	22·7	18·8
16	Salem	40·5	37·7	33·1	25·4	25·5	19·0
17	South Arcot	34·7	34·4	27·9	35·3	26·8	20·8
18	South Canara	32·2	32·2	29·8	20·6	26·5	22·4
19	Tanjore	30·9	30·0	28·5	27·4	24·4	24·6
20	Tinnevelly	29·1	30·1	30·6	26·5	25·3	22·8
21	Trichinopoly	33·5	35·5	30·4	29·0	26·1	22·4
22	Vizagapatam	29·6	23·6	21·7	17·3	17·3	16·6
	Total, Madras Presidency ..	32·4	31·3	29·1	26·2	22·8	20·5

From the above table it will be seen that the birth-rates in 1891 ranged from 44·7 in Madras to 22·7 in Godávari. In only four districts (Chingleput, Godávari, Malabar and Tinnevelly) were the birth-rates lower than the average birth-rates for the previous ten years. In five districts, viz., Chingleput, Kurnool, Malabar, Tinnevelly and Trichinopoly, the birth-rates were lower than those in 1890; in one (South Canara) they were the same, while in the remaining fifteen they were higher. In the Ganjam district there was a marked increase in the birth-rate in 1891 when compared with that of 1890. This, while evidencing improved registration, indicates also that the depressing effects of the distress in 1889 on the fecundity of the people are happily passing away. The districts which returned the highest birth-rates were Madras (44·7), Salem (40·5), Kurnool (40·4) and Bellary-Anantapur (40·0), and the lowest Godávari (22·7), Malabar (23·6), Ganjam (25·8) and Nílgiris (28·3).

In four districts (Madras, Salem, Kurnool and Bellary-Anantapur) the birth-rate was 40 per mille and above, in ten it was between 30 and 40, and in the remaining seven it was below 30 per mille.

8. Of the 924,238 births registered in 1891, there were 471,144 males and 453,094 females, or in a proportion of 103·9 males to every 100 female births. In 1890 the number of males born to every 100 females was 104·2.

9. The subjoined table shows the birth-rates according to the months of the year compared with 1890 and the monthly mean of the previous ten years:—

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Mean of 10 years	2·0	1·8	2·1	2·1	2·3	2·4	2·8	2·7	2·7	2·7	2·5	2·4	29·1
1890	2·2	1·9	2·2	2·3	2·5	2·6	3·0	3·2	3·1	2·9	2·8	2·6	31·3
1891	2·1	1·9	2·1	2·4	2·8	2·9	3·2	3·3	3·1	3·1	2·8	2·7	32·4

As is generally the case in this presidency, there were fewer births registered in the first and second quarters of the year than in the third and fourth. The largest number of births registered usually occurs in the months of July or August and the fewest in February, and the results obtained this year are not at variance with the experience of former years.

10. As in past years the births exceeded the deaths, and for 1891 the excess was at the rate of 6·2 per 1,000 of population. In all districts, with the exception of

Madras and South Arcot, there was an excess of births over deaths registered. In Madras the deaths exceeded the births at the rate of 14·7 per 1,000 of population, the increase being due to the prevalence of cholera, fevers and bowel-complaints during 1891.

11. The birth-rate per 1,000 of population among the rural and urban population in each district during 1891 and 1890 is given in the following table:—

No.	Districts.		Ratio of births per 1,000 of population.		Ratio of deaths per 1,000 of population.		No.
			1891.	1890.	1891.	1890.	
1 & 2	Anantapur and Bellary	Urban ..	34·6	33·9	34·3	25·6	1 & 2
		Rural ..	40·4	39·0	30·4	26·1	
3	Chingleput	Urban ..	28·1	27·5	28·6	24·6	3
		Rural ..	39·0	41·0	33·0	23·9	
4	Coimbatore	Urban ..	40·3	45·2	36·2	36·3	4
		Rural ..	35·3	34·3	25·9	21·3	
5	Cuddapah	Urban ..	19·3	16·5	26·8	43·0	5
		Rural ..	30·2	30·1	25·4	24·3	
6	Ganjam	Urban ..	33·6	26·1	20·3	18·5	6
		Rural ..	25·5	17·8	13·3	13·1	
7	Godávari	Urban ..	22·8	22·6	23·2	25·2	7
		Rural ..	22·6	22·4	22·2	18·9	
8	Kistna	Urban ..	36·2	37·3	36·0	28·2	8
		Rural ..	36·5	35·9	30·3	22·7	
9	Kurnool	Urban ..	30·5	28·8	33·3	23·9	9
		Rural ..	40·7	41·3	32·9	29·9	
10	Madura	Urban ..	42·0	38·8	37·0	34·7	10
		Rural ..	38·0	35·1	28·1	22·8	
11	Malabar	Urban ..	32·0	30·3	33·4	30·7	11
		Rural ..	22·9	23·3	20·4	16·4	
12	Nellore	Urban ..	27·9	29·0	31·2	21·1	12
		Rural ..	28·7	27·3	20·0	16·1	
13	Nilgiris	Urban ..	33·6	33·4	25·7	34·6	13
		Rural ..	26·0	20·0	24·4	21·1	
14	North Arcot	Urban ..	32·3	31·3	28·2	23·9	14
		Rural ..	34·6	33·1	26·1	22·6	
15	Salem	Urban ..	36·9	36·1	27·3	30·1	15
		Rural ..	40·7	37·8	25·2	25·1	
16	South Arcot	Urban ..	26·7	24·0	29·4	21·3	16
		Rural ..	35·1	34·8	35·5	27·1	
17	South Canara	Urban ..	38·8	31·3	25·9	23·5	17
		Rural ..	31·9	32·2	20·4	26·6	
18	Tanjore	Urban ..	28·0	27·8	30·9	29·3	18
		Rural ..	31·1	30·2	27·0	23·8	
19	Tinnevelly	Urban ..	28·6	26·4	27·2	27·0	19
		Rural ..	29·1	30·5	26·4	25·1	
20	Trichinopoly	Urban ..	27·1	24·4	31·2	31·3	20
		Rural ..	34·1	35·6	28·8	25·5	
21	Vizagapatam	Urban ..	31·1	28·5	25·2	22·8	21
		Rural ..	29·5	23·2	16·6	16·9	
	Total ..	Urban ..	31·5	30·0	30·0	22·1	
		Rural ..	32·2	31·2	25·4	22·2	

The rural birth-rate for the presidency was as usual higher than the urban, the ratios per 1,000 of population being 32·2 and 31·5 respectively. In eight districts (Coimbatore, Ganjam, Godavári, Madura, Malabar, Nílgiris, South Canara and Vizagapatam), the urban birth-rates were higher than the rural birth-rates.

12. In the table on page 13 are given the birth-rates per 1,000 of population of the fifty-five municipal towns in the presidency exclusive of Madras. On the whole, there has been an improvement in the registration of births in municipalities during 1891 when compared with 1890. In twelve towns in 1891 against nine in 1890, the birth-rate was above 40 per mille; in thirty-one towns in 1891 the birth-rates were between 30 and 40 per mille, and in twelve towns in 1891 against 18 in 1890 the birth-rates were below 30 per mille. In seventeen towns (Bezváda, Tuticórin, Cochin, Calicut, Adóni, Erode, Kumbakónam, Kurnool, Rajahmundry, Tirupati, Ellore, Tanjore, Chidambaram, Trichinopoly, Nellore, Negapatam and Cuddapah) in 1891 against sixteen towns in 1890, the birth-rates were lower than the death-rates.

13. The birth-rate in each taluk (Rural registration circle) in the presidency is shown in the diagram on the opposite page according to the suggestions of the Army Sanitary Commission in para. 10 of its memorandum on the Indian Sanitary Reports for 1889. It will be seen from this diagram that four taluks recorded a birth-rate of above 50 per 1,000 of population, while twenty-seven others returned rates ranging from 40 to 50 per 1,000. In thirty-four registration circles the birth-rate was between 35 and 40; in forty-eight between 30 and 35; and in sixty between 20 and 30 per 1,000. In eight others it was below 20 per mille.

DEATHS.

14. During 1891, there were 747,553 deaths registered in the Madras Presidency corresponding to an annual death-rate of 26·2 per mille of the population. This rate of mortality is higher than any rate that has been recorded since 1878. The death-rate for 1890 was 22·8 per 1,000, and the average rate for the previous five years was 21·8. The death-rate for the year under review was, therefore, 3·4 per 1,000 greater than that of the previous year and 4·4 per 1,000 greater than the average of the previous five years.

15. The following table, which gives the principal causes of death, shows the total mortality of the presidency during the past 21 years:—

Years.	Total deaths.	Cholera.	Small-pox.	Fevers.	Bowel-complaints.	Injuries.	Other causes.	Years.
1871 ...	414,371	17,656	20,823	192,469	38,928	15,323	159,172	1871
1872 ...	501,482	13,247	39,074	214,148	39,387	15,150	180,476	1872
1873 ...	506,894	840	51,784	222,849	36,392	14,251	180,784	1873
1874 ...	516,848	313	48,343	229,220	37,993	18,065	190,914	1874
1875 ...	641,260	94,546	24,775	252,042	37,484	12,421	219,992	1875
1876 ...	680,384	148,193	23,469	230,092	38,176	11,175	229,279	1876
1877 ...	1,556,312	357,430	88,321	469,241	133,366	16,460	491,494	1877
1878 ...	810,921	47,167	56,365	374,443	48,083	15,007	269,861	1878
1879 ...	549,390	13,296	17,840	285,477	23,218	12,619	196,940	1879
1880 ...	454,101	613	13,529	209,940	19,622	10,845	198,552	1880
1881 ...	465,682	9,446	15,775	208,543	18,961	11,527	206,430	1881
1882 ...	470,700	23,604	20,159	188,561	19,958	11,611	206,807	1882
1883 ...	541,930	36,284	37,975	203,786	22,098	11,509	230,278	1883
1884 ...	650,335	75,476	61,247	215,977	28,775	11,502	257,358	1884
1885 ...	615,449	58,109	34,726	218,786	31,209	11,659	260,960	1885
1886 ...	553,927	12,417	17,129	221,679	27,379	13,103	262,220	1886
1887 ...	604,775	28,359	21,472	240,860	26,679	11,328	276,077	1887
1888 ...	597,915	58,677	21,858	204,561	27,721	11,401	272,797	1888
1889 ...	661,178	76,020	29,138	230,172	29,122*	11,506	285,220	1889
1890 ...	650,394	35,288	28,092	262,855	26,608	10,402	287,149	1890
1891 ...	747,553	98,773	41,322	247,029	* 34,223	10,542	315,664	1891

* Dysentery and diarrhœa only.

With the exception of "fevers" the number of deaths registered under each of the principal causes in 1891 was greater than that recorded in 1890.

16. Of the 747,553 deaths recorded, 382,419 occurred among males and 365,134 among females, the annual death-rates per 1,000 having been 27·1 for males and 25·3 for females. In only one district (Madras) was the female death-rate (60·6) above the registered male death-rate (58·2). The registered male is thus higher than the female death-rate, and this is in accordance with the experience of former years. For every 100 females who died 104·7 deaths among males were registered, but the proportion varied considerably in some districts.

17. The following table shows the total deaths in 1891 under different ages:—

No.	Ages.	Deaths.	Ratio per 1,000 of population.	Percentage on total deaths.
1	Under 1 year	154,688	172·0	20·7
2	1 year and under 5 years	124,284	43·1	16·6
3	5 years and under 10 years	50,274	12·3	6·7
4	10 years and under 15 years	27,570	7·5	3·7
5	15 years and under 20 years	34,646	13·8	4·6
6	20 years and under 30 years	72,075	13·9	9·7
7	30 years and under 40 years	67,282	15·5	9·0
8	40 years and under 50 years	58,340	20·2	7·8
9	50 years and under 60 years	57,202	31·7	7·7
10	60 years and upwards	101,200	62·8	13·5
		[illegible]	[illegible]	[illegible]

Out of a total death-roll of 747,553, there were 154,638 deaths amongst children under one year of age, and 124,284 among children above one year and under five, the respective death-rates having been 172·0 and 43·1 per 1,000 of population, calculated on the population according to the census of 1881. In England, the death-rate of children under one year of age is calculated on the number of children born during the year, and when this is applied to Madras, it will be found that the death-rate of infants under one year of age in 1891 was 167·4. The infantile death-rate or proportion of deaths of infants in the first year of life to 1,000 registered births in 1891 was 167 in the twenty-eight towns, ranging from 137 in Brighton to 227 in Preston. The deaths in children under five years of age formed 37·3 per cent. of the total deaths. The period when fewest deaths occurred in 1891 was, as is usually the case, in the age of above 10 and under 15, the ratio per 1,000 of population being 7·5.

18. The total deaths by sexes according to age are given in form IV in the appendix. From infancy up to 15 years of age females have a better chance of life than males, and also from 30 years upwards. Between the ages of 15 and 20, a period burdened with maternal cares, the death-rate amongst females was greater than that of males.

19. The deaths according to classes are given in form V in the appendix. The deaths registered amongst Hindus were in the proportion of 26·3 per 1,000; Muhammadans, 25·7 per 1,000; Native Christians, 22·3 per 1,000; and "other classes," 13·1 per 1,000. In eleven districts (Chingleput, Cuddapah, Godávari, Kurnool, Madura, Nellore, Nílgiris, North Arcot, Salem, Tinnevelly and Trichinopoly) no deaths were recorded among "other classes."

20. In table III of appendix, the deaths in each month of the year are given and in the subjoined table the death-rates during each month in 1891 are contrasted with the death-rates in 1890 and the mean of ten years:—

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Mean of 10 years	2·1	1·6	1·5	1·4	1·5	1·5	1·7	1·7	1·6	1·6	1·7	2·2	20·5
1890	2·1	1·7	1·6	1·8	2·3	1·8	1·9	2·0	1·9	1·8	1·8	2·1	22·8
1891	2·2	1·8	1·6	1·7	1·7	1·9	2·2	2·6	2·2	2·2	2·7	3·4	26·2

In normal years the smallest number of deaths is registered in March, April and May. In 1891, the smallest number of deaths (46,530) took place in March and the largest (97,535) in December. The most unhealthy months were November and December and the most healthy March, April and May. A sudden rise in the death-rate usually occurs in December, and this was also the case in 1891.

21. The death-rate in each district during 1891 is given on page 9. The highest death-rate (50·4) occurred (as has been the case for some years past) in Madras and was due to the high death-rates from fevers, diarrhœa and dysentery, and all other causes when compared with the ratios of other districts. The death-rate varied in the several districts, and (excluding Madras) ranged from 13·5 per mille in Ganjam to 35·3 per mille in South Arcot. In all districts, with the exception of South Canara and Ganjam, the death-rate of each district was higher than the average rate of the previous ten years. The amount of increase, however, varied in the different parts of the presidency. In the districts of Nellore, Cuddapah, Salem, Trichinopoly, North Arcot, Chingleput, Nílgiris, Coimbatore, and Kurnool, the death-rate was from 5·7 to 8·7 per 1,000 higher than the average of the previous ten years; and in Anantapur-Bellary, Madura, Kistna, South Arcot and Madras, the increase was from 9·1 to 19·8 per 1,000. In two districts (Salem and South Canara) the recorded death-rate per 1,000 of population was lower in 1891 than in 1890, but in all the other districts (with the exception of Vizagapatam where it was the same) the death-rate was higher.

given on page 10. The death-rates among the urban and rural populations were 30·0 and 25·4, respectively, against 22·1 and 22·2 in 1890. In all districts, with the exception of Chingleput and South Arcot, the urban death-rate was higher than the rural. Judging from the death-rates amongst the rural population, the most unhealthy districts were South Arcot, Chingleput and Kurnool.

23. In the following table are given the deaths registered in the fifty-five Municipal towns and in the districts, exclusive of Municipal towns, proportionally considered with the population:—

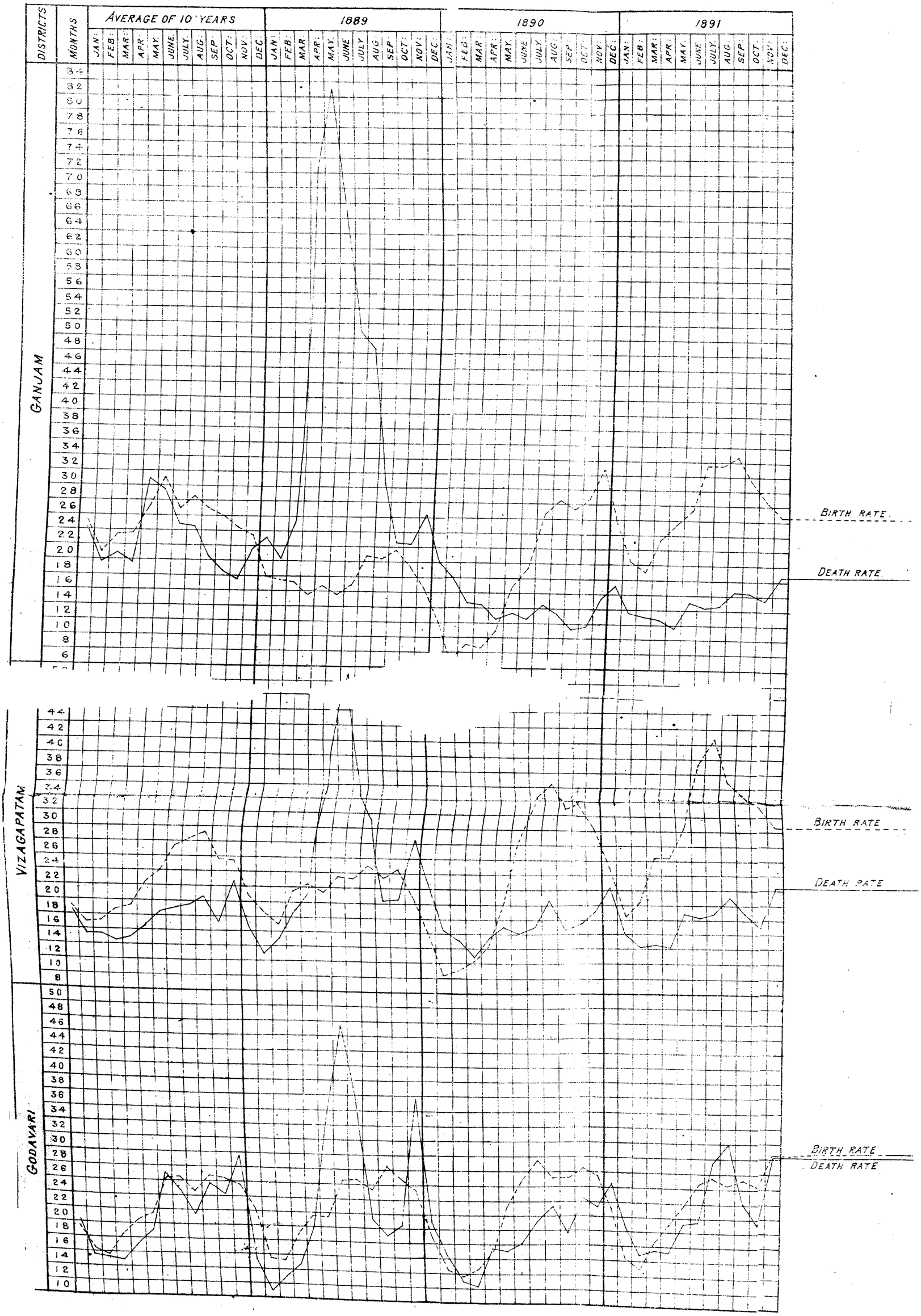
Table shewing the Birth and Death Rates of Districts and Municipalities arranged in order of sequence.

Districts (exclusive of Municipal Towns).						Municipalities.					
Birth-rate.			Death-rate.			Birth-rate.			Death-rate.		
No.	Districts.	Ratio per mille.	No.	Districts.	Ratio per mille.	No.	Municipalities.	Ratio per mille.	No.	Municipalities.	Ratio per mille.
1	Madras ...	44·7	1	Madras ...	59·4	1	Dindigul ...	62·8	1	Bezváda ...	64·3
2	Kurnool ...	40·7	2	South Arcot ...	35·4	2	Bezváda ...	60·6	2	Palni ...	49·7
3	Salem ...	40·5	3	Kurnool ...	32·9	3	Palni ...	56·1	3	Calicut ...	47·6
4	Anantapur ...	40·3	4	Chingleput ...	32·6	4	Vániyambádi ...	47·9	4	Tuticorin ...	47·4
5	Bellary ...		5	Anantapur ...	30·3	5	Karúr ...	46·1	5	Adóni ...	44·5
6	Chingleput ...	38·3	6	Bellary ...		6	Wálajápet ...	44·6	6	Cochin ...	43·9
7	Madura ...	38·1	7	Kistna ...	30·3	7	Anakápalle ...	42·9	7	Anantapur ...	40·9
8	Kistna ...	36·5	8	Trichinopoly ...	28·8	8	Parlákimedi ...	42·8	8	Dindigul ...	40·0
9	Coimbatore ...	35·3	9	Madura ...	28·2	9	Tirupatúr ...	42·2	9	Karúr ...	38·2
10	South Arcot ...	34·9	10	Tanjore ...	27·1	10	Anantapur ...	41·9	10	Conjeeveram ...	37·5
11	North Arcot ...	34·4	11	Tinnevelly ...	26·2	11	Coimbatore ...	41·2	11	Tirupatúr ...	36·9
12	Trichinopoly ...	34·1	12	North Arcot ...	26·1	12	Conjeeveram ...	40·9	12	Coimbatore ...	36·4
13	South Canara ...	31·9	13	Coimbatore ...	25·6	13	Coonoor ...	39·5	13	Nellore ...	36·0
14	Tanjore ...	31·2	14	Cuddapah ...	25·4	14	Ongole ...	39·4	14	Madura ...	35·6
15	Cuddapah ...	30·2	15	Nílgiris ...	25·4	15	Vellore ...	39·2	15	Chidambaram.	35·4
16	Vizagapatam ...	29·3	16	Salem ...	25·1	16	Mangalore ...	38·8	16	Coonoor ...	35·1
17	Tinnevelly ...	28·9	17	Godávari ...	22·1	17	Salem ...	37·9	17	Wálajápet ...	35·0
18	Nellore ...	28·7	18	Malabar ...	20·4	18	Madura ...	37·2	18	Guntúr ...	34·5
19	Nílgiris ...	27·0	19	South Canara ...	20·4	19	Bimlipatam ...	36·9	19	Erode ...	33·6
20	Ganjam ...	25·5	20	Nellore ...	20·1	20	Tuticorin ...	36·3	20	Kurnool ...	33·3
21	Malabar ...	22·9	21	Vizagapatam ...	16·7	21	Palamcottah ...	36·5	21	Negapatam ...	33·2
22	Godávari ...	22·5	22	Ganjam ...	13·3	22	Bellary ...	36·0	22	Kumbakónam.	33·1
						23	Máyavaram ...	35·8	23	Tirupati ...	33·0
						24	Guntúr ...	35·4	24	Anakápalle ...	32·4
						25	Periyákulam ...	35·2	25	Rajahmundry.	32·2
						26	Berhampore ...	35·1	26	Bellary ...	31·9
						27	Srirangam ...	35·0	27	Srirangam ...	31·4
						28	Tellicherry ...	34·6	28	Tinnevelly ...	31·2
						29	Pálghat ...	34·6	29	Trichinopoly ...	31·2
						30	Cochin ...	34·6	30	Periyákulam ...	30·4
						31	Vizagapatam ...	34·0	31	Máyavaram ...	30·4
						32	Calicut ...	33·9	32	Vellore ...	30·1
						33	Vizianagrum ...	33·5	33	Masulipatam ...	29·8
						34	Adóni ...	33·2	34	Pálghat ...	29·2
						35	Tinnevelly ...	33·2	35	Tanjore ...	29·1
						36	Cannanore ...	31·5	36	Bimlipatam ...	29·0
						37	Erode ...	31·4	37	Ongole ...	28·8
						38	Cotacamund ...	31·4	38	Ellore ...	28·4
						39	Cuddalore ...	30·9	39	Vániyambádi ...	28·4
						40	Kumbakónam.	30·7	40	Salem ...	28·3
						41	Kurnool ...	30·5	41	Cuddalore ...	28·1
						42	Masulipatam ...	30·3	42	[illegible] ...	27·6
						43	Rajahmundry.	30·0	43	Vizianagrum ...	27·6
						44	Tirupati ...	29·1	44	Cuddapah ...	26·8
						45	Gudiyátam ...	28·6	45	Mangalore ...	25·9
						46	Ellore ...	28·3	46	Vizagapatam ...	25·8
						47	Tanjore ...	28·3	47	Gudiyátam ...	24·8
						48	Chidambaram.	26·3	48	Mannárgudi ...	24·5
						49	Trichinopoly ...	25·3	49	Parlákimedi ...	23·2
						50	Mannárgudi ...	24·8	50	Cannanore ...	22·5
						51	Nellore ...	24·0	51	Tellicherry ...	22·0
						52	Chicacole ...	23·9	52	Cotacamund ...	22·0
						53	Negapatam ...	23·3	53	Berhampore ...	19·3
						54	Cuddapah ...	19·3	54	Chicacole ...	19·1
						55	Cocanada ...	18·8	55	Cocanada ...	17·3
	Total ...	32·3		Total ...	25·9		Total ...	33·6		Total ...	31·8

The average death-rate of the fifty-five Municipal towns was 31·8 per 1,000 of population or 5·9 higher than the district rate. The highest death-rates occurred in Bezváda (64·3), Palni (49·7), Calicut (47·6), and Tuticorin (47·4) and the lowest in Berhampore (19·3), Chicacole (19·1) and Cocanada (17·3).

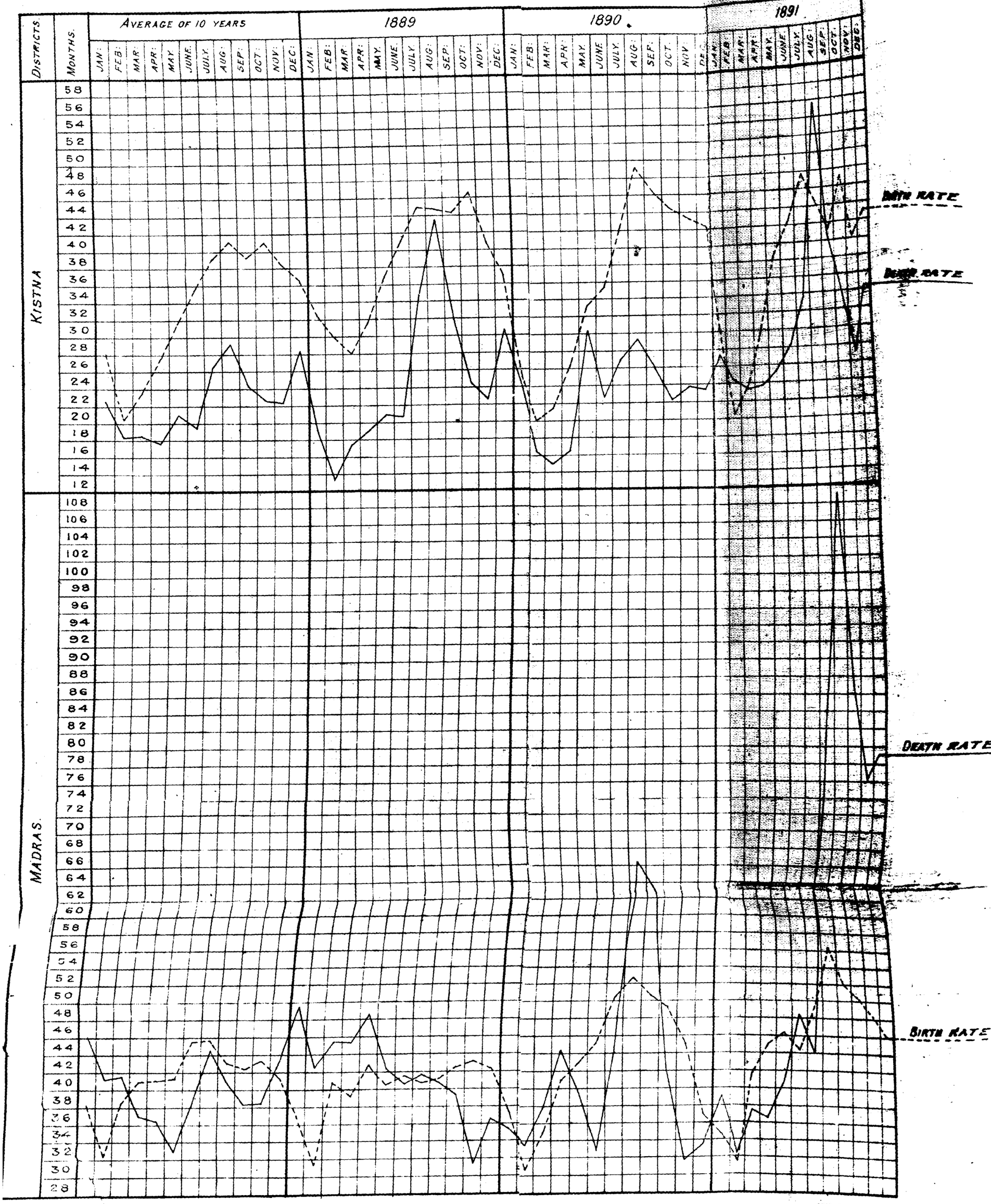
DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS.

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.



ZINCO. SURVEY OFFICE, E. INDIA
1892

DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS



MADRAS SURVEY OFFICE, TAGORA
1892

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DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS

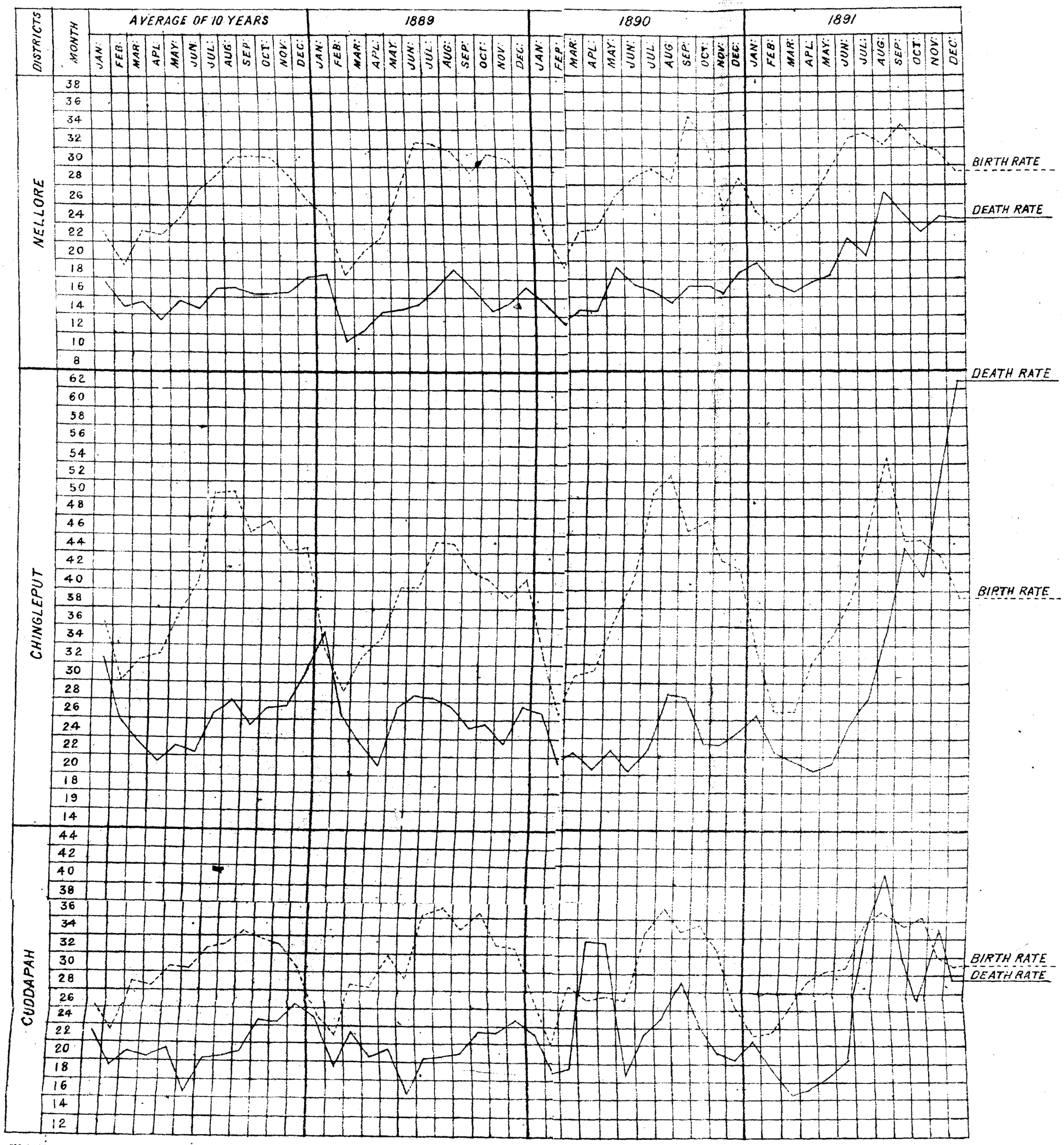

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DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS

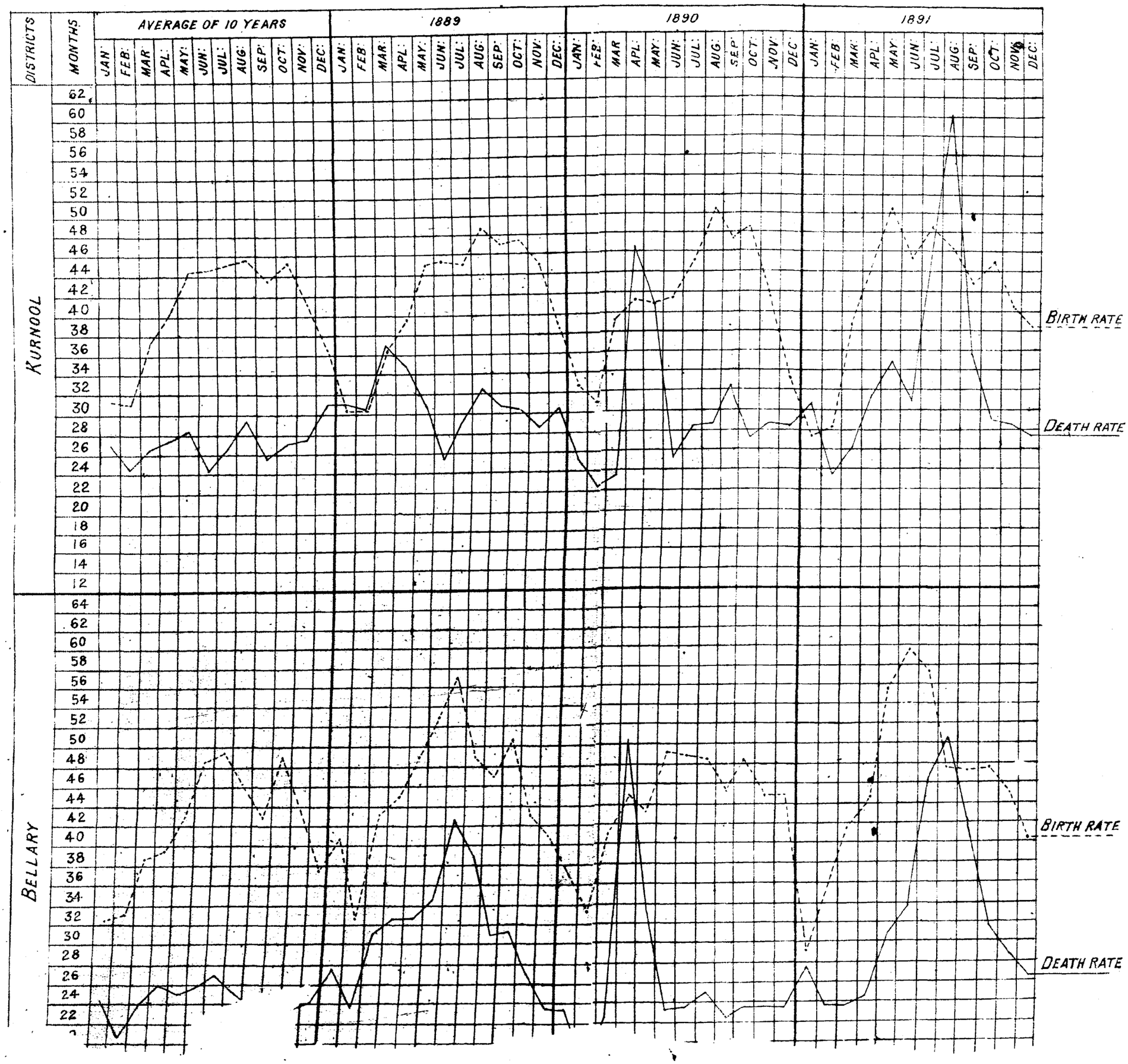
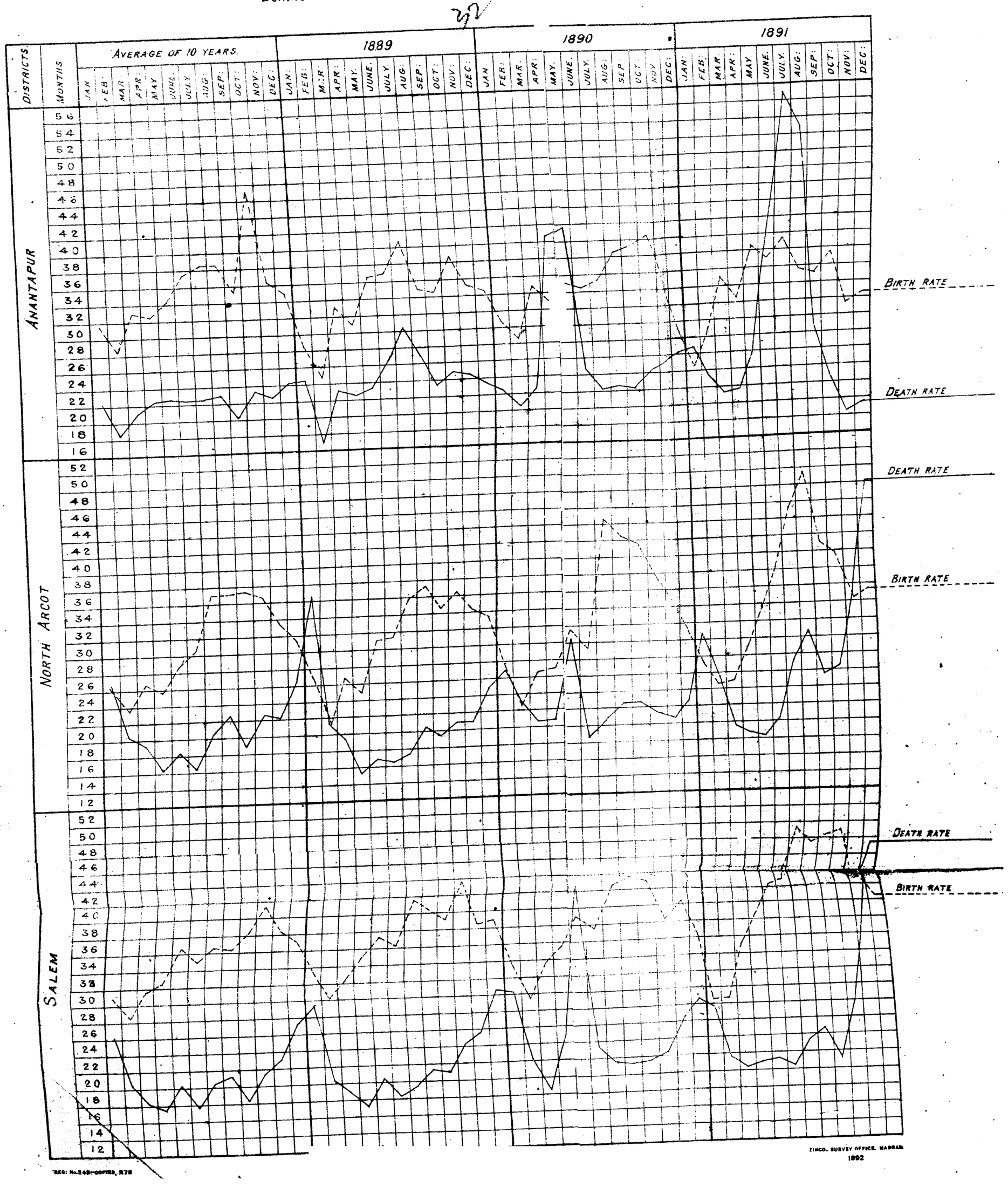


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.



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1892

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DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS.

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.

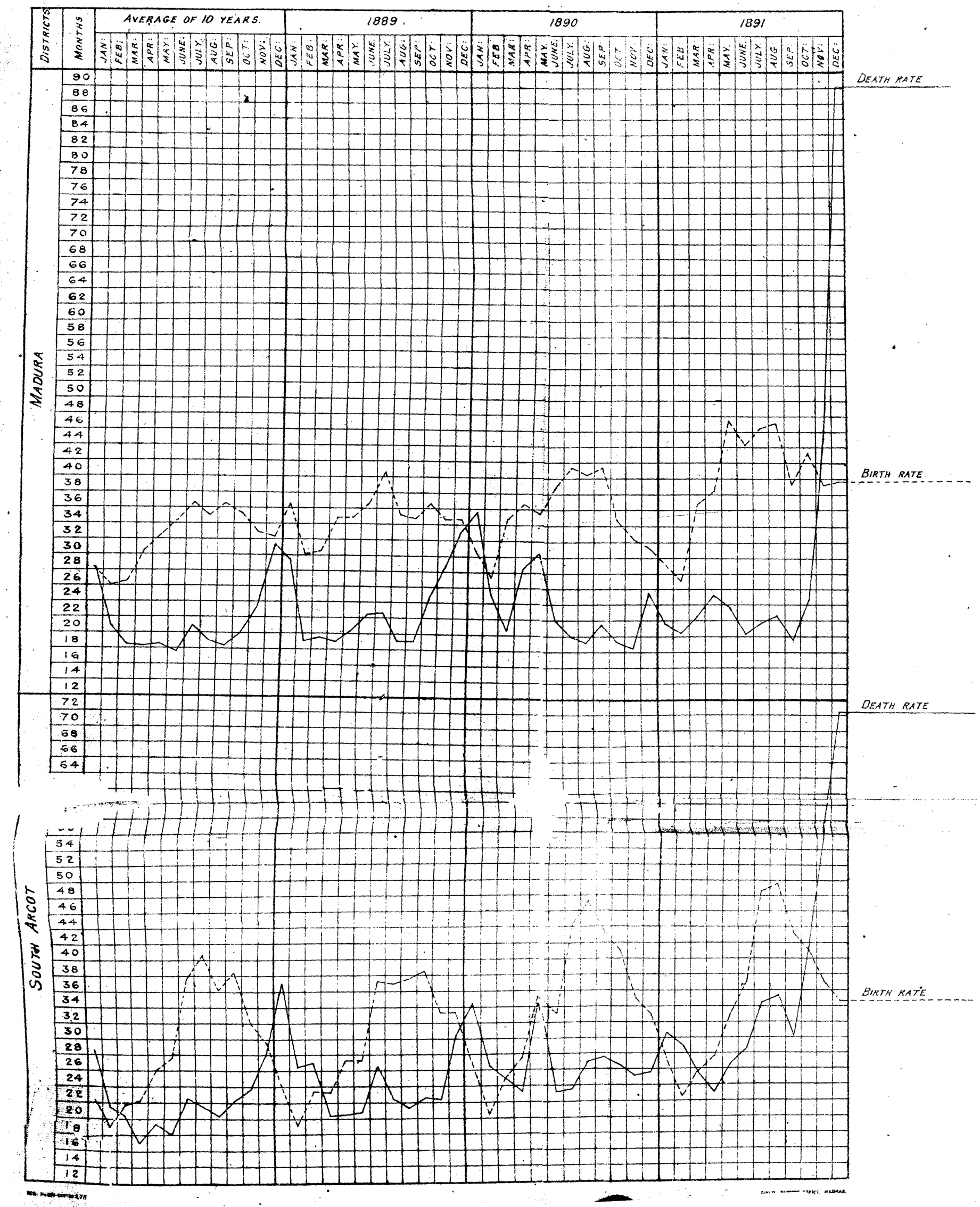
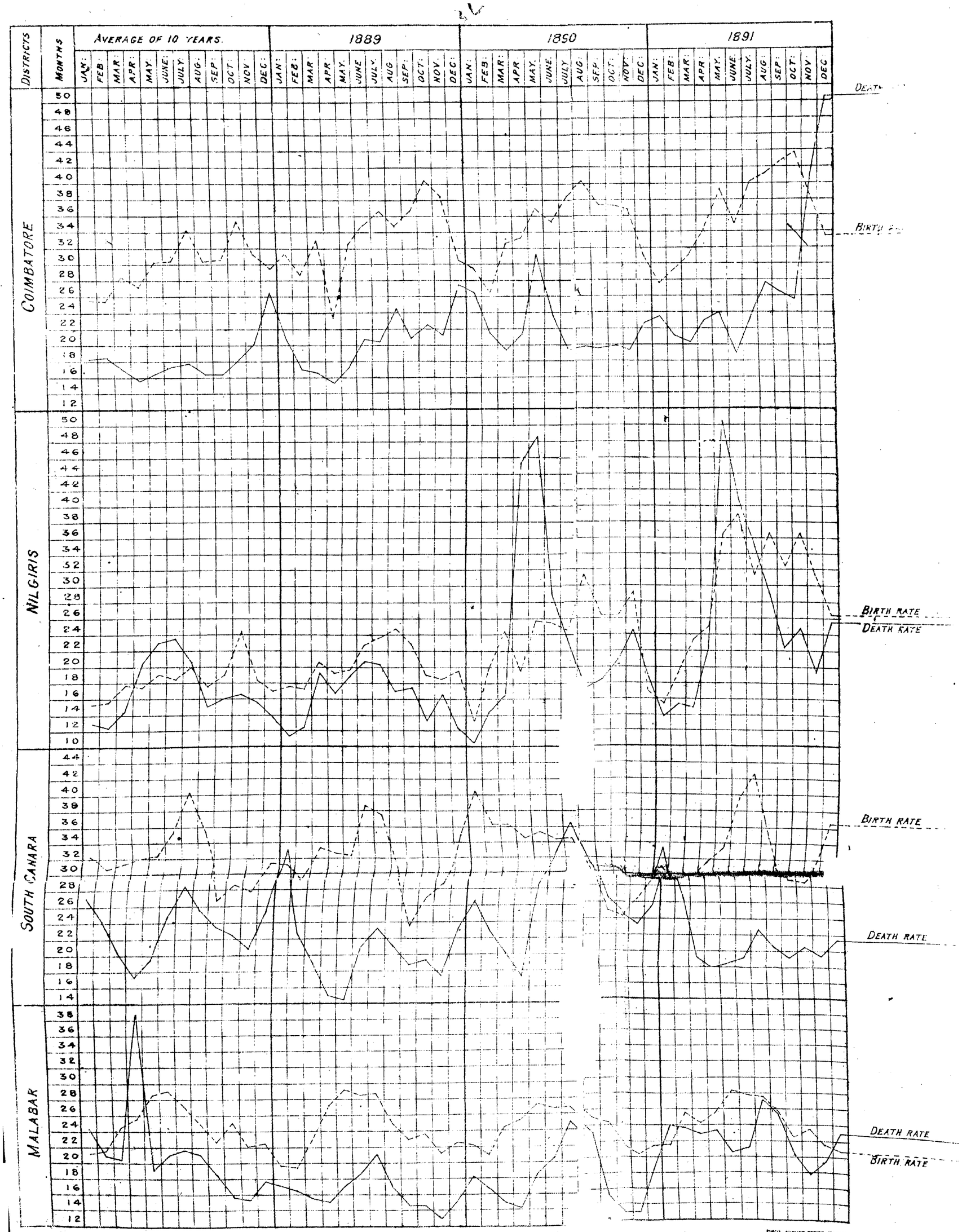


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.



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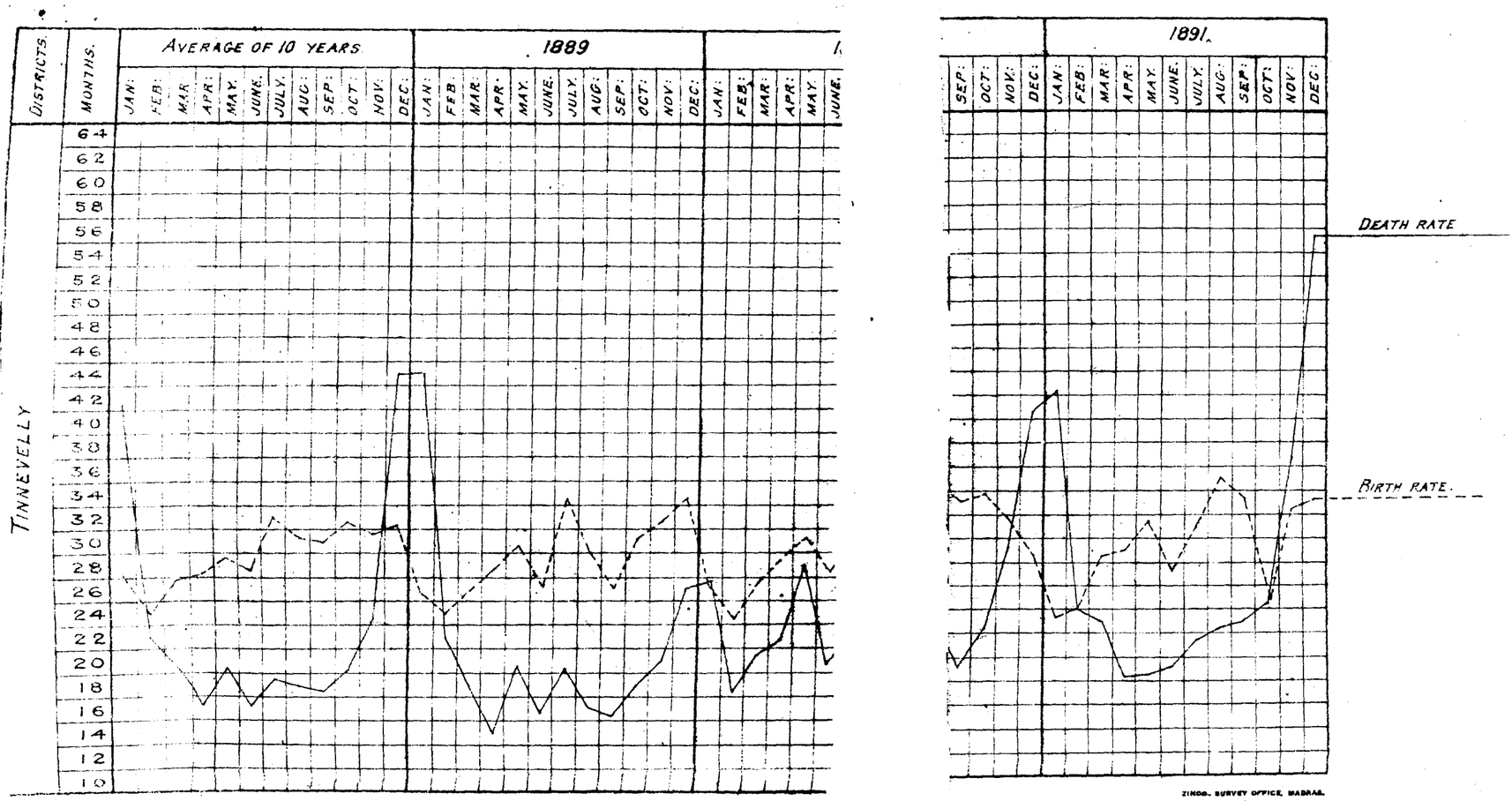
35

DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM . UNDERMENTIONED DISTRICT

DURING THE YEAR 1891 COMPARED WITH PREVIOUS



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1892

SECTION VI.

GENERAL HISTORY OF CHIEF DISEASES.

CHOLERA.

25. This disease prevailed with great severity during the year under review, and the epidemic was the severest which has visited this Presidency since 1877. The number of recorded deaths amounted in all to 98,773, or at the rate of 3·5 per 1,000 of population.

26. The following table shows the ratios of cholera deaths for the past 21 years :—

Years.	Ratio of cholera deaths per mille of population.	Years.	Ratio of cholera deaths per mille of population.
1871	0·7	1882	0·8
1872	0·4	1883	1·2
1873	0·02	1884	2·7
1874	0·01	1885	2·06
1875	3·1	1886	0·4
1876	5·08	1887	1·01
1877	12·2	1888	2·1
1878	1·6	1889	2·7
1879	0·4	1890	1·2
1880	0·02	1891	3·5
1881	0·3		

27. The subjoined table shows the monthly distribution of the deaths from cholera for the past ten years :—

Years.	Deaths from cholera.												Total.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
1882	10,794	4,193	1,081	491	590	843	550	780	644	777	799	2,062	23,604
1883	3,671	1,826	1,892	1,007	497	1,168	2,248	1,298	623	1,247	6,148	15,164	36,284
1884	21,268	7,362	2,374	1,550	2,108	3,975	6,267	3,298	2,677	1,645	3,639	19,313	75,476
1885	32,885	8,966	5,385	3,617	3,883	2,703	4,686	3,077	1,439	723	681	664	58,109
1886	1,224	554	682	1,219	1,597	1,214	1,564	774	640	1,111	1,003	935	12,417
1887	945	679	1,111	483	966	1,445	1,184	2,104	1,718	1,840	2,258	13,626	28,359
1888	18,787	9,399	4,421	2,251	1,694	2,565	4,587	3,551	1,805	1,813	1,494	6,310	58,677
1889	10,547	5,064	3,727	5,724	8,036	11,632	13,184	7,548	2,394	1,656	2,218	4,290	76,020
1890	7,448	5,169	2,441	1,989	1,755	2,868	3,344	2,904	1,780	1,062	1,284	3,245	35,288
1891	5,912	2,837	1,971	2,037	2,702	3,462	9,856	16,258	9,672	7,064	12,280	23,822	98,773
Ratio per mille of population for 1891.	0·27	0·09	0·07	0·10	0·09	0·12	0·35	0·57	0·34	0·24	0·43	0·83	3·5
Number of districts affected during 1891.	14	15	12	16	17	17	19	20	21	20	21	22	22

This table shows that the greatest mortality from cholera took place during the months of July, August, November and December. In no month of the year was cholera absent from the Madras Presidency, and the greatest number of deaths (23,822) was registered in December. As regards this Presidency, cholera usually attains its maximum degree of intensity during the cold weather months, and 1891 was no exception to the rule.

28. The deaths from cholera in the several districts in the Presidency during each month of the year are given in annual form VII in the appendix.

In January, deaths from cholera were reported from 14 districts, the number of casualties having amounted to 5,912. In February and March, the disease subsided, as the deaths were only 2,837 and 1,971 respectively. In April, there was an increase, and 2,937 deaths were recorded. In May, there was a decrease, but in June, July and August an increase took place and 3,462, 9,856 and 16,258 deaths, respectively, were reported. In September, the disease somewhat abated and still further declined in October. In November, it increased and in December, it assumed a still greater intensity and 23,822 deaths were reported.

29. In every district in the Presidency deaths from cholera were reported during the year, and in eight districts (Chingleput, Coimbatore, Madura, Malabar, Salem, South Arcot, Tanjore and Trichinopoly), deaths were registered during every month of the year. In three districts the mortality from cholera was slight: thus in Vizagapatam, the death-rate per 1,000 of population was 0·02, in Ganjam 0·09 and in South Canara 0·3. The districts which suffered most from cholera were South Arcot with a death-rate of 8·8 per 1,000 of population, Madura 5·9, Bellary-Anantapur 5·6, Cuddapah 5·5, and Chingleput and Coimbatore 5·0. In all districts, with the exception of Vizagapatam, Ganjam, Godávari and South Canara, the death-rates were higher than the average of the previous five years. In one district only (Tinnevelly), the death-rate per 1,000 of population was lower than in 1890.

30. Out of 44,449 villages in the Presidency, 8,975 or 20·2 per cent. were affected by cholera. In 1890, there were 4,197 or 9·4 per cent. of the villages affected.

31. Annual form VI-B shows the mortality from the different causes in the principal towns of the Presidency. In 65 out of a total of 77 towns, deaths from cholera were recorded, and in the remaining 12 no deaths were registered.

32. The subjoined table shows the towns which returned high death-rates from cholera, and in most of them the water-supply and drainage are very defective:—

Table showing Cholera death-rate in each town above 5 per mille of population.

Name of town.	Name of district.	Population of town.	Cholera death-rate per 1,000 of population.
Palni	Madura	13,315	21·9
Nellore	Nellore	27,505	18·9
Adóni	Bellary	22,441	18·6
Anantapur	Anantapur	4,907	18·5
Chidambaram	South Arcot	19,837	12·3
Arcot	North Arcot	10,718	11·6
Dindigul	Madura	14,182	10·6
Erode	Coimbatore	9,864	9·7
Karúr	Do.	9,205	9·6
Cuddalore	South Arcot	48,545	8·0
Tinnevelly	Tinnevelly	23,221	7·9
Saidápet	Chingleput	10,290	7·5
Salem	Salem	59,651	7·2
Vániyambádi	Do.	15,933	7·1
Vellore	North Arcot	40,958	7·0
Panruti	South Arcot	20,172	6·9
Kurnool	Kurnool	20,329	6·8
Kalladakurchi	Tinnevelly	10,936	6·5
Negapatam	Tanjore	53,776	6·4
Cochin	Malabar	15,698	6·2
Madura	Madura	76,847	6·0
Viravanallur	Tinnevelly	12,318	5·8
Tirupati	North Arcot	13,252	5·4
Conjeeveram	Chingleput	87,275	5·3
Trichinopoly	Trichinopoly	84,449	5·3
Bezváda	Kistna	10,098	5·1

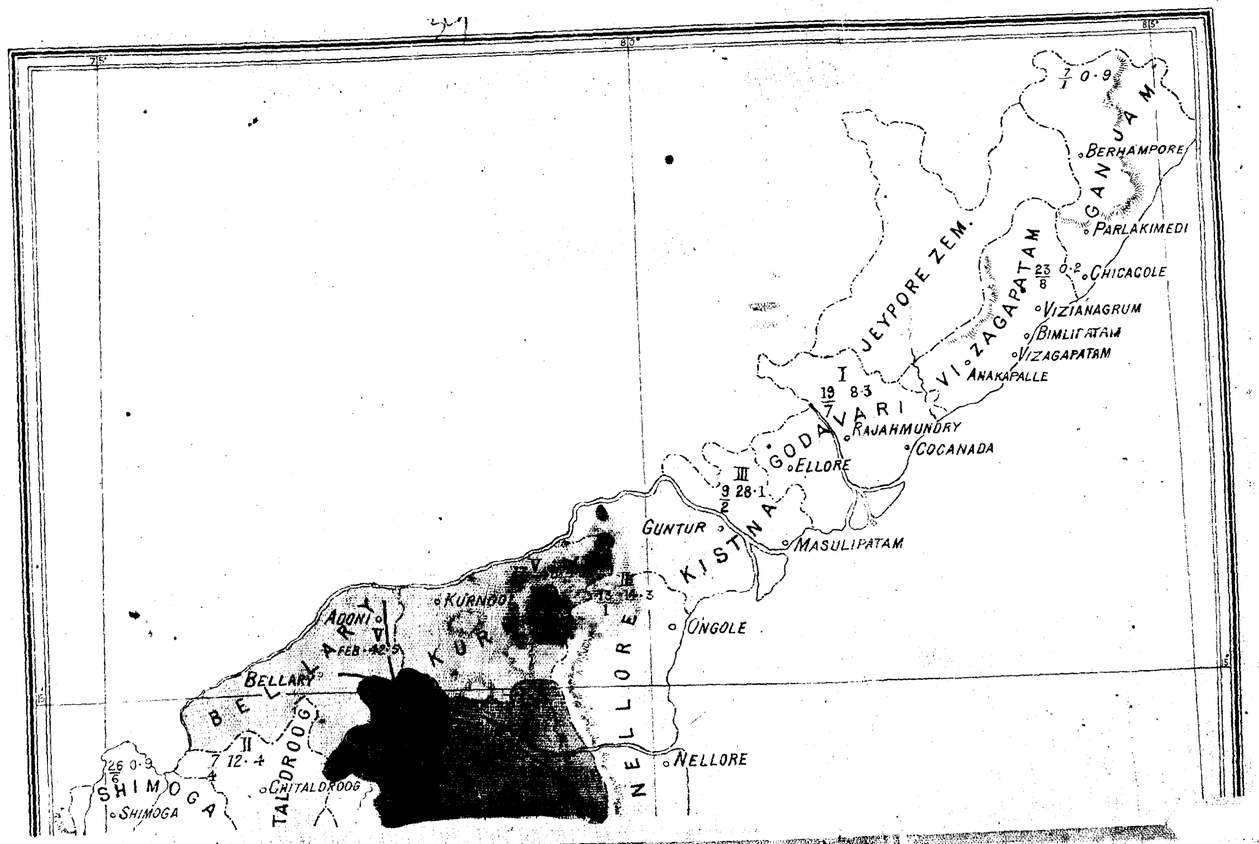
33. Of the 98,773 deaths registered in 1891 from cholera, 6,789 occurred in municipal towns. The following table shows the death-rate in each of the 48 municipal towns which were affected as compared with the death-rate of the district in which it is situated:—

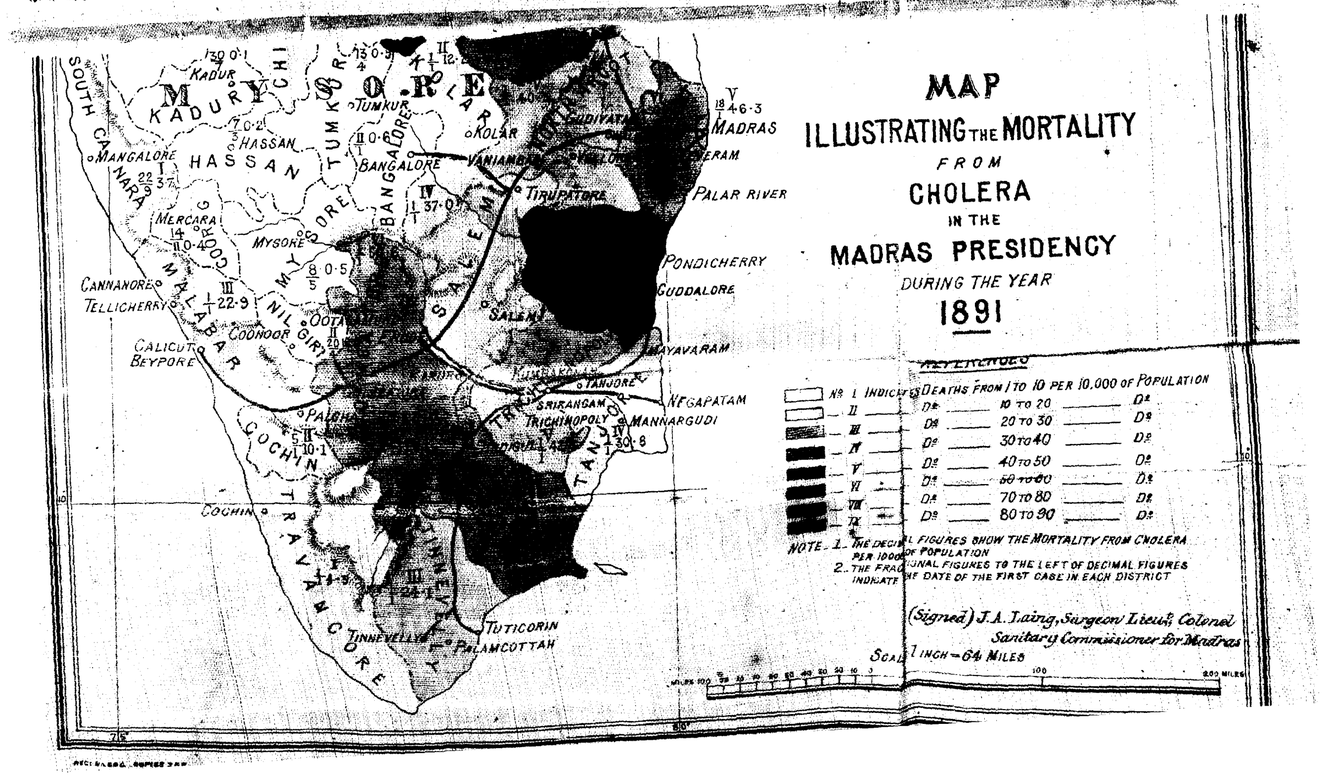
Districts, exclusive of municipal towns.	Ratio of cholera deaths per mille of population.	Municipalities.	Ratio of cholera deaths per mille of population.
Anantapur	5·4	Anantapur	18·5
Bellary		Bellary	2·9
		Adóni	18·6
Chingleput	5·1	Conjeeveram	5·3
Coimbatore	5·0	Coimbatore	3·8
		Erode	9·7
		Karúr	9·6
Cuddapah	5·6	Cuddapah	2·1
Godávari	0·7	Ellore	3·7
		Rajahmundry	1·6
		Cocanada	1·6
Kistna	2·8	Masulipatam	3·2
		Bezváda	5·1
		Guntúr	3·6
Kurnool	4·8	Kurnool	6·8
Madura	5·8	Madura	6·0
		Dindigul	10·6
		Periyakulam	0·2
		Palni	21·9
Malabar	2·3	Tellicherry	0·2
		Calicut	1·2
		Pálghat	4·6
		Cochin	6·2
		Cannanore	0·8
Nellore	1·0	Nellore	18·9
		Ongole	1·8
Nílgiris	1·1	Ootacamund	0·6
		Coonoor	2·1
North Arcot	3·9	Vellore	7·0
		Wálajápet	3·8
		Gudiyátam	2·9
		Tirupati	5·4
Salem	3·5	Salem	7·2
		Vániyambádi	7·1
		Tirupatúr	5·0
South Arcot	5·5	Cuddalore	8·0
		Chidambaram	12·3
Tanjore	3·0	Tanjore	1·1
		Kumbakónam	3·8
		Negapatam	6·4
		Máyavaram	2·4
		Mannárgudi	3·9
Tinnevelly	2·3	Tinnevelly	7·9
		Palamcottah	4·5
		Tuticorin	2·6
Trichinopoly	4·2	Trichinopoly	5·3
		Srirangam	2·1
Vizagapatam	0·02	Vizagapatam	0·1
Total ..	3·4	Total ..	5·1

In 7 municipalities (Berhampore, Parlákimedi, Chicacole, Vizianagrum, Anakápalle, Bimlipatam and Mangalore) no deaths from cholera were recorded. Calculated on the populations of the affected towns and districts, the cholera death-rate in municipal towns was 5·1 and that in the district 3·4. The mortality from cholera in affected towns was thus a third greater than it was in the affected districts. The death-rates in 34 towns exceeded those of the districts and in 14 they were less.

34. The reports of the year do not cast any new light upon the etiology of the disease, but it may be safely assumed that, however obscure the origin and behaviour of the epidemic may be, yet its spread in a place depends largely on the sanitary conditions present and the very inferior water-supply. In consequence of deficient rainfall in 1891, many of the tanks and wells, which were drinking-water supplies, became dry and people had to use any water they could obtain. Further, owing to the drought, the water in the tanks and wells was much reduced in quantity and therefore had a much larger percentage of dissolved and suspended impurities. Such measures as could be taken were resorted to by the district authorities to arrest the progress of the disease and to mitigate the sufferings of the people. Medical subordinates and members of the Vaccination department were employed in distributing medicines and rendering aid to those ill. Efforts were also made to improve the conservancy arrangements; wells were cleaned out and deepened; and in places people were prohibited from taking water from sources suspected of originating or fostering the disease.

35. The following is the statement ordered by the Government of India to be appended to the cholera map, and it shows each district affected by cholera, its population, the dates of first and last cases, the total cholera deaths, their ratios per 1,000 of population, the period of maximum intensity, the number of villages in the districts, and the number of those affected and not affected by the disease:—





Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1891, to accompany the Cholera Map.

1	2	3	4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of the 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 1,000 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.
Ganjam.	1	Chicacole Taluk ...	178,784	21st Aug....	21st Aug. ...	1	0·005	...	307	1	306
	2	Berhampore do. ...	258,501	7th Jan. ...	8th Dec. ...	20	0·08	November..	552	9	543
	3	Gumsoor do. ...	175,512	6th Nov....	29th Dec. ...	48	0·3	December ..	825	12	813
	4	M. T. Chicacole ...	18,302	...	...	...	...	...	1	...	1
	5	M. T. Berhampore ...	23,599	...	...	...	...	...	1	...	1
	6	M. T. Parlákimedi ...	15,865	...	...	...	...	...	1	...	1
	7	Zemindaries	664,468	1st April...	25th Dec....	67	0·1	December...	2,754	10	2,744
	8	Agency Tracts ...	46,939	...	...	...	...	...	2,733	...	2,733
		Total ..	1,370,420	7th Jan. ...	29th Dec....	136	0·09	December...	7,174	32	7,142
Vizagapatam.	9	Sarvasiddhi Taluk.	121,209	23rd Aug....	29th Dec. ...	4	0·03	August ...	152	4	148
	10	Narsapatnam do.	82,026	...	...	...	...	...	178	...	178
	11	Anakápalle do.	112,474	2nd Oct....	2nd Oct. ...	1	0·009	...	144	1	143
	12	Vizagapatam do.	49,036	...	...	...	...	...	74	...	74
	13	Viravilli do.	148,861	17th Oct. ...	1st Nov. ...	11	0·08	October ...	238	2	236
	14	Bimlipatam do.	73,948	25th Aug. ..	1st Sept....	7	0·09	August ...	117	2	115
	15	Srunguvarapukottah do.	115,982	...	...	...	...	...	178	...	178
	16	Vizianagrum do.	87,169	28th Aug....	1st Sept....	4	0·05	August ...	186	2	184
	17	Gajapatinagar do.	100,520	...	...	...	...	...	224	...	224
	18	Chipurupalle do.	115,856						268	...	268
	19	Sálú do.	65,371						156	...	156
	20	Bobbili do.	94,772						178	...	178
	21	Pálkonda do.	135,182						362	...	362
	22	Párvatipur do.	78,609						208	...	208
	23	M. T. Vizagapatam ...	30,291	30th Aug. ...	29th Nov....	3	0·1	...	1	1	...
	24	M. T. Bimlipatam ...	8,582	...	...	...	...	...	1	...	1
	25	M. T. Vizianagrum ...	22,577						1	...	1
	26	M. T. Anakápalle ...	13,341						1	...	1
		Total ...	1,455,806	23rd Aug...	29th Dec. ...	30	0·02	August ...	2,667	12	2,655
Godávari.	27	Rámachandrapuram Taluk	220,780	13th Aug ...	17th Oct. ...	121	0·5	September.	163	31	132
	28	Amalápuram do.	227,157	18th Aug....	30th Sept....	32	0·2	Do. ..	172	8	164
	29	Narsápur do.	200,153	21st Aug. ..	— Nov....	35	0·2	Do. ..	139	7	132
	30	Bhimavaram do.	108,599	20th July ...	30th Sept ..	131	1·2	Do. .	149	19	130
	31	Tanuku do.	188,306	31st July ...	31st Dec. ..	63	0·3	Do. ..	180	8	172
	32	Ellore do.	124,216	19th July ..	Do.	258	2·1	August .	248	31	217
	33	Yernagúdem do.	159,364	20th Aug ...	29th Dec....	58	0·4	September.	211	11	200
	34	Rajahmundry do.	106,641	1st Aug....	14th Oct. ...	253	2·4	Do. ...	139	24	115
	35	Peddápuram do.	124,314	1st Sept....	26th Oct. ...	36	0·3	Do. ..	213	3	210
	36	Bhadráchalam do.	35,666	...	...	...	...	...	313	...	313
	37	M. T. Cocanada ...	30,441	3rd Sept....	15th Sept...	50	1·6	September.	1	1	...
	38	M. T. Rajahmundry ..	24,555	1st Aug....	27th Sept...	40	1·6	August ..	1	1	...
	39	M. T. Ellore	35,092	19th July ...	29th Nov. ..	94	3·7	Do. ..	1	1	...
	40	Zemindaries	216,238	6th Aug....	26th Dec....	325	1·5	September.	272	46	226
		Total ...	1,791,512	19th July ...	31st Dec. ...	1,496	0·8	September.	2,202	191	2,011
Kistna.	41	Répalle Taluk ..	184,340	25th July ...	17th Dec....	366	2·0	August ...	150	67	83
	42	Bápatla do. ...	151,736	Do.	29th Nov....	969	6·4	Do. ...	114	55	59
	43	Guntúr do. ...	116,437	10th Feb....	11th Dec....	289	2·5	Do. ...	113	34	79
	44	Palnád do. ...	125,799	24th July ..	6th Oct....	136	1·1	Do. ...	97	9	88
	45	Narasaraopet do. ...	128,791	15th Feb....	18th Dec....	432	3·3	Do. ...	114	40	74
	46	Gudiváda do. ...	99,233	8th July...	20th Dec....	639	6·4	Do. ...	203	103	100
	47	Sattenapalle do. ...	110,290	6th Aug....	30th Nov....	72	0·6	September.	174	26	148
	48	Masulipatam do. ...	140,426	13th July...	2nd Dec....	576	4·1	August ...	194	55	139
	49	Nandigáma do. ...	107,288	— April..	15th Sept...	34	0·3	July ...	172	7	165
	50	Bezváda do. ...	72,797	9th Feb....	28th Sept...	141	1·9	August ..	111	22	89
	51	Vinukonda do. ...	66,977	7th Sept...	5th Nov....	154	2·6	September.	71	34	37
	52	M. T. Masulipatam ...	35,056	19th July ...	25th Sept...	112	3·2	August ...	1	1	...
	53	M. T. Guntúr	19,646	20th Aug....	28th Sept...	71	3·6	Do. ...	1	1	...
	54	M. T. Bezváda ...	10,098	28th May ...	13th Oct. ...	52	5·1	Do. ...	1	1	...
	55	Zemindaries	179,566	18th July...	23rd Dec....	310	1·8	Do. ...	321	54	267
		Total ...	1,548,480	9th Feb....	28th Dec. ...	4,353	2·8	August ...	1,837	509	1,328
Nellore.	56	Gúdúr Taluk	99,249	19th June...	20th Dec. ...	222	2·2	July ..	124	36	88
	57	Rápúr do.	49,774	9th June...	22nd Dec....	17	0·3	December.	116	4	112
	58	Nellore do.	136,235	11th July ...	25th Dec. ...	222	1·6	August ...	154	33	121
	59	Atmakúr do.	83,911	13th Jan. ...	22nd Dec....	167	1·9	Do. ...	112	26	86
	60	Kávali do.	60,650	4th Aug....	2nd Dec....	35	0·6	Do. ...	57	8	49
	61	Udayagiri do.	48,043	20th Aug....	15th Dec. ...	54	1·1	October ..	54	5	49
	62	Kandukúr do.	97,113	22nd Aug....	27th Dec. ..	122	1·3	September.	126	18	108
	63	Kanigiri do.	50,174	7th Dec. ..	10th Dec. ...	6	0·1	December...	58	2	56

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1891, *to accompany the Cholera Map*—continued.

1	2	3	4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of the 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 1,000 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.
Nellore—*cont.*	64	Ongole Taluk ...	144,764	3rd Aug.	13th Oct. ...	177	1·2	September.	124	19	105
	65	M. T. Nellore ...	27,505	7th July ...	31st Dec. ...	521	18·9	August ...	1	1	...
	66	M. T. Ongole ...	9,200	11th Aug. ...	29th Oct. ...	17	1·8	October ...	1	1	...
	67	Zemindaries ...	413,618	2nd July ...	31st Dec. ...	191	0·5	August ...	947	17	930
		Total ...	1,290,236	13th Jan. ...	28th Dec. ...	1,754	1·4	August ...	1,874	170	1,704
Madras.	68	Madras Town ...	405,818	18th Jan. ...	31st Dec. ...	1,806	4·4	September...	1	1	...
Chingleput.	69	Saidápet Taluk ...	204,580	3rd Jan. ...	31st Dec. ...	866	4·2	September...	281	113	168
	70	Chingleput do. ...	117,218	1st Jan. ...	Do. ...	522	4·5	Do. ...	302	82	220
	71	Madurántakam do. ...	223,067	26th Jan. ...	Do. ...	1,576	7·1	December...	510	221	289
	72	Conjeeveram do. ...	148,374	22nd Jan. ...	Do. ...	853	5·7	September.	373	139	234
	73	Tiruvallúr do. ...	143,324	27th April ...	Do. ...	416	2·9	Do. ...	293	82	211
	74	Ponnéri do. ...	107,543	8th April...	Do. ...	556	5·2	December ...	240	101	139
	75	M. T. Conjeeveram ...	37,275	8th Jan. ...	Do. ...	196	5·3	July & Dec.	1	1	...
		Total ...	981,381	1st Jan. ...	31st Dec. ...	4,985	5·0	September.	2,000	739	1,261
South Arcot.	76	Cuddalore Taluk ...	254,978	8th Jan. ...	31st Dec. ...	1,670	6·5	December...	241	145	96
	77	Villupuram do. ...	243,896	22nd Jan. ...	Do. ...	3,067	12·6	Do. ...	319	197	122
	78	Chidambaram do. ...	245,113	2nd Jan. ...	Do. ...	2,627	10·7	July ...	493	253	240
	79	Tindivanam do. ...	261,261	Do. ...	Do. ...	2,742	10·4	December...	563	236	327
	80	Kallakurchi do. ...	196,029	1st Jan. ...	Do. ...	910	4·6	Do. ...	315	105	210
	81	Tirukoilúr do. ...	206,489	16th Feb. ...	Do. ...	1,714	8·3	Do. ...	374	159	215
	82	Tiruvannámalai do. ...	155,851	19th Feb. ...	Do. ...	1,567	10·1	Do. ...	516	129	387
	83	Vriddháchalam do. ...	187,068	5th Jan. ...	Do. ...	1,206	6·4	Do. ...	323	126	197
	84	M. T. Cuddalore ...	43,515	12th Feb. ...	30th Dec. ...	349	8·0	November...	1	1	...
	85	M. T. Chidambaram ...	19,837	1st Jan. ...	21st Dec. ...	244	12·3	July ...	1	1	...
		Total ...	1,816,375	1st Jan. ...	31st Dec. ...	16,096	8·8	December ...	3,146	1,352	1,794
Trichinopoly.	86	Trichinopoly Taluk ...	231,296	1st Jan. ...	31st Dec. ...	777	3·3	January ...	360	174	186
	87	Musiri do. ...	258,068	Do. ...	Do. ...	503	1·9	December...	208	68	140
	88	Kulitalai do. ...	201,999	9th Jan. ...	Do. ...	627	3·1	Do. ...	131	58	73
	89	Perambalúr do. ...	172,281	2nd Jan. ...	Do. ...	599	3·5	Do. ...	199	79	120
	90	Udayárpálaiyam do. ...	247,176	1st Jan. ...	Do. ...	2,205	8·9	August ...	595	153	442
	91	M. T. Trichinopoly ...	84,443	Do. ...	Do. ...	445	5·3	December...	1	1	...
	92	M. T. Srírangam ...	19,773	7th Jan. ...	Do. ...	41	2·1	February ...	1	1	...
		Total ...	1,215,033	1st Jan. ...	31st Dec. ...	5,197	4·2	December...	1,495	534	961
Tanjore.	93	Tanjore Taluk ...	320,341	1st Jan. ...	31st Dec. ...	839	2·6	December...	407	122	285
	94	Kumbakónam do. ...	320,625	4th Jan. ...	Do. ...	1,054	3·3	[illegible] ...	505	194	311
	95	Mayavaram do. ...	215,959	3rd Jan. ...	Do. ...	898	4·1	July ...	341	111	230
	96	Shiyáli do. ...	114,041	1st Jan. ...	Do. ...	882	7·7	Do. ...	191	107	84
	97	Nannilam do. ...	220,202	3rd Jan. ...	Do. ...	657	2·9	December...	397	131	266
	98	Négapatam do. ...	163,691	1st Jan. ...	27th Dec. ...	484	3·0	July ...	322	81	241
	99	Mannárgudi do. ...	162,241	3rd Jan. ...	31st Dec. ...	379	2·3	December...	299	58	241
	100	Tiruturaipúndi do. ...	168,103	6th Jan. ...	Do. ...	390	2·3	Do. ...	238	112	126
	101	Patukóta do. ...	244,717	4th April ...	Do. ...	254	1·0	Do. ...	840	45	795
	102	M. T. Tanjore ...	54,745	1st Jan. ...	24th Dec. ...	61	1·1	Do. ...	1	1	...
	103	M. T. Kumbakónam ...	50,098	29th July ...	31st Dec. ...	188	3·8	Do. ...	1	1	...
	104	M. T. Mayavaram ...	23,044	8th May ...	10th Dec. ...	55	2·4	July ...	1	1	...
	105	M. T. Négapatam ...	53,776	10th Jan. ...	31st Dec. ...	347	6·4	August ...	1	1	...
	106	M. T. Mannárgudi ...	19,409	27th April ...	Do. ...	77	3·9	May ...	1	1	...
		Total ...	2,130,383	1st Jan. ...	31st Dec. ...	6,565	3·0	December...	3,545	966	2,579
Madura.	107	Madura Taluk ...	138,486	3rd Feb. ...	31st Dec. ...	1,093	7·9	December...	277	104	173
	108	Melúr do. ...	132,537	7th May ...	Do. ...	943	7·1	Do. ...	90	69	21
	109	Tirumangalam do. ...	203,603	21st Jan. ...	Do. ...	730	3·5	Do. ...	266	81	185
	110	Periyakulam do. ...	215,677	14th May ...	Do. ...	54	0·3	Do. ...	85	13	72
	111	Dindigul do. ...	290,601	21st Feb. ...	Do. ...	2,755	9·5	Do. ...	210	134	76
	112	Palni do. ...	158,200	28th Mar. ...	Do. ...	791	5·0	Do. ...	124	52	72
	113	Sattenandal Villages, &c.	1,161	...	...	...	...	...	4	...	4
	114	M. T. Madura ...	76,847	1st Jan. ...	30th Dec. ...	462	6·0	November ...	1	1	...
	115	M. T. Dindigul ...	14,182	6th Jan. ...	31st Dec. ...	151	10·6	December ...	1	1	...
	116	M. T. Periyakulam ...	16,446	12th Jan. ...	23rd Dec. ...	3	0·2	Do. ...	1	1	...
	117	M. T. Palni ...	13,315	25th Mar. ...	3rd Dec. ...	292	21·9	April ...	1	1	...
	118	Zemindaries ...	38,237	3rd Jan. ...	31st Dec. ...	457	13·7	November ...	3	3	...
		Total ...	1,294,382	1st Jan. ...	31st Dec. ...	7,731	5·9	December ...	1,063	460	603

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1891, *to accompany the Cholera Map*—continued.

1	2	3	4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of the 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 1,000 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.
	119	Otapidáram Taluk ...	253,516	3rd Jan. ...	31st Dec. ...	225	0·9	December...	412	41	371
	120	Tenkarai do. ...	283,110	1st Jan. ...	Do. ...	905	3·2	January ...	155	96	59
	121	Tinnevelly do. ...	130,193	Do. ...	Do. ...	405	3·1	Jan. & Dec.	143	57	86
	122	Srívilliputur do. ...	163,608	26th Nov. ...	29th Dec. ...	35	0·2	December ...	111	7	104
	123	Sankaranainárkoil do. ...	181,064	1st Jan. ...	31st Dec. ...	74	0·4	January ...	114	20	94
	124	Nángunéri do. ...	174,317	Do. ...	Do. ...	709	4·0	Do. ...	250	99	151
	125	Ambásamudram do. ...	165,152	Do. ...	Do. ...	667	4·0	Do. ...	94	57	37
	126	Sátúr do. ...	150,886	18th Jan. ...	Do. ...	261	1·8	December...	230	31	199
	127	Tenkási do. ...	140,405	1st Jan. ...	Do. ...	508	3·6	January ...	104	43	61
	128	M. T. Tinnevelly ...	23,221	Do. ...	Do. ...	183	7·9	Do. ...	1	1	...
	129	M. T. Palamcottah ...	17,964	5th Jan. ...	Do. ...	82	4·5	December ...	1	1	...
	130	M. T. Tuticorin ...	16,281	1st Jan. ...	23rd Dec. ...	42	2·6	March ...	1	1	...
		Total ...	1,699,747	1st Jan. ...	31st Dec. ...	4,096	2·4	January ...	1,616	454	1,162
	131	Rámallakót Taluk ...	74,369	20th April...	10th Sept.	422	5·6	July ...	106	36	70
	132	Pattikonda do. ...	105,438	21st April...	— Nov. ...	779	7·4	August ...	106	40	66
	133	Nandikótkur do. ...	72,741	17th April...	12th Sept.	281	3·9	July ...	101	7	94
	134	Nandyál do. ...	78,282	19th April...	16th Sept.	860	10·9	August ...	92	50	42
	135	Koilkuntla do. ...	76,296	3rd July ...	30th Oct. ...	358	4·7	Do. ...	85	29	56
	136	Sirvél do. ...	57,197	31st April...	28th Oct. ...	191	3·3	Do. ...	86	15	71
	137	Cumbum do. ...	109,851	16th June...	31st Dec. ...	123	1·1	September.	101	12	89
	138	Márkápur do. ...	84,048	26th July...	1st Nov. ...	133	1·6	August ...	79	20	59
	139	M. T. Kurnool ...	20,329	7th May ...	2nd Sept. ...	139	6·8	May ...	1	1	...
		Total ...	678,551	17th April...	31st Dec. ...	3,286	4·8	August ...	757	210	547
	140	Badvél Taluk ...	82,445	20th July ...	31st Dec. ...	276	3·3	September.	115	21	94
	141	Proddutur do. ...	90,653	5th June...	29th Nov. ...	1,103	12·2	July ...	90	45	45
	142	Sidhout do. ...	59,076	7th Jan. ...	31st Dec. ...	374	6·3	August ...	79	40	39
	143	Pullampet do. ...	134,366	Do. ...	Do. ...	1,549	11·5	November.	130	77	53
	144	Cuddapah do. ...	128,471	3rd Feb. ...	27th Dec. ...	1,054	8·2	August ...	146	61	85
	145	Jammalamadugu do. ...	91,958	22nd April...	8th Dec. ...	642	7·0	July ...	127	48	79
	146	Pulivendla do. ...	95,617	2nd June...	20th Nov. ...	750	7·8	August ...	105	35	70
	147	Ráyachóti do. ...	92,541	17th July ...	28th Dec. ...	60	0·7	Do. ...	93	9	84
	148	Kadiri do. ...	116,252	7th June...	24th Nov. ...	313	2·7	July ...	139	18	121
	149	Váyalpád do. ...	104,462	18th Jan. ...	6th Dec. ...	84	0·8	November .	117	13	104
	150	Madanapalle do. ...	106,215	1st Jan. ...	25th Aug. ...	26	0·3	August ...	96	6	90
	151	M. T. Cuddapah ...	18,982	2nd July ...	17th Dec. ...	39	2·1	July ...	1	1	...
		Total ...	1,121,038	1st Jan. ...	31st Dec. ...	6,270	5·5	August ...	1,238	374	864
	152	Bellary Taluk ...	95,287	13th April .	25th Nov. ...	284	3·0	July ...	170	31	139
	153	Hospet do. ...	85,500	— Feb. ...	14th Oct. ...	38	0·4	Do. ...	149	8	141
	154	Kúdligi do. ...	74,849	1st May ...	30th Aug. ...	131	1·8	May ...	384	15	369
	155	Hadagalli do. ...	70,317	2nd June ...	22nd Nov. ...	236	3·3	July ...	152	20	132
	156	Harpanahalli do. ...	75,401	21st May ...	5th Nov. ...	425	5·6	Do. ...	250	20	230
	157	Alúr do. ...	65,586	5th June...	24th Oct. ...	419	6·4	September.	107	24	83
	158	Adóni do. ...	99,644	10th April .	22nd Dec. ...	584	5·9	August ...	203	46	157
	159	Rayadrug do. ...	80,032	12th May ..	19th Nov. ...	426	5·3	July ...	142	26	116
	160	M. T. Bellary	53,460	28th May ...	2nd Nov. ...	153	2·9	September.	1	1	...
	161	M. T. Adóni	22,441	26th Mar. ...	4th Oct. ...	419	18·6	August ...	1	1	...
	162	Zemindaries	10,532	...	...	...	...	...	24	...	24
		Total ...	733,040	— Feb. ...	22nd Dec. ...	3,115	4·2	August ...	1,583	192	1,391
	163	Anantapur Taluk ...	86,909	2nd May ...	12th Oct. ...	650	7·5	July ...	122	57	65
	164	Gooty do. ...	110,597	17th April .	28th Dec. ...	865	7·8	August ...	153	60	93
	165	Tadpatri do. ...	98,964	1st May ...	21st Nov. ...	1,353	13·7	June ...	96	96	...
	166	Penukonda do. ...	73,023	7th June ...	26th Sept. ...	843	11·5	July ...	99	36	63
	167	Dharmavaram do. ...	100,873	12th May ...	28th Oct. ...	560	5·6	Do. ...	199	49	150
	168	Hindupur do. ...	73,270	...	...	...	...	...	100	...	100
	169	Madakasíra do. ...	55,113	15th June ..	14th Aug. ...	11	0·2	August ...	150	3	147
	170	M. T. Anantapur ...	4,907	28th June ...	28th Aug. ...	91	18·5	July ...	1	1	...
		Total ...	603,656	17th April .	28th Dec. ...	4,373	7·2	July ...	920	302	618
	171	Chittoor Taluk ...	171,997	3rd Jan. ...	31st Dec. ...	569	3·3	December...	336	163	173
	172	Chandragiri do. ...	79,919	5th Jan. ...	Do. ...	476	6·9	July ...	228	98	130
	173	Palmanér do. ...	41,815	4th Nov. ...	4th Nov. ...	1	0·02	...	87	1	86
	174	Gudiyátam do. ...	137,956	1st Jan. ...	31st Dec. ...	584	4·2	August ...	177	102	75
	175	Vellore do. ...	129,268	Do. ...	Do. ...	968	7·4	December...	150	78	72
	176	Pólúr do. ...	111,877	21st Jan. ...	Do. ...	631	5·6	Do. ...	265	123	142
	177	Wandiwash do. ...	148,100	19th Jan. ...	Do. ...	605	4·1	Do. ...	285	147	138

Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year 1891, *to accompany the Cholera Map*—continued.

1	2	3	4	5	6	7		8	9	10	
Districts.	Number of Circles of Registration.	Name of the 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 the Circle.	Cholera. Ratio per 1,000 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.
N. Arcot—*cont.*	178	Arcot Taluk ...	147,388	1st Jan. ...	31st Dec. ...	800	5·4	December ...	258	98	160
	179	Wálajápet do. ...	188,790	Do. ...	Do. ...	724	3·8	September.	249	89	160
	180	M. T. Vellore ...	41,058	Do. ...	Do. ...	288	7·0	January ...	1	1	...
	181	M. T. Wálajápet ...	10,587	4th Jan. ...	29th Nov. ...	40	3·8	August ...	1	1	...
	182	M. T. Gudiyattam ...	16,690	3rd Jan. ...	23rd Sept. ...	48	2·9	January ...	1	1	...
	183	M. T. Tirupati ...	13,232	26th Jan. ...	18th Nov. ...	72	5·4	October ...	1	1	...
	184	Zemindaries ...	584,596	2nd Jan. ...	31st Dec. ...	1,532	2·6	December...	1,597	145	1,452
		Total ...	1,822,873	1st Jan. ...	31st Dec. ...	7,855	4·0	December...	3,636	1,048	2,588
Salem.	185	Salem Taluk ...	267,547	1st Jan. ...	31st Dec. ...	1,574	5·9	November...	518	115	403
	186	Attúr do. ...	158,554	Do. ...	Do. ...	1,200	7·5	December ...	181	103	78
	187	Namakal do. ...	254,577	4th Jan. ...	Do. ...	515	2·0	Do. ...	378	79	299
	188	Tiruchengód do. ...	191,328	18th Jan. ...	Do. ...	466	2·4	Do. ...	309	56	253
	189	Hosúr do. ...	131,770	7th Jan. ...	26th Dec. ...	42	0·3	Do. ...	952	6	946
	190	Kisanagiri do. ...	120,429	1st Jan. ...	28th Dec. ...	89	0·7	March ...	541	13	528
	191	Dharmapuri do. ...	135,826	Do. ...	30th Dec. ...	264	1·9	December...	704	33	671
	192	Tirupattur do. ...	133,070	2nd Jan. ...	31st Dec. ...	717	5·4	Do. ...	308	108	235
	193	Uttankarai do. ...	109,156	3rd Jan. ...	Do. ...	419	3·8	Do. ...	555	62	493
	194	M. T. Salem ...	59,631	1st Jan. ...	Do. ...	428	7·2	November...	1	1	...
	195	M. T. Tirupatúr ...	14,278	17th Aug. ...	29th Dec. ...	72	5·0	December...	1	1	...
	196	M. T. Vániyambádi ...	15,933	1st Jan. ...	Do. ...	113	7·1	November.	1	1	...
		Total ...	1,592,899	1st Jan. ...	31st Dec. ...	5,896	3·7	December...	4,479	573	3,906
Coimbatore.	197	Coimbatore Taluk ...	228,837	4th Jan. ...	31st Dec. ...	1,428	6·2	December...	263	96	167
	198	Erode do. ...	185,895	1st Jan. ...	Do. ...	587	3·2	Do. ...	197	49	148
	199	Satyamangalam do. ...	151,313	19th Jan. ...	Do. ...	299	2·0	Do. ...	178	35	143
	200	Pollächi do. ...	172,909	28th Mar. ...	Do. ...	2,304	13·3	August ...	161	109	52
	201	Palladam do. ...	219,391	25th Jan. ...	Do. ...	717	3·3	December...	195	71	124
	202	Bhavani do. ...	94,123	15th Jan. ...	Do. ...	128	1·4	Do. ...	62	22	40
	203	Kollegál do. ...	77,522	...	...	...	...	...	125	..	125
	204	Udamalpet do. ...	112,572	28th Feb. ...	31st Dec. ...	381	3·4	November.	91	49	42
	205	Karúr do. ...	167,950	6th Jan. ...	Do. ...	1,222	7·3	December...	95	62	33
	206	Dharápuram do. ...	195,232	31st Jan. ...	Do. ...	967	4·9	Do. ...	82	60	22
	207	M. T. Coimbatore ...	38,967	4th April.	Do. ...	146	3·8	Do. ...	1	1	...
	208	M. T. Erode ...	9,864	1st Jan. ...	Do. ...	96	9·7	Do. ...	1	1	...
	209	M. T. Karúr ...	9,205	— Jan. ...	— Dec. ...	89	9·6	March ...	1	1	...
		Total ...	1,657,690	1st Jan. ...	31st Dec. ...	8,394	5·0	December...	1,452	556	896
Nilgiris.	210	Nilgiri Taluk ...	46,756	20th April ...	8th Dec. ...	67	1·4	May ...	33	12	21
	211	Wellington Cantonment ...	1,725	...	...	...	...	...	1	...	1
	212	South-East Wynaad ...	25,440	5th May ...	4th June ...	12	0·5	May ...	12	1	11
	213	M. T. Gotacamund ...	12,335	1st May ...	31st Dec. ...	8	0·6	Do. ...	1	1	...
	214	M. T. Coonoor ...	4,778	23rd April ...	30th Dec. ...	10	2·1	April & Dec.	1	1	...
		Total ...	91,034	20th April ...	31st Dec. ...	97	1·0	May ...	48	15	33
S. Canara.	215	Mangalore Taluk ...	216,950	26th Nov. ...	31st Dec. ...	5	0·02	November.	306	1	305
	216	Kásaragód do. ...	243,881	27th Nov. ...	Do. ...	80	0·3	December...	243	16	227
	217	Uppinangadi do. ...	110,367	...	...	...	...	...	278	...	278
	218	Udipi do. ...	237,432	22nd Sept.	31st Dec. ...	268	1·1	November.	258	34	224
	219	Kundapur do. ...	115,113	Do. ...	30th Sept. ...	4	0·03	September.	190	1	189
	220	M. T. Mangalore ...	32,009	...	...	...	...	...	1	...	1
		Total ...	955,842	22nd Sept.	31st Dec. ...	357	0·3	November.	1,276	52	1,224
Malabar.	221	Chirakal Taluk ...	246,283	1st Nov. ...	31st Dec. ...	296	1·2	December.	43	12	31
	222	Kóttayam do. ...	141,194	31st July ...	26th Dec. ...	21	0·1	Do. ...	27	5	22
	223	Kurumbranad do. ...	261,024	13th Feb. ...	25th Nov. ...	180	0·7	August ...	57	20	37
	224	Calicut do. ...	148,877	4th Feb. ...	30th Dec. ...	250	1·7	April ...	38	19	19
	225	Ernád do. ...	236,143	1st Jan. ...	Do. ...	1,674	5·6	January ...	52	48	4
	226	Ponáni do. ...	362,654	Do. ...	31st Dec. ...	1,278	3·3	March ...	73	48	25
	227	Walluvanád do. ...	308,192	Do. ...	22nd Dec. ...	567	1·8	January ...	64	34	30
	228	Pálghat do. ...	396,115	1st Feb. ...	31st Dec. ...	764	2·4	July ...	56	42	14
	229	Wynaad do. ...	88,091	...	...	...	...	...	22	...	22
	230	Cochin do. ...	1,463						1	...	1
	231	Anjengo do. ...	2,534						1	...	1
	232	Tangachéri do. ...	1,365						1	..	1
	233	M. T. Tellicherry ...	24,581	14th Nov. ...	9th Dec. ...	6	0·2	November.	1	1	...
	234	M. T. Calicut ...	57,085	10th April ...	26th Dec. ...	67	1·2	August ...	1	1	...
	235	M. T. Pálghat ...	36,339	20th May ...	23rd Dec. ...	169	4·6	July ...	1	1	...
	236	M. T. Cochin ...	15,698	20th Jan. ...	29th Dec. ...	98	6·2	Do. ...	1	1	...
	237	M. T. Cannanore ...	26,386	7th Dec. ...	31st Dec. ...	20	0·8	December...	1	1	...
		Total ...	2,334,241	1st Jan. ...	31st Dec. ...	5,385	2·2	January ...	440	233	207

NOTE.—In this statement the ratios are calculated on the population including Europeans and Eurasians.

36. The following statements give daily records of meteorological observations and reported deaths from cholera at Madras, Trichinopoly and Nellore during the prevalence of that disease in 1891 :—

Daily Record of Meteorological Observations and of Cholera Deaths at MADRAS during the prevalence of the Disease in the year 1891.

Month and date.	Rainfall in inches.	Temperature of air in the shade. Highest maximum.	Temperature of air in the shade. Lowest minimum.	Temperature of air in the shade. Range.	Moisture of air per cent., 100 being saturation. 8 A.M.	Moisture of air per cent., 100 being saturation. 2 P.M.	Wind. Direction. 12 A.M.	Wind. Direction. 12 P.M.	Wind. Velocity, miles per diem.	Deaths from cholera recorded on each day.
JANUARY.										
1	...	87·0	65·1	21·9	85	56	N.N.E.	N.N.E.	111	...
2	...	88·3	66·6	21·7	81	72	N.N.E.	N.E. by N.	176	...
3	...	86·8	68·3	18·5	81	75	N.E. by N.	N.N.E.	207	...
4	...	85·8	68·5	17·3	75	57	N. by E.	N.N.E.	179	...
5	...	86·8	67·6	19·2	76	63	N.N.E.	N.E. by N.	130	...
6	...	87·7	67·4	20·3	77	57	N.N.E.	N.E. by N.	132	...
7	...	86·9	66·0	20·9	84	55	N.E. by N.	N.E. by N.	118	...
8	...	85·8	63·4	21·9	80	48	N.E. by N.	N.E.	108	...
9	...	86·1	61·7	24·4	81	54	N.E. by N.	N.E.	107	...
10	...	86·7	62·9	23·8	81	72	N.E.	N.E.	94	...
11	...	86·7	66·4	20·3	80	53	N.E.	N.E. by N.	141	...
12	...	88·0	69·2	18·8	75	61	N.E.	N.E.	186	...
13	...	86·6	70·7	15·9	72	52	N.E.	N.E. by N.	245	...
14	...	86·0	67·0	19·0	61	59	N.N.E.	N.N.E.	243	...
15	...	86·7	67·3	19·4	74	59	N.N.E.	N.E. by N.	179	...
16	...	87·8	65·1	22·7	79	52	N.E. by N.	N.E. by N.	180	...
17	...	87·8	71·2	16·6	86	71	N.N.E.	N.E.	144	..
18	...	88·5	75·3	13·2	80	74	N.E. by E.	N.E. by E.	227	2
19	...	88·0	76·9	11·1	82	65	N.E. by E.	N. by E.	198	...
20	...	87·9	70·1	17·8	87	61	N. by E.	N.E.	188	5
21	...	86·6	67·8	18·8	88	60	N.E. by E.	E. by N.	94	1
22	...	86·7	67·2	19·5	79	60	E. by N.	E.N.E.	95	2
23	...	87·5	66·6	20·9	80	59	E. by N.	E.N.E.	87	2
24	...	88·0	68·0	20·0	81	58	N.E.	E.N.E.	83	2
25	...	87·6	67·5	20·1	81	64	N.E.	E.N.E.	82	...
26	...	86·8	67·6	19·2	84	62	N.E. by N.	N.E. by E.	110	1
27	...	88·0	66·6	21·4	81	58	N.N.E.	N.E. by N.	121	2
28	...	88·6	68·2	20·4	83	58	N.E. by N.	N.E. by E.	111	1
29	...	89·1	66·1	23·0	83	79	N.E.	N.N.E.	159	...
30	...	87·2	68·2	19·0	60	61	N.E.	N.E. by N.	192	...
31	...	87·8	67·1	20·7	76	57	N.N.E.	N.N.E.	121	...
FEBRUARY.										
1	...	88·0	63·8	24·2	86	52	N.N.E.	N.E.	101	...
2	...	86·6	65·9	20·7	76	61	N.E. by E.	N.E.	98	...
3	...	87·4	65·9	21·5	74	58	N. by E.	N.E. by E.	124	...
4	...	87·5	65·0	22·5	76	60	N.N.E.	E.N.E.	78	...
5	...	90·0	64·3	25·7	84	44	N.E. by N.	N.E. by E.	87	...
6	...	88·3	63·7	24·6	81	69	N.N.E.	N.E.	147	...
7	...	88·0	67·3	20·7	82	58	N. by E.	E.N.E.	124	...
8	...	88·1	69·7	18·4	76	56	N.E. by E.	N.E. by E.	131	...
9	...	89·2	68·4	20·8	73	55	E.N.E.	N.E.	177	...
10	0·04	88·0	73·0	15·0	79	74	N.E. by N.	N.E.	212	...
11	0·48	82·8	75·2	7·6	80	81	E.N.E.	E.N.E.	153	...
12	0·10	87·0	75·1	11·9	84	70	N.E. by E.	N.E.	239	...
13	...	87·3	75·7	11·6	81	60	N.E. by E.	N.E.	167	...
14	...	88·0	73·2	14·8	89	65	N.E. by E.	N.E. by E.	127	...
15	...	88·6	72·8	15·8	77	68	N.E. by E.	E.N.E.	131	...
16	...	89·0	76·5	12·5	74	63	E.N.E.	E.N.E.	165	...
17	...	89·2	75·9	13·3	74	60	N.E. by E.	E.N.E.	181	1
18	...	88·8	73·0	15·8	77	56	E.N.E.	E.N.E.	124	...
19	...	88·3	69·1	19·2	82	60	E. by N.	S.E.	104	...
20	...	99·2	69·8	19·4	84	52	S.	S.E. by S.	150	...
21	...	87·2	71·3	15·9	84	60	S. by W.	S.E. by S.	179	...
22	...	86·5	71·7	14·8	84	68	S. by E.	S.E. by S.	192	...
23	...	87·1	72·0	15·1	77	65	S.S.E.	S.E. by S.	170	...
24	...	86·2	69·6	16·6	84	67	S.S.E.	S.E.	123	...
25	...	88·8	69·9	18·9	80	62	S.E.	E.	110	...
26	...	88·6	69·4	19·2	79	57	E.	E. by N.	101	...
27	...	89·3	69·7	19·6	82	61	N.E.	N.E. by E.	107	...
28	...	88·3	66·0	22·3	83	70	N.E.	E. by S.	66	...

Daily Record of Meteorological Observations and of Cholera Deaths at MADRAS during the prevalence of the Disease in the year 1891—continued.

Month and date.	Rainfall in inches.	Temperature of air in the shade.			Moisture of air per cent., 100 being saturation.		Wind.			Deaths from cholera recorded on each day.
							Direction.		Velocity, miles per diem.	
		Highest maximum.	Lowest minimum.	Range.	8 A.M.	2 P.M.	12 A.M.	12 P.M.		
MARCH.										
1	...	88·5	64·5	24·0	77	63	S.E. by S.	S.E. by E.	73	...
2	...	90·9	65·4	25·5	79	49	S.S.E.	S.E.	96	...
3	...	91·2	68·2	23·0	80	44	S. by E.	S.E. by S.	120	1
4	...	87·1	69·0	18·1	86	65	S.S.E.	S.E.	120	...
5	...	87·3	68·1	19·2	82	59	S.E. by S.	S.E. by E.	134	...
6	...	89·1	69·2	19·9	74	60	S.E.	S.E. by E.	147	...
7	...	89·4	70·5	18·9	76	61	S. by E.	S.E. by E.	160	...
8	...	90·1	74·0	16·4	78	68	S. by E.	S.E. by E.	149	...
9	...	91·5	75·0	16·5	81	68	S.E. by S.	S.E. by E.	165	...
10	...	90·3	77·1	13·2	83	72	S. by E.	S.E.	178	...
11	...	88·5	77·8	10·7	78	62	S.E. by E.	S.E.	193	...
12	...	88·7	73·1	15·6	74	60	S.E. by E.	S.E.	187	...
13	...	90·0	73·2	16·8	80	62	S. by W.	S.E.	170	...
14	...	89·8	77·0	12·8	82	67	S. by E.	S.E. by S.	214	...
15	...	92·0	76·3	15·7	79	63	S.S.E.	S.E.	197	...
16	...	90·5	76·8	13·7	79	67	S.S.E.	S.E. by S.	214	...
17	...	89·9	76·6	13·3	79	70	S.E. by S.	S.E. by E.	196	...
18	...	90·4	77·9	12·5	78	63	S.E. by E.	S.E. by E.	161	...
19	...	90·9	71·0	19·9	77	55	S.E. by E.	E.S.E.	106	...
20	...	89·3	69·6	19·7	74	55	S.E. by S.	S.E. by E.	121	...
21	...	88·2	68·7	19·5	74	57	S.E.	S.E. by E.	121	...
22	...	90·4	72·4	18·0	68	55	S.E. by S.	S.E. by E.	167	...
23	...	88·5	70·6	17·9	72	59	S.E. by S.	S.E. by S.	154	...
24	...	88·9	70·0	18·9	72	62	S. by E.	S.E.	157	...
25	...	90·0	72·8	17·2	77	61	S.E. by S.	S.E. by E.	167	...
26	...	90·5	73·5	17·0	78	61	S.E. by E.	E.S.E.	134	...
27	...	91·3	73·4	17·9	69	61	S.E.	S.E. by E.	102	...
28	...	96·9	71·9	24·0	84	48	S. by E.	S.E.	104	...
29	...	92·4	71·1	21·3	64	60	S.E. by S.	E.S.E.	112	...
30	...	90·7	72·9	17·8	70	60	S.E.	E.S.E.	87	...
31	...	92·3	73·2	19·1	77	49	E. by S.	E.	100	...
APRIL.										
1	...	93·8	73·8	20·0	75	54	E.S.E.	E.	112	...
2	...	94·8	73·2	21·6	75	48	S.S.E.	S.E.	112	...
3	...	94·1	71·9	22·2	74	54	S.	S.E. by E.	117	1
4	...	95·6	72·2	23·4	76	53	S.	S.E. by S.	120	...
5	...	90·4	70·9	19·5	74	59	S. by E.	S.E.	135	...
6	...	91·4	73·2	18·2	73	59	S. by E.	S.E.	140	...
7	...	91·9	78·1	13·8	78	67	S.S.E.	S.E. by S.	177	...
8	...	93·4	79·2	14·2	72	63	S.E. by S.	E.S.E.	146	...
9	...	93·2	80·2	13·0	73	78	S.E.	S.E. by E.	127	...
10	...	93·9	77·4	16·5	73	56	S. by E.	S.E.	157	...
11	...	92·1	77·1	15·0	74	57	S. by E.	S.E. by S.	192	...
12	...	93·4	77·1	16·3	79	63	S.	S.E. by S.	216	...
13	...	96·5	78·7	17·8	74	56	S. by E.	S.S.E.	240	...
14	...	97·1	80·1	17·0	69	61	S.	S.E. by S.	231	...
15	...	94·2	80·2	14·0	78	73	S.	S.S.E.	233	...
16	...	92·5	75·6	16·9	77	70	S.S.E.	S.E. by E.	164	...
17	...	93·3	76·1	17·2	74	60	S.E. by S.	S.E. by S.	153	...
18	...	94·1	75·2	18·9	76	63	S. by E.	S.E. by S.	184	...
19	...	92·2	73·8	18·4	74	66	S. by E.	S.E. by S.	159	...
20	...	92·4	72·2	20·2	70	66	S. by W.	S.E. by S.	181	...
21	...	92·6	76·8	15·8	73	65	S. by E.	S.S.E.	200	...
22	...	94·1	78·7	15·4	69	66	S.	S.E. by S.	227	...
23	...	94·8	78·6	16·2	76	63	S.	S.S.E.	242	...
24	...	96·8	81·0	15·8	74	65	S.	S.S.E.	274	...
25	...	93·9	81·2	12·7	72	61	S. by E.	E.S.E.	212	...
26	...	93·4	78·3	15·1	74	60	S.S.W.	S.E. by S.	211	...
27	...	91·7	78·1	13·6	69	66	S.S.E.	S.E. by S.	216	2
28	...	92·9	80·1	12·8	75	70	S.S.E.	S.E. by S.	234	...
29	...	93·9	77·0	16·9	72	68	S.S.E.	S.E. by S.	205	...
30	...	93·5	77·0	16·5	73	65	S. by E.	S.E. by S.	202	...

Daily Record of Meteorological Observations and of Cholera Deaths at MADRAS during the prevalence of the Disease in the year 1891—continued.

Month and date.	Rainfall in inches.	Temperature of air in the shade.			Moisture of air per cent., 100 being saturation.		Wind.			Deaths from cholera recorded on each day.
							Direction.		Velocity, miles per diem.	
		Highest maximum.	Lowest minimum.	Range.	8 A.M.	2 P.M.	12 A.M.	12 P.M.		
MAY.										
1	...	92·8	78·0	14·8	81	62	S. by E.	S.E. by S.	191	...
2	...	94·0	79·8	14·2	81	68	S.S.E.	S.E.	190	...
3	...	93·7	78·3	15·4	83	62	S.S.E.	S.E. by S.	189	...
4	...	99·0	80·7	18·3	75	61	S.	S.E. by S.	196	...
5	...	96·5	80·8	15·7	68	54	S. by W.	S.S.E.	220	...
6	...	94·8	79·0	15·8	75	61	S. by W.	S.E. by S.	229	...
7	...	96·2	80·7	14·5	73	58	S. by E.	S.E. by S.	231	1
8	...	93·4	77·9	15·5	76	59	S.S.E.	S.E. by S.	200	...
9	...	94·9	79·6	15·3	72	63	S. by E.	S.E. by S.	211	...
10	...	93·7	77·6	16·1	73	67	S.S.E.	S.E. by S.	215	...
11	...	93·9	78·4	15·5	71	64	S.S.E.	S.E.	194	...
12	...	93·4	77·5	15·9	68	67	S.S.E.	S.E. by S.	195	...
13	...	93·9	79·0	14·9	72	63	S.S.E.	S.E. by S.	203	...
14	...	95·6	78·4	17·2	77	67	S. by E.	S.E. by S.	215	...
15	...	94·6	80·3	14·3	79	68	S. by E.	S.E. by S.	200	...
16	...	94·5	77·3	17·2	79	52	S. by E.	S.E. by S.	197	...
17	...	95·3	77·3	18·0	79	73	S.S.E.	S.E. by S.	197	...
18	...	96·0	81·0	15·0	72	57	S.S.E.	S.E. by E.	167	...
19	...	96·0	79·6	16·4	73	60	S. by E.	E. by N.	155	...
20	...	95·1	82·4	12·7	78	67	N.E. by E.	E.N.E.	128	1
21	0·04	96·4	80·8	15·6	75	67	E.N.E.	E. by N.	178	...
22	0·09	86·4	79·7	6·7	85	75	N.W. by W.	W. by S.	87	...
23	0·36	79·3	77·8	1·5	97	82	W.S.W.	W.S.W.	77	...
24	...	96·1	77·2	18·9	75	52	W. by N.	S.E. by S.	148	...
25	...	103·6	76·8	26·8	62	36	S.W.	S.E. by E.	180	...
26	...	100·9	80·7	20·2	88	52	S.W. by S.	S.E. by S.	222	...
27	...	103·8	80·9	22·9	63	47	S.S.W.	S. by E.	229	...
28	...	102·7	83·1	19·6	58	56	S. by W.	S. by E.	210	...
29	...	98·6	82·5	11·1	78	61	S.	S.S.E.	217	...
30	...	103·9	81·2	22·7	63	60	S.W. by S.	S. by E.	259	...
31	...	104·3	81·9	22·4	65	58	S.S.W.	S. by E.	299	1
JUNE.										
1	...	99·7	81·6	18·1	58	55	S.W. by S.	S.S.E.	300	1
2	...	101·9	83·2	18·7	57	59	S.S.W.	S. by E.	304	1
3	...	101·0	84·6	16·4	64	58	S.S.W.	S.S.W.	270	4
4	0·01	97·4	80·9	16·5	74	53	S.W.	S.S.W.	230	1
5	...	97·7	77·6	20·1	75	57	S.W. by W.	S.S.W.	243	1
6	...	107·3	83·8	23·5	55	34	W.S.W.	S.W. by S.	313	2
7	0·16	106·4	84·2	22·2	52	52	W. by S.	S. by W.	276	4
8	...	104·3	79·8	24·5	65	38	S.W. by W.	S. by W.	264	1
9	...	105·1	82·6	22·5	61	34	S.W.	S. by W.	287	6
10	0·01	104·4	83·5	20·9	55	39	S.W. by W.	S.S.W.	267	3
11	...	105·6	83·6	22·0	56	33	W.S.W.	S.W. by W.	274	...
12	...	105·8	85·2	20·6	57	36	W. by S.	S.	306	...
13	...	106·9	82·7	24·2	55	33	S.W.	S. by W.	256	1
14	...	104·6	82·7	21·9	63	36	S.W.	S. by W.	237	...
15	...	102·6	82·6	20·0	70	78	S.W. by W.	S.S.E.	253	...
16	...	100·8	83·5	17·3	58	76	S.S.W.	S.E. by S.	246	...
17	...	99·7	80·8	18·9	76	67	S. by W.	S. by E.	268	...
18	...	93·9	79·8	14·1	64	67	S.	S.S.E.	214	1
19	...	99·5	80·0	19·5	70	65	S.S.W.	S.S.E.	257	...
20	...	102·1	81·8	20·3	57	49	W.	S.E. by S.	217	...
21	...	101·4	84·2	17·2	46	39	W.S.W.	S.E.	233	...
22	...	104·0	83·6	20·4	52	43	W.S.W.	S. by W.	241	...
23	...	104·3	83·4	20·9	53	49	S.W. by W.	S.S.E.	221	...
24	...	103·8	84·9	18·9	65	42	W.	S.	230	...
25	...	105·1	83·8	21·3	56	39	W. by S.	S.W. by S.	275	...
26	...	104·1	84·5	19·6	55	39	W. by S.	S.	246	...
27	...	101·8	84·4	17·4	56	48	W. by S.	S.E.	253	...
28	...	97·6	83·9	13·7	57	47	W.S.W.	S.S.W.	228	...
29	0·02	100·2	77·3	22·9	68	70	W. by S.	S.	242	...
30	...	97·0	82·0	15·0	64	39	S.S.W.	S.W.	253	1

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Month and date.	Rainfall in inches.	Temperature of air in the shade.			Moisture of air per cent., 100 being saturation.		Wind.			Deaths from cholera recorded on each day.
		Highest maximum.	Lowest minimum.	Range.	8 A.M.	2 P.M.	Direction. 12 A.M.	Direction. 12 P.M.	Velocity, miles per diem.	
JULY.										
1	0·19	83·6	75·9	[illegible]	[illegible]	72	S.W. by S.	S.S.W.	217	...
2 ...	...	[illegible]	76·2	12·8	81	58	S.W.	S.N.	225	1
3	0·03	94·6	79·1	15·5	74	52	S.W. by S.	S. by E.	173	2
4	0·03	97·1	79·5	17·6	72	41	S.W. by W.	S.S.W.	196	...
5	...	98·7	80·1	18·6	61	41	W.S.W.	S.W.	221	1
6	...	102·2	81·8	20·4	58	36	W. by S.	W. by S.	255	...
7	...	100·5	82·1	18·4	55	44	W. by S.	S.W.	269	...
8	...	98·4	83·5	14·9	60	39	W. by S.	S.W.	260	1
9	0·01	100·6	82·9	17·7	57	43	W.S.W.	W.	254	2
10	0·04	101·6	84·5	17·1	47	37	W.	S.E. by S.	274	...
11	0·02	95·9	82·5	13·4	60	40	W. by S.	W.N.W.	199	1
12	...	92·7	79·1	13·6	65	53	W.	S.E.	148	...
13	...	98·5	82·8	15·7	49	35	W.S.W.	S.S.W.	246	1
14	...	102·7	80·7	22·0	50	57	W.S.W.	S. by E.	254	...
15	0·08	104·3	83·5	20·8	58	36	S.W. by W	S.W. by S.	193	...
16	...	99·1	80·1	80·1	65	53	W. by S.	S.S.E.	195	1
17	...	102·2	79·8	79·8	49	51	W.S.W.	S.E. by S.	209	1
18	...	104·1	79·6	79·6	57	29	S.W. by S.	S. by E.	209	1
19	0·01	102·3	83·6	83·6	57	40	W.S.W.	W.	247	1
20	0·02	99·9	80·6	80·6	70	46	S.W. by W.	S.S.E.	236	1
21	0·05	100·0	78·8	78·8	59	36	S.W.	S.W. by S.	213	2
22	0·04	98·4	77·8	77·8	66	44	S.S.W.	S.W. by S.	192	...
23	...	98·5	82·2	82·2	63	36	S.W. by W.	S.S.W.	216	...
24	0·04	102·1	82·2	82·2	66	36	W. by S.	S.W. by W.	275	...
25	...	102·7	80·8	80·8	60	46	W. by S.	W. by S.	311	1
26	...	100·1	82·2	82·2	50	33	W. by S.	S.W.	298	...
27	0·01	101·3	81·6	81·6	53	34	W.S.W.	S. by E.	241	1
28	...	101·2	78·6	78·6	66	52	S. by W.	S. by E.	201	1
29	...	102·7	81·6	81·6	60	50	S.W. by W.	S.S.E.	216	...
30	0·18	103·2	80·0	80·0	60	35	S.W.	S.	183	...
31	0·22	100·1	75·6	76·6	81	41	S.W. by W.	S. by W.	192	1
AUGUST.										
1	0·03	98·8	74·7	24·1	69	36	S.W.	S.	192	3
2	...	100·5	79·0	21·5	61	34	W.	S.W.	235	1
3	0·16	99·9	81·3	18·6	59	35	W. by S.	S.W. by W.	278	4
4	...	101·7	79·9	21·8	61	34	W. by S.	W. by S.	313	2
5	...	102·2	82·6	19·6	54	32	W. by S.	W.N.W.	260	1
6	0·01	103·7	82·5	21·2	52	30	W. by S.	S. by W.	235	3
7	0·05	102·1	80·2	21·9	59	35	W.S.W.	S.S.W.	221	2
8	...	99·4	81·6	17·8	58	35	W.	S.W.	256	2
9	0·72	103·2	82·5	20·7	54	35	S.W. by W	S.	194	3
10	...	91·6	78·0	13·6	77	70	S.	S.S.E.	184	3
11	0·29	95·5	75·4	20·1	75	64	W.S.W.	S.	314	8
12	0·08	96·7	74·4	22·3	86	52	W.	W.	162	15
13	...	95·2	80·4	14·8	65	48	W.S.W.	N.W.	166	21
14	0·02	98·7	78·6	20·1	64	42	W.N.W.	S.W. by S.	176	22
15	...	99·3	76·1	20·3	66	55	N.W.	E.S.E.	162	21
16	...	97·0	79·5	17·5	72	65	S.W.	S.E. by S.	178	21
17	0·09	93·6	79·4	14·2	72	58	S.W. by W.	S.E. by S.	171	14
18	...	96·4	79·7	16·7	72	62	S.W. by W.	S. by E.	221	28
19	...	99·8	80·1	19·7	72	57	S.W.	S.E. by E.	187	35
20	...	97·1	80·1	17·0	62	39	S.W.	S. by W.	200	35
21	0·11	97·8	81·4	16·4	72	40	W.S.W.	S.W.	219	18
22	...	97·0	77·6	19·4	66	56	S.W.	S.E.	200	32
23	...	99·6	80·5	19·1	57	46	S.W. by W.	S.E.	245	26
24	...	101·3	77·6	23·7	66	51	S.W. by W.	S.E. by S.	210	24
25	...	101·3	80·0	21·3	56	35	S.W.	S. by W.	224	27
26	0·05	98·0	81·5	16·5	60	54	S.W. by W.	S.E. by E.	192	13
27	...	95·5	76·2	19·3	72	58	N.W.	S.E.	159	41
28	...	93·6	79·6	14·0	74	40	W. by S.	S.	142	40
29	...	96·3	81·8	14·5	52	52	S.W. by W.	S.E. by E.	188	29
30	0·80	81·2	75·7	5·5	91	89	W. by S.	S.W. by S.	77	29
31	...	91·4	75·7	15·7	82	58	S.W.	S.W. by W.	135	40

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		Highest maximum.	Lowest minimum.	Range.	8 A.M.	2 P.M.	Direction. 12 A.M.	Direction. 12 P.M.	Velocity, miles per diem.	
SEPTEMBER.										
1	0·02	97·3	77·6	19·7	73	45	S.W.	S. by W.	181	32
2	0·02	97·8	79·3	18·5	68	55	S.W.	S. by W.	177	39
3	...	96·4	80·2	16·2	71	47	S.W. by S.	S. by W.	180	52
4	...	99·0	79·4	19·6	75	65	S.W. by S.	S.	232	57
5	0·08	101·6	81·1	20·5	57	35	S.W. by W.	S. by W.	204	35
6	...	98·8	79·3	19·5	73	37	W. by S.	S.W. by W.	180	30
7	...	100·4	81·4	19·0	59	31	W. by S.	S.W. by S.	222	36
8	...	101·2	80·1	21·1	57	29	W. by S.	S. by E.	224	41
9	...	101·2	79·5	21·7	56	35	W. by S.	S. by E.	243	30
10	...	97·8	80·4	17·4	50	46	W.S.W.	S.E.	214	39
11	...	100·0	79·2	20·8	54	43	S.W.	S.E.	197	32
12	...	99·7	79·6	20·1	49	44	S.W. by S.	E. by S.	175	35
13	...	96·9	80·3	16·6	72	60	S.W. by S.	S.E.	184	28
14	0·07	99·2	80·1	19·1	63	57	S.W. by S.	S.E. by S.	184	16
15	...	100·2	77·6	22·6	70	57	S.W.	S.E. by S.	206	24
16	...	100·9	77·7	23·2	58	34	W.S.W.	S.S.E.	204	21
17	0·28	95·6	76·3	19·3	67	45	W.	S.	150	32
18	...	92·5	80·2	12·3	77	44	S.W. by S.	S.E. by S.	142	15
19	...	96·1	79·8	16·3	60	53	S.S.W.	E. by S.	175	19
20	...	97·4	81·3	16·1	67	49	S.S.W.	S.E. by S.	148	27
21	0·01	98·8	78·4	20·4	71	52	W.S.W.	S.	156	25
22	0·01	91·5	77·5	14·0	93	57	W. by S.	W. by S.	101	22
23	...	98·0	80·0	18·0	71	42	S.W. by S.	S. by E.	171	20
24	...	97·2	78·3	18·9	83	45	S.S.W.	S. by E.	189	14
25	0·09	96·0	80·1	15·9	73	63	S.S.W.	S.SW.	215	15
26	1·49	95·1	81·0	14·1	72	66	S. by W.	S.E. by S.	249	10
27	...	91·0	74·1	16·9	86	72	S.W. by W.	S.E. by S.	145	8
28	...	86·5	72·6	14·1	90	82	S.W.	S.E. by S.	119	15
29	...	91·8	73·3	18·5	86	59	W.S.W.	S.S.W.	122	14
30	...	94·3	77·3	17·0	77	62	S.W. by S.	S.E. by S.	136	21
OCTOBER.										
1	...	92·6	79·0	13·6	79	71	S.	E. by S.	124	11
2	...	90·8	77·8	13·0	96	69	S.S.E.	S.E. by S.	79	10
3	0·05	86·7	77·6	9·1	77	67	S.E.	S.E. by S.	55	11
4	...	91·2	74·5	16·7	75	63	S.E.	E.S.E.	102	7
5	0·10	89·3	77·0	12·3	78	72	S.E. by E.	S.E. by E.	119	8
6	0·02	92·7	76·8	15·9	76	63	E.	E. by S.	125	10
7	...	93·1	77·8	15·3	69	63	E.	E.	127	14
8	...	92·5	75·1	17·4	78	55	E. by N.	E.	106	6
9	...	94·2	75·4	18·8	75	54	E.	E.	112	6
10	...	92·6	76·6	16·0	72	62	S.E. by S.	E.	105	11
11	0·52	93·0	75·8	17·2	77	62	S.	E.	124	22
12	0·45	89·2	75·1	14·1	73	71	N. by E.	E.N.E.	106	8
13	0·25	89·2	76·2	13·0	81	78	N.E. by N.	N.E.	128	9
14	0·54	84·5	74·9	9·6	91	79	N. by W.	N.N.E.	80	11
15	0·04	88·4	75·7	12·7	91	74	N. by E.	N.E. by N.	123	11
16	1·31	89·1	74·9	14·2	86	75	N.E. by E.	...	89	12
17	0·63	88·5	74·4	9·1	98	85	...	N.E. by N.	120	8
18	3·60	79·6	72·8	6·8	98	93	...	...	97	15
19	0·13	82·1	72·8	9·3	89	76	N. by W.	...	177	8
20	1·63	85·5	74·5	11·0	95	72	N. by W.	N. by W.	168	10
21	0·24	84·2	76·5	7·7	88	83	N. by W.	...	254	4
22	2·69	79·3	75·0	4·3	98	94	...	N.N.E.	261	11
23	0·27	88·6	77·4	11·2	85	71	E. by N.	E. by S.	145	10
24	...	87·6	76·5	11·1	93	72	E. by N.	E. by N.	98	11
25	0·40	89·4	76·2	13·2	84	71	N.E.	E. by N.	93	4
26	0·55	85·0	76·4	8·6	93	88	...	N.N.E.	102	6
27	...	88·9	74·0	14·9	82	67	N. by E.	N.E. by N.	146	10
28	...	86·8	75·1	11·7	87	70	...	N.N.E.	136	8
29	...	87·8	72·9	14·9	82	70	...	N.E. by N.	120	12
30	...	87·4	73·5	13·9	80	63	N. by E.	N.E. by N.	150	8
31	...	89·5	73·7	15·8	74	65	N.E. by N	N.N.E.	204	7

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							Direction.		Velocity, miles per diem.	
		Highest maximum.	Lowest minimum.	Range.	8 A.M.	2 P.M.	12 A.M.	12 P.M.		
NOVEMBER.										
1	1·44	86·8	78·1	8·7	70	70	N.N.E.	N.E.	160	6
2	0·01	85·3	75·0	10·3	77	80	N.E. by N.	N.N.E.	218	9
3	...	88·5	74·2	14·3	84	68	N. by E.	N. by E.	140	7
4	...	89·4	71·7	17·7	83	56	N.N.W.	S.S.W.	69	4
5	...	88·7	75·6	13·1	82	67	S.W. by S.	E.	94	5
6	...	88·2	76·6	11·6	81	79	S.	S.E.	110	2
7	...	88·1	75·7	12·4	80	68	S.	S.E. by E.	89	3
8	1·26	85·8	76·2	9·6	87	90	S.E. by S.	N.N.W.	68	1
9	0·14	88·9	75·6	12·4	98	73	N. by E.	N.E. by E.	131	3
10	0·51	88·6	76·5	12·0	75	67	N.E.	N.E. by N.	166	1
11	0·22	86·3	75·8	10·5	83	69	N.N.E.	N.N.E.	69	5
12	...	86·7	75·6	11·1	83	65	N. by E.	N.E. by N.	93	5
13	...	85·2	70·1	15·1	82	63	...	N.N.E.	58	5
14	...	86·9	69·8	17·1	81	63	N. by E.	N.E. by N.	71	2
15	...	83·7	70·7	13·0	78	75	N. by W.	...	145	4
16	...	86·3	73·3	13·0	83	60	...	N.N.E.	195	...
17	...	85·4	70·7	14·7	79	64	N.N.W.	N. by E.	155	3
18	...	85·8	70·2	15·6	73	59	...	...	203	4
19	...	85·8	71·7	14·1	73	42	N.N.W.	...	202	1
20	...	86·6	71·5	15·1	67	46	N. by W.	N.N.E.	182	5
21	...	86·5	68·1	18·4	82	42	...	N. by E.	122	3
22	...	86·2	64·1	22·1	75	45	...	N. by E.	108	1
23	...	86·2	64·8	21·4	69	44	...	N.E.	75	1
24	...	87·2	64·7	22·5	70	53	...	N.E.	91	1
25	0·01	89·6	66·1	23·5	82	61	N. by E.	N. by E.	142	2
26	0·03	88·2	73·6	14·6	80	62	N.N.E.	N.E. by N.	172	4
27	0·68	85·2	72·7	12·5	78	71	N.N.E.	N.E. by N.	132	2
28	0·17	83·4	73·8	9·6	91	85	N.E. by N.	N.E.	134	...
29	0·10	84·0	70·9	13·1	98	69	N. by E.	N.N.E.	175	2
30	0·30	85·0	72·8	12·2	95	77	N. by E.	N.N.E.	172	2
DECEMBER.										
1	0·09	86·0	74·6	11·4	90	72	N.N.E.	N.N.E.	192	7
2	...	86·2	72·1	14·1	86	63	N.N.E.	N.N.E.	184	5
3	...	86·3	70·1	16·2	86	69	N.N.E.	N.E. by N.	157	4
4	...	85·5	71·8	13·7	84	59	N.E. by N.	N.E. by N.	149	4
5	...	85·7	69·8	15·9	79	66	N.E. by N.	N.E. by N.	124	3
6	...	86·5	73·8	12·7	75	54	N.E. by N.	N.N.E.	239	5
7	...	84·0	70·7	13·3	78	63	N.N.E.	N. by E.	225	1
8	1·26	79·0	71·6	7·4	79	95	N. by E.	...	238	3
9	0·53	77·0	73·1	3·9	78	97	N.N.E.	N. by W.	251	2
10	0·16	80·6	71·3	9·3	94	85	...	N.N.E.	188	1
11	0·05	81·7	70·0	11·7	86	82	...	N. by E.	245	1
12	0·95	81·1	72·8	8·3	95	92	N.N.E.	N.E. by N.	341	3
13	0·83	82·1	74·2	7·9	94	94	N.E.	N.N.E.	274	6
14	0·66	79·8	73·8	6·0	95	84	...	...	222	4
15	...	82·6	72·8	9·8	92	74	...	...	200	2
16	...	83·6	71·9	11·7	92	76	...	N. by E.	216	3
17	0·15	83·6	71·8	11·8	90	72	...	...	234	2
18	0·08	84·0	74·5	9·5	89	84	N. by E.	N. by E.	282	4
19	0·08	83·9	75·3	8·6	91	82	N. by E.	N.N.E.	244	3
20	0·21	84·6	74·9	9·7	92	81	N.E.	N.E.	249	2
21	0·02	85·3	75·4	9·9	82	78	N.E. by E.	N.E.	222	1
22	0·12	85·6	74·7	10·9	79	73	N.E. by E.	N.E. by E.	250	...
23	...	85·1	75·3	9·8	76	68	N.E. by E.	N.E.	282	1
24	...	83·8	73·6	10·2	75	71	N.E. by N.	N.N.E.	280	2
25	...	83·0	75·5	7·5	87	66	N.N.E.	N.E. by N.	321	2
26	...	84·3	74·3	10·0	74	83	N.N.E.	N.N.E.	270	3
27	0·08	83·4	69·9	3·5	94	72	N.N.E.	N.N.E.	211	1
28	0·01	83·8	69·7	14·1	93	78	N.N.E.	N.N.E.	216	3
29	0·01	83·2	74·1	9·1	80	63	N.E. by N.	N.N.E.	262	6
30	...	82·2	66·2	16·0	93	60	N.E. by N.	N.N.E.	183	7
31	...	83·2	67·6	15·6	86	58	N.N.E.	N.E. by N.	180	3

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Month and date.	Rainfall in inches.	Temperature of air in the shade.			Moisture of air per cent., 100 being saturation.		Wind.			Deaths from cholera recorded on each day.
							Direction.		Velocity, miles per diem.	
		Highest maximum.	Lowest minimum.	Range.	10 A.M.	4 P.M.	10 A.M.	4 P.M.		
JANUARY.										
1	...	87·2	62·5	24·7	50	40	N.N.E.	E.	132	10
2	...	88·1	61·0	23·1	55	42	N.E.	E.N.E.	146	14
3	...	87·4	66·9	20·5	51	44	N.N.E.	N.E.	158	7
4	...	86·6	64·3	22·3	45	38	N.	N.E.	131	5
5	...	88·2	64·9	23·3	49	45	N.E.	E.	121	10
6	...	87·6	65·6	22·0	46	39	N.W.	N.E.	141	7
7	...	89·4	63·6	25·8	45	32	N.E.	N.E.	102	6
8	...	87·4	65·4	22·0	48	39	N.N.W.	E.	129	3
9	...	88·3	63·9	24·4	55	40	N.E.	N.E.	130	6
10	...	87·6	62·9	24·7	53	42	N.E.	N.E.	92	5
11	...	87·6	63·4	24·2	44	39	N.E.	E.N.E.	111	7
12	...	88·6	62·6	26·0	42	36	N.E.	E.N.E.	105	7
13	...	89·7	65·6	24·1	54	42	N.E.	E.N.E.	159	7
14	...	87·1	66·0	21·1	50	41	N.N.E.	N.E.	153	8
15	...	89·2	67·9	21·3	52	38	N.N.E.	N.E.	147	...
16	...	90·0	68·6	21·4	54	37	N.N.E.	N.E.	130	8
17	...	91·1	68·6	22·5	55	45	N.N.E.	E.N.E.	116	8
18	...	91·7	71·9	19·8	65	52	N.E.	E.	154	5
19	...	91·8	72·7	19·1	68	61	E.N.E.	E.S.E.	169	5
20	...	88·8	72·2	16·6	61	63	E.N.E.	E.	141	4
21	...	90·3	71·9	18·4	61	39	N.E.	N.E.	128	2
22	...	90·2	68·5	21·7	62	40	N.E.	E.	117	6
23	...	90·0	66·3	23·7	55	44	N.E.	N.E.	119	4
24	...	90·3	66·1	24·2	60	42	N.E.	E.N.E.	107	2
25	...	91·0	68·0	23·0	60	38	E.N.E.	E.N.E.	135	5
26	...	90·6	71·2	19·4	60	44	E.N.E.	E.	145	2
27	...	90·0	68·5	21·5	55	41	N.N.E.	N.E.	139	6
28	...	91·9	67·9	24·0	55	41	N.E.	E.N.E.	144	4
29	...	90·5	68·1	22·4	59	38	N.N.E.	E.N.E.	115	1
30	...	90·2	66·7	23·5	51	36	N.E.	N.E.	154	...
31	...	90·6	65·9	24·7	50	39	N.N.E.	E.N.E.	152	1
FEBRUARY.										
1	...	91·8	65·1	26·7	50	25	N.N.E.	N.E.	107	...
2	...	90·2	65·7	24·5	55	32	N.E.	E.N.E.	130	2
3	...	90·6	62·4	28·2	51	25	N.N.E.	N.N.E.	109	2
4	...	90·0	62·8	27·2	58	41	Calm.	E.N.E.	66	3
5	...	93·3	68·5	24·8	63	38	E.S.E.	E.N.E.	110	...
6	...	94·6	70·5	24·1	45	25	N.E.	E.N.E.	163	3
7	...	93·0	73·6	19·4	49	32	N.E.	N.E.	154	5
8	...	91·6	71·8	19·8	47	38	N.	E.N.E.	160	2
9	...	91·8	70·6	21·2	56	33	N.E.	E.N.E.	163	4
10	...	89·6	71·2	18·4	53	46	N.N.E.	N.E.	190	4
11	0·11	87·2	72·7	14·5	68	80	E.N.E.	N.E.	183	3
12	0·62	81·1	72·2	8·9	62	80	N.E.	E.N.E.	123	...
13	1·21	85·1	71·3	13·8	78	70	E.N.E.	N.E.	166	2
14	1·30	87·0	72·9	14·1	78	63	N.E.	E.	147	1
15	...	86·6	73·6	13·0	77	78	N.N.E.	S.E.	120	1
16	5·21	87·2	73·4	13·8	75	93	E.N.E.	N.N.W.	88	1
17	5·43	86·6	70·1	16·5	81	57	E.N.E.	E.N.E.	130	1
18	...	88·7	73·6	15·1	73	54	E.N.E.	E.N.E.	137	1
19	...	89·2	70·2	19·0	65	49	Calm.	N.E.	79	1
20	...	98·0	69·9	23·1	61	38	Calm.	S.	55	...
21	...	92·9	70·3	22·6	59	39	E.S.E.	E.S.E.	62	...
22	...	91·7	72·0	19·7	62	44	E.S.E.	E.N.E.	72	1
23	...	92·2	74·5	17·7	61	44	E.N.E.	S.E.	83	...
24	...	92·3	71·0	21·3	62	41	S.E.	E.	71	2
25	...	92·2	72·6	19·6	64	36	E.	E.N.E.	67	1
26	...	91·7	71·4	20·3	64	41	E.	N.N.E.	162	...
27	...	92·0	69·2	22·8	59	41	N.E.	E.S.E.	100	...
28	...	92·2	68·1	24·1	58	34	N.E.	E.S.E.	118	1

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Month and date.	Rainfall in inches.	Temperature of air in the shade.			Moisture of air per cent., 100 being saturation.		Wind.			Deaths from cholera recorded on each day.
		Highest maximum.	Lowest minimum.	Range.	10 A.M.	4 P.M.	Direction. 10 A.M.	Direction. 4 P.M.	Velocity, miles per diem.	
MARCH.										
1	...	93·0	66·9	26·1	63	33	N.N.E.	E.N.E.	90	2
2	...	94·3	65·2	29·1	67	33	Calm.	E.N.E.	68	...
3	...	95·8	66·1	29·7	61	26	S.S.E.	E.S.E.	62	...
4	...	95·0	65·2	29·8	67	30	S.E.	E.N.E.	67	...
5	...	93·0	68·0	25·0	60	33	E.N.E.	N.E.	103	1
6	...	93·0	68·9	24·1	59	35	N.	E.	84	1
7	...	95·0	73·6	21·1	60	38	S.S.W.	N.N.E.	79	...
8	...	96·1	74·6	21·5	62	37	N.N.E.	E.	81	...
9	...	96·7	75·9	20·8	59	35	E.S.E.	S.E.	90	...
10	...	92·1	71·9	20·2	68	48	N.N.W.	E.N.E.	80	...
11	...	94·6	71·9	22·7	64	39	E.S.E.	E.S.E.	90	...
12	...	94·2	72·2	22·0	63	45	E.S.E.	S.E.	74	...
13	...	95·2	72·7	22·5	57	37	E.S.E.	S.E.	61	...
14	...	96·7	74·0	22·7	58	35	N.E.	S.	61	...
15	...	96·4	76·6	19·8	57	37	N.E.	E.N.E.	122	...
16	...	94·6	78·2	16·4	56	46	E.S.E.	N.E.	95	...
17	...	94·3	77·1	17·2	60	43	E.N.E.	S.S.W.	105	...
18	...	97·1	74·9	22·2	60	38	N.E.	E.N.E.	90	...
19	...	96·1	72·2	23·9	52	36	E.S.E.	S.E.	102	...
20	...	95·3	71·0	24·3	51	31	N.N.E.	S.E.	79	...
21	...	95·2	71·6	23·6	52	31	E.S.E.	N.N.E.	103	...
22	...	96·3	70·2	26·1	48	34	E.N.E.	E.N.E.	96	...
23	...	97·1	73·1	24·0	66	43	E.	N.E.	94	...
24	...	98·2	71·3	26·9	73	41	N.E.	E.N.E.	87	...
25	...	98·2	71·8	26·4	65	43	N.N.E.	E.S.E.	103	...
26	...	98·4	73·6	24·8	61	37	N.E.	E.	113	...
27	...	97·8	74·1	23·7	59	35	N.N.E.	E.	100	...
28	...	99·1	74·9	24·2	51	32	E.	E.	97	...
29	...	100·4	71·8	28·6	48	25	E.	S.E.	87	...
30	...	99·1	73·0	26·1	51	30	N.E.	E.	122	...
31	...	97·8	72·9	24·9	52	34	Calm.	E.N.E.	109	...
APRIL.										
1	...	98·8	74·3	24·5	52	29	N.N.E.	E.N.E.	133	...
2	...	99·3	70·9	28·4	51	30	N.N.E.	N.N.E.	84	...
3	...	102·5	70·2	32·3	50	26	E.	E.	78	1
4	...	102·8	69·9	32·4	45	28	N.N.E.	N.E.	66	4
5	...	100·1	71·2	28·9	44	26	E.S.E.	S.E.	92	...
6	...	100·9	77·8	23·1	56	30	E.S.E.	E.S.E.	93	...
7	...	97·8	80·8	17·0	53	44	S.S.W.	S.E.	108	...
8	...	97·2	78·0	19·2	56	40	S.E.	E.S.E.	110	...
9	...	90·8	78·0	12·8	69	70	S.E.	S.E.	83	1
10	...	98·0	74·0	23·4	53	35	N.W.	S.E.	53	...
11	...	99·3	76·5	22·8	56	37	S.E.	N.W.	70	...
12	...	101·6	76·2	25·4	50	34	S.E.	S.E.	101	...
13	...	102·1	77·2	24·9	44	33	S.S.W.	S.	120	...
14	...	104·1	78·0	26·1	43	32	W.N.W.	E.N.E.	124	...
15	...	102·8	78·1	24·7	43	31	W.N.W.	E.S.E.	100	...
16	...	102·0	78·5	23·5	53	48	S.S.W.	E.S.E.	89	...
17	...	101·3	78·3	23·0	54	39	E.S.E.	E.S.E.	89	...
18	...	101·5	79·8	21·7	47	33	E.N.E.	E.S.E.	109	...
19	...	101·2	77·1	24·1	46	37	E.S.E.	S.E.	98	...
20	...	101·1	76·8	24·3	49	35	E.N.E.	S.E.	79	...
21	...	100·1	78·5	21·6	44	39	S.W.	S.	119	...
22	...	100·5	78·9	21·6	51	33	S.S.W.	E.N.E.	73	...
23	...	102·7	80·1	22·6	50	32	S.	S.E.	106	...
24	...	103·3	77·8	25·5	52	38	S.E.	W.N.W.	70	...
25	...	101·6	80·1	21·5	52	37	S.E.	E.S.E.	73	...
26	...	102·3	79·0	23·3	54	35	S.E.	S.S.E.	94	...
27	...	102·9	79·4	23·5	52	34	S.E.	S.S.E.	85	...
28	...	101·8	79·8	22·0	58	36	Calm.	S.E.	76	...
29	...	102·3	79·6	22·7	50	32	S.S.E.	E.N.E.	120	...
30	...	102·2	80·6	21·6	50	37	S.S.E.	E.S.E.	104	...

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		Highest maximum.	Lowest minimum.	Range.	10 A.M.	4 P.M.	Direction. 10 A.M.	Direction. 4 P.M.	Velocity, miles per diem.	
AUGUST.										
1	...	100·3	79·6	20·7	46	38	W.	W.N.W.	335	...
2	...	100·1	78·5	21·6	41	32	W.S.W.	W.N.W.	437	...
3	...	99·7	79·1	20·6	40	42	W.	W.N.W.	370	...
4	...	97·1	78·8	18·3	38	45	W.	W.S.W.	440	...
5	...	98·8	79·8	19·0	37	36	W.N.W.	W.N.W.	439	...
6	...	100·1	78·8	21·3	41	34	W.	W.N.W.	458	...
7	...	98·8	79·9	18·9	42	41	W.N.W.	N.W.	401	...
8	...	99·3	79·5	19·8	39	34	W.N.W.	W.N.W.	369	...
9	...	96·7	77·8	18·9	45	37	W.	W.S.W.	270	...
10	...	100·9	77·8	23·1	50	34	W.S.W.	S.W.	179	...
11	...	95·6	72·9	22·7	52	53	W.	W.N.W.	162	...
12	...	91·0	75·9	15·1	49	51	W.S.W.	W.S.W.	398	...
13	...	98·3	75·9	22·4	48	33	W.	W.S.W.	217	...
14	...	99·1	77·4	21·7	41	38	W.	W.S.W.	230	...
15	...	99·9	76·8	23·1	45	31	W.N.W.	N.W.	214	...
16	...	100·1	77·1	23·0	46	38	W.	W.N.W.	171	...
17	...	99·7	77·1	22·6	47	38	W.N.W.	N.W.	159	...
18	...	100·3	78·9	21·4	46	37	W.N.W.	N.W.	148	...
19	...	94·3	71·9	22·4	55	50	W.N.W.	N.W.	166	...
20	...	98·3	76·9	21·4	52	39	W.	W.	210	...
21	...	97·8	76·8	21·0	47	43	N.W.	W.	223	...
22	...	98·4	78·8	19·6	44	38	W.N.W.	W.N.W.	264	...
23	...	100·7	77·8	22·9	49	38	W.	W.N.W.	251	...
24	...	100·1	77·5	22·6	47	39	W.	S.S.W.	215	1
25	...	93·6	74·0	19·6	56	47	S.W.W.	N.W.	194	...
26	...	97·3	76·3	21·0	50	39	W.	W.	212	...
27	...	97·1	77·4	10·7	47	44	N.W.	N.W.	227	...
28	...	98·3	75·6	22·7	45	38	W.	N.W.	210	...
29	...	99·3	77·8	21·5	48	44	W.	W.N.W.	192	...
30	...	93·7	79·5	14·2	54	47	W.N.W.	W.	194	...
31	...	98·1	79·6	18·5	45	39	W.	W.S.W.	195	...
NOVEMBER.										
1	...	82·4	73·8	8·6	806	74	N.E.	N.E.	117	...
2	...	83·1	72·9	10·2	86	80	N.N.E.	N.N.E.	115	...
3	...	85·7	73·5	12·2	86	64	N.E.	N.N.E.	108	...
4	...	89·6	74·7	14·9	76	65	Calm.	Calm.	84	...
5	...	90·8	75·1	15·7	70	62	Calm.	Calm.	62	...
6	...	92·1	75·5	16·6	75	59	Calm.	W.S.W.	45	1
7	...	91·0	72·9	18·1	71	55	Calm.	E.S.E.	49	...
8	...	88·7	75·0	13·7	93	78	Calm.	S.S.E.	49	...
9	...	85·7	75·5	10·2	78	74	Calm.	N.E.	56	...
10	...	80·9	73·2	7·7	84	91	Calm.	N.E.	40	...
11	...	87·3	73·9	13·4	87	74	Calm.	Calm.	44	...
12	...	88·2	74·9	13·3	77	60	N.E.	N.E.	41	1
13	...	88·0	74·6	13·4	82	66	Calm.	E.	41	...
14	...	88·3	74·1	14·2	77	62	N.E.	N.E.	50	...
15	...	87·9	73·6	14·3	80	60	N.E.	N.E.	59	...
16	...	89·8	74·6	14·7	64	64	N.N.E.	Calm.	90	...
17	...	89·2	72·1	17·1	72	68	N.N.E.	N.E.	63	...
18	...	88·9	71·1	17·8	72	66	Calm.	E.N.E.	79	...
19	...	88·7	67·4	21·3	78	62	N.E.	N.E.	87	1
20	...	92·1	67·9	24·2	71	39	W.N.W.	W.	88	1
21	...	89·0	69·1	19·9	74	51	Calm.	Calm.	65	...
22	...	89·8	69·2	20·6	70	56	N.E.	N.E.	50	1
23	...	89·3	68·5	20·8	74	57	Calm.	N.E.	61	5
24	...	90·2	68·9	21·3	70	54	N.E.	N.E.	54	1
25	...	90·1	72·2	17·9	71	52	N.E.	E.N.E.	70	8
26	...	88·2	68·9	19·3	76	63	N.E.	N.E.	88	6
27	...	88·8	74·0	14·8	67	71	N.E.	E.	104	6
28	...	89·0	72·9	16·1	74	62	N.E.	N.E.	142	4
29	...	85·5	73·0	12·5	64	84	N.E.	N.E.	150	4
30	...	89·0	70·9	18·1	76	58	N.E.	E.N.E.	158	1

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		Highest maximum.	Lowest minimum.	Range.	10 A.M.	4 P.M.	Direction. 10 A.M.	Direction. 4 P.M.	Velocity, miles per diem.	
DECEMBER.										
1	0·11	96·0	74·0	12·0	77	90	N.E.	N.N.E.	110	1
2	0·03	82·7	71·2	11·5	80	73	N.E.	N.E.	118	7
3	...	87·2	73·6	13·6	76	71	N.E.	N.E.	163	8
4	...	87·7	75·2	12·5	72	64	N.E.	N.E.	161	11
5	...	88·2	71·2	17·0	69	58	N.N.E.	N.N.E.	156	5
6	...	87·8	68·5	18·3	68	56	N.E.	N.E.	141	9
7	...	87·8	66·9	20·9	68	51	N.E.	N.E.	144	7
8	...	89·3	72·9	16·4	63	58	N.W.	N.E.	125	7
9	0·35	83·4	73·2	10·2	81	73	N.E.	N.E.	182	7
10	0·24	77·1	70·1	7·0	83	85	N.N.E.	N.E.	169	5
11	0·11	89·2	70·3	18·9	72	61	N.E.	N.E.	144	8
12	0·10	82·3	70·6	11·7	90	86	N.W.	N.W.	123	8
13	0·36	81·3	73·2	8·1	93	91	N.W.	N.W.	94	5
14	...	82·8	73·7	9·1	78	78	N.W.	Calm.	75	10
15	...	87·3	69·2	18·1	76	61	Calm.	N.N.E.	71	13
16	...	88·2	67·6	20·6	74	57	N.W.	N.E.	84	8
17	...	88·3	67·9	20·4	61	86	N.N.E.	N.E.	112	6
18	...	90·0	72·0	18·0	65	57	N.E.	N.E.	131	13
19	...	89·0	75·0	14·0	66	59	N.E.	N.E.	139	4
20	0·55	81·2	74·6	6·6	78	91	N.E.	N.E.	146	8
21	...	85·2	73·9	11·3	82	79	N.E.	E.N.E.	177	7
22	0·40	83·7	70·2	13·5	80	85	N.E.	E.N.E.	178	5
23	0·07	84·2	72·4	11·8	74	73	N.E.	N.E.	200	4
24	...	84·4	69·1	15·3	75	68	N.E.	N.E.	207	3
25	0·05	79·4	72·3	7·1	75	90	N.E.	N.E.	217	7
26	...	80·1	72·9	7·2	79	72	N.E.	N.N.E.	181	1
27	...	84·7	72·5	12·2	70	57	N.N.E.	N.E.	163	8
28	...	85·6	70·1	15·5	69	58	N.E.	E.N.E.	189	5
29	...	85·5	69·9	15·6	68	67	N.N.E.	N.N.E.	171	3
30	...	85·1	69·7	15·4	70	60	N.E.	N.E.	209	5
31	...	86·8	71·6	15·2	73	56	N.E.	E.N.E.	177	4

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		Highest maximum.	Lowest minimum.	Range.	8 A.M.	Direction. 8 A.M.	Velocity, miles per diem.	
JULY.								
1	0·02	94·2	80·1	14·1	65	S.W.	192	...
2	0·01	96·2	79·1	17·1	62	S.W.	168	...
3	0·32	94·2	75·1	19·1	79	S.W.	192	...
4	0·04	95·2	78·6	16·6	61	W.	120	...
5	0·16	99·8	80·6	19·2	68	S.S.W.	192	...
6	...	95·7	81·0	14·7	58	S.S.W.	168	...
7	...	99·3	84·0	15·3	57	S.S.W.	264	1
8	...	98·8	83·5	15·3	57	W.	336	...
9	...	99·8	85·0	14·8	56	N.W.	336	...
10	...	102·3	81·0	21·3	63	N.W.	360	3
11	...	99·8	84·0	15·8	64	N.W.	480	...
12	0·11	95·7	77·1	18·6	95	N.W.	312	...
13	0·20	84·7	76·1	8·6	71	N.W.	168	...
14	...	99·3	81·5	17·8	60	N.W.	288	2
15	...	103·8	81·0	22·8	62	N.W.	240	...
16	...	100·3	84·0	16·3	64	N.W.	432	2
17	0·03	99·3	81·0	18·3	60	N.W.	288	4
18	...	101·3	84·0	17·3	59	N.W.	216	2
19	...	99·3	79·6	19·7	58	N.W.	288	1
20	0·28	97·2	78·1	19·1	75	S.W.	264	3
21	0·15	98·2	77·1	21·1	75	S.W.	168	4
22	...	93·7	77·6	16·1	79	S.S.W.	168	6
23	0·19	94·7	77·1	17·6	77	S.S.W.	168	3
24	...	96·7	79·6	17·1	59	S.S.W.	120	12
25	...	100·3	83·5	16·8	63	S.W.	408	11
26	...	100·8	83·0	17·8	63	S.W.	360	9
27	...	98·8	82·0	16·8	55	S.S.W.	336	11
28	...	99·3	81·0	18·3	63	S.W.	168	7
29	...	100·8	82·0	18·8	61	S.W.	144	13
30	...	103·8	82·5	21·3	59	N.W.	288	5
31	...	103·8	83·5	20·3	60	W.	360	8
AUGUST.								
1	0·30	98·8	76·1	22·7	87	S.W.	312	4
2	...	96·2	78·6	17·6	63	N.W.	264	15
3	...	99·8	82·5	17·3	67	N.W.	360	13
4	...	101·3	83·5	17·8	66	N.W.	576	21
5	...	102·3	82·5	19·8	64	N.W.	528	15
6	...	101·8	81·5	20·3	65	N.W.	408	20
7	...	101·3	81·0	20·3	50	N.W.	384	16
8	...	101·3	84·0	17·3	56	N.W.	432	3
9	...	95·7	82·5	13·2	54	N.W.	264	5
10	...	102·8	82·0	20·8	58	N.W.	240	9
11	0·17	102·8	80·1	22·7	80	N.W.	264	14
12	1·60	95·2	75·1	20·1	78	N.W.	240	6
13	...	94·7	79·1	15·6	67	N.W.	288	8
14	...	97·2	78·6	18·6	64	N.W.	312	18
15	...	94·7	80·1	14·6	62	N.W.	312	14
16	...	98·2	81·0	17·2	58	N.W.	288	11
17	...	100·8	83·0	17·8	62	N.W.	240	8
18	...	93·7	82·5	11·2	66	N.W.	240	22
19	0·03	97·2	79·6	17·6	75	N.W.	264	9
20	...	99·3	80·1	19·2	64	N.W.	312	18
21	...	92·2	82·0	10·2	59	N.W.	264	5
22	...	96·7	81·0	15·7	62	N.W.	288	8
23	...	98·8	82·5	16·3	61	N.W.	288	9
24	...	99·8	83·0	16·8	58	N.W.	288	...
25	...	104·3	82·0	22·3	64	N.W.	312	5
26	...	94·4	82·0	12·7	61	N.W.	264	2
27	0·01	101·3	80·1	21·2	64	N.W.	288	1
28	...	101·3	81·0	20·3	59	N.W.	288	4
29	...	99·8	84·0	15·8	62	N.W.	336	2
30	0·73	97·7	75·1	22·6	95	N.W.	264	4
31	0·15	82·8	76·1	6·7	86	S.W.	216	3

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		Highest maximum.	Lowest minimum.	Range.	8 A.M.	Direction. 8 A.M.	Velocity, miles per diem.	
SEPTEMBER.								
1	...	91·7	79·1	12·6	69	N.W.	192	3
2	...	...	...	...	...	...	...	7
3	...	94·7	80·1	14·6	61	N.W.	192	4
4	...	95·2	78·1	17·1	65	N.W.	216	2
5	...	101·3	80·1	21·2	60	N.W.	240	4
6	...	98·2	82·0	16·2	66	N.W.	336	1
7	0·04	95·2	78·6	16·6	65	N.W.	312	2
8	...	...	...	...	...	...	...	...
9	...	99·8	80·6	19·2	56	N.W.	336	...
10	...	99·8	81·0	18·8	58	N.W.	312	2
11	...	100·3	80·1	20·2	58	N.W.	288	...
12	...	98·8	79·1	19·7	62	N.W.	288	2
13	...	91·7	81·0	10·7	57	N.W.	240	2
14	...	100·3	82·0	18·3	56	N.W.	216	1
15	...	101·8	81·5	20·3	56	N.W.	264	2
16	...	...	...	...	...	...	...	...
17	0·02	100·8	82·0	18·8	71	N.W.	264	1
18	0·04	92·7	76·1	16·6	91	N.W.	264	...
19	0·02	99·3	76·1	23·2	63	N.W.	168	...
20	...	98·8	81·0	17·8	61	N.W.	192	...
21	0·40	101·3	78·6	22·7	72	N.W.	192	...
22	0·81	94·2	74·1	20·1	93	N.W.	144	2
23	0·02	88·2	77·6	10·6	70	N.W.	192	...
24	...	96·7	80·1	16·6	68	N.W.	216	1
25	0·10	99·3	78·1	21·2	87	S.	192	3
26	0·29	95·7	76·1	19·6	89	S.	144	...
27	...	...	...	...	...	...	...	...
28	1·87	90·2	72·1	18·1	98	S.S.E.	96	...
29	0·02	91·2	75·6	15·6	86	S.W.	168	...
30	...	91·7	76·6	15·1	87	S.W.	120	...
OCTOBER.								
1	0·04	97·2	77·1	20·1	85	S.E.	96	...
2	...	96·2	78·1	18·1	87	Calm.	120	...
3	...	96·2	77·6	18·6	72	S.E.	120	1
4	...	94·2	77·6	16·6	76	S.E.	120	1
5	...	91·7	77·1	14·6	79	S.E.	120	...
6	...	93·7	77·1	16·6	78	S.E.	144	1
7	...	93·7	77·6	16·1	78	S.E.	120	...
8	...	94·7	76·6	18·1	79	Calm.	120	1
9	...	94·7	77·1	17·6	74	S.E.	96	...
10	...	93·7	77·6	16·1	76	S.W.	96	...
11	0·36	92·7	76·1	16·6	87	N.W.	96	2
12	0·11	87·7	74·1	13·6	87	S.W.	96	4
13	...	89·2	76·1	13·1	87	N.W.	96	2
14	0·06	90·7	77·6	13·1	93	S.E.	120	2
15	0·58	87·2	76·6	10·6	93	Calm.	72	2
16	0·02	90·7	76·1	14·6	87	Calm.	72	3
17	0·46	87·7	75·6	12·1	98	N.N.E.	120	...
18	0·26	86·7	75·1	11·6	89	N.W.	120	6
19	...	88·7	74·6	14·1	85	N.W.	144	5
20	...	89·2	75·6	13·6	86	N.W.	168	1
21	...	...	...	...	...	...	...	...
22	0·05	89·2	77·1	12·1	89	N.N.W.	120	2
23	0·43	84·7	74·1	10·6	98	N.E	216	4
24	0·05	83·3	75·6	7·7	95	N.W.	96	...
25	0·40	89·7	77·1	12·6	83	Calm.	120	5
26	0·03	89·7	76·1	13·6	89	N.W.	96	3
27	...	89·2	74·1	15·1	89	N.W.	96	...
28	...	89·2	74·1	15·1	91	N.W.	96	...
29	...	88·7	72·1	16·6	85	N.W.	72	4
30	...	89·7	72·1	17·6	85	N.W.	96	...
31	...	89·7	74·1	15·6	83	N.W.	96	2

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		Highest maximum.	Lowest minimum.	Range.	8 A.M.	Direction. 8 A.M.	Velocity, miles per diem.	
DECEMBER.								
1	0·13	84·2	72·6	11·6	95	Calm.	96	...
2	...	86·2	71·6	14·6	86	N.W.	96	...
3	...	87·2	70·1	17·1	88	N.W.	96	...
4	...	87·2	70·1	17·1	86	N.W.	96	...
5	...	86·7	69·6	17·1	86	N.W.	72	...
6	...	86·2	69·6	16·6	88	N.W.	96	...
7	...	86·7	68·1	18·6	81	N.W.	120	...
8	0·01	85·2	73·6	11·6	93	N.W.	120	1
9	...	84·7	74·1	10·6	88	N.W.	144	1
10	0·19	81·3	73·1	8·2	95	N.W.	144	1
11	...	79·3	66·6	12·7	88	N.W.	120	...
12	...	...	...	...	...	...	...	...
13	1·31	76·8	72·1	4·7	100	N.	168	...
14	...	...	...	...	...	...	...	2
15	...	83·7	71·1	12·6	88	N.W.	144	2
16	...	85·7	70·1	15·6	93	N.W.	120	3
17	...	85·2	70·6	14·6	93	N.W.	120	...
18	...	85·2	74·6	10·6	91	N.E.	144	...
19	...	86·2	71·6	14·6	91	N.W.	144	...
20	0·49	83·3	72·1	11·2	95	Calm.	144	3
21	0·09	83·7	73·1	10·6	93	N.E.	96	3
22	0·01	85·7	74·6	11·1	89	E.	120	1
23	...	86·2	72·1	14·1	84	E.	144	1
24	...	84·7	69·6	15·1	82	N.W.	144	3
25	...	85·2	68·6	16·6	88	N.W.	120	2
26	...	83·7	69·1	14·6	88	N.W.	120	3
27	...	...	...	...	...	...	...	1
28	...	82·8	65·1	17·7	88	N.W.	120	3
29	...	84·7	68·1	16·6	86	N.W.	120	1
30	...	83·7	65·6	18·1	90	N.W.	120	2
31	...	84·2	65·6	18·6	90	N.W.	96	1

SMALL-POX.

37. The total deaths registered in 1891 from small-pox were 41,322 against 28,092 in 1890 and a decennial mean of 28,757.

38. The number of deaths registered from small-pox in each year since 1871 is seen in the table on page 11, and in the subjoined table the ratios per mille of population are given :—

Table showing the ratios of small-pox deaths for a series of years.

Years.	Ratio of small-pox deaths per mille of population.	Years.	Ratio of small-pox deaths per mille of population.
1871	0·8	1882	1·6
1872	1·2	1883	1·3
1873	1·7	1884	2·1
1874	1·5	1885	1·2
1875	0·8	1886	0·6
1876	0·8	1887	0·7
1877	3·0	1888	0·8
1878	1·9	1889	1·0
1879	0·6	1890	1·0
1880	0·5	1891	1·4
1881	0·5		

The small-pox death-rate for the presidency during the year under review was 1·4 per 1,000 of population, for 1890 it was 1·0, and for the five year period 1886–90 the annual average rate was 0·8. The mortality from small-pox for the year under review is higher than that of any of the six previous years and 0·6 higher than the mean ratio per 1,000 for the previous five years. The table shows that the disease is subject to periods of repose and severe outbreaks. Thus the highest death-rates took place in 1877 (3·0), 1884 (2·1) and 1891 (1·4), or every seventh year.

39. In form VIII in the appendix is given the monthly distribution of deaths from small-pox in the different districts of the presidency. The greatest number of deaths occurred in February and the fewest in September. It is usually during the months of February, March and April that small-pox prevails most severely, and the months of August, September and October are those in which the fewest deaths are registered.

40. There were 6,786 children under one year of age and 15,593 over one and under twelve years of age who died from small-pox in 1891. The largest number of deaths from small-pox occurred as is usually the case among infants and children under twelve years of age, no less than 54·1 per cent. of the total mortality from small-pox being borne by them. Compared with the preceding year, it is to be observed that a very small proportion of infants perished from this cause in 1891. The mortality among males was slightly in excess of that of females.

41. In all districts deaths from small-pox were recorded. Although in 1891 the total deaths (41,322) exceeded those (28,092) for 1890, yet in eleven districts (Bellary-Anantapur, Chingleput, Cuddapah, Ganjam, Kurnool, North Arcot, Salem, South Arcot, Tanjore, Trichinopoly and Vizagapatam) in 1891, the death-rates per 1,000 of population were lower; in two (Madras and Nellore) they were the same; and in the remaining eight (Coimbatore, Godávari, Kistna, Madura, Malabar, Nílgiris, South Canara and Tinnevelly) they were higher. In nine districts (Bellary-Anantapur, Cuddapah, Ganjam, Kurnool, Nellore, Salem, South Canara, Trichinopoly and Vizagapatam) the ratios per 1,000 of population were lower than the mean ratios per 1,000 of population for the previous five years; in the Nílgiris they were the same, while in the remaining eleven districts they were higher. The highest death-rates were obtained in Kistna (5·3), Malabar (2·7), South Arcot (2·6) and Madura (2·4). The lowest recorded death-rate (0·1) was registered in both the South Canara and Ganjam districts. The mortality (0·2) was also low in the Madras, Vizagapatam and Nellore districts.

42. From annual form VI-B in the appendix, it will be seen that in towns the death-rate from small-pox (2·1) was greater than that (1·4) in districts.

43. In the following table is shown the small-pox mortality in the municipal towns during 1891:—

No.	Municipalities.	Number of deaths from small-pox.	Ratio per mille of population.	Ratio per mille of successful vaccination to population.	No.	Municipalities.	Number of deaths from small-pox.	Ratio per mille of population.	Ratio per mille of successful vaccination to population.
1	Calicut ..	1,165	20·4	58·1	29	Negapatam ..	36	0·7	35·8
2	Periyakulam ..	143	8·7	32·3	30	Cuddalore ..	27	0·6	28·2
3	Tuticorin ..	135	8·3	63·9	31	Máyavaram ..	13	0·6	28·4
4	Masulipatam ..	189	5·4	43·07	32	Tirupati ..	6	0·5	37·03
5	Cochin ..	81	5·2	79·8	33	Kumbakónám	27	0·5	26·0
6	Bezváda ..	42	4·2	67·6	34	Mannárgudi ..	10	0·5	30·4
7	Gudiyátam ..	64	3·8	31·04	35	Bellary ..	21	0·4	54·9
8	Tirupatúr ..	54	3·8	47·6	36	Cuddapah ..	7	0·4	38·9
9	Rajahmundry .	87	3·5	43·4	37	Vániyambádi ..	6	0·4	50·5
10	Madura ..	200	2·6	25·8	38	Cannanore ..	8	0·3	41·2
11	Tellicherry ..	59	2·4	37·9	39	Srírangam ..	6	0·3	55·02
12	Guntúr ..	46	2·3	57·8	40	Salem ..	14	0·2	44·4
13	Pálghat ..	80	2·2	31·1	41	Nellore ..	4	0·1	36·2
14	Coimbatore ..	83	2·1	36·0	42	Ootacamund ..	1	0·1	57·8
15	Vellore ..	78	1·9	41·5	43	Anakapallo ..	2	0·1	47·7
16	Tinnevelly ..	37	1·6	64·9	44	Vizagapatam ..	1	0·03	65·1
17	Ellore ..	38	1·5	71·7	45	Anantapur ..	..	..	69·1
18	Palni ..	18	1·4	24·6	46	Adóni ..	..	..	50·4
19	Palamcottah ..	25	1·4	52·6	47	Karúr ..	..	..	25·1
20	Tanjore ..	70	1·3	23·7	48	Berhampore ..	..	..	34·4
21	Trichinopoly ..	101	1·2	142·4	49	Chicacole ..	..	..	22·3
22	Dindigul ..	15	1·1	55·4	50	Parlákimedi ..	..	..	69·5
23	Erode ..	10	1·0	48·0	51	Kurnool ..	..	..	43·9
24	Chidambaram ..	19	0·9	35·6	52	Wálajápet ..	..	..	24·6
25	Cocanada ..	25	0·8	54·0	53	Mangalore ..	..	..	43·3
26	Ongole ..	7	0·8	61·6	54	Vizianagrum ..	..	..	40·5
27	Coonoor ..	4	0·8	119·3	55	Bimlipatam ..	..	..	42·9
28	Conjeeveram ..	27	0·7	78·7		Total ..	3,091	2·1	49·7

In 44 of the 55 municipal towns, deaths from small-pox were registered. Calicut heads the list with a ratio of 20·4 per 1,000 of population, the rate for the district being 2·7. In this town vaccination is carried on in a very unsatisfactory manner. The lowest ratio (0·03) per 1,000 of population took place in Vizagapatam.

FEVERS.

44. The registered mortality from "fevers" during the year was 247,029, yielding a ratio of 8·6 per mille of population against 262,855 or 9·2 per mille in 1890, and 232,025, or 8·2 the mean of the previous five years. Compared with 1890 there was thus a decrease of 15,826 for the year under report.

45. The number of deaths registered from fever during the ten years 1881 to 1890 were as follows:—

Years.	Number of deaths from fever.	Years.	Number of deaths from fever.
1881	203,542	1886	221,679
1882	188,561	1887	240,860
1883	203,786	1888	204,561
1884	215,977	1889	230,172
1885	218,786	1890	262,855
Mean of 5 years (1881–85).	206,130	Mean of 5 years (1886–90).	232,025

In none of the preceding ten years, with the exception of 1890, was the fever mortality so high as in the year under review.

46. The following table shows the deaths from fevers in the several districts of the presidency in each year since 1882:—

Districts.	Population for which returns were received.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	1891.
Anantapur ...	1,336,017	4,682	4,359	4,622	4,789	4,377	6,185	2,212	2,185	4,189	2,688
Bellary ...		2,089	1,530	1,548	1,358	1,370	2,407	5,444	5,829	7,438	7,001
Chingleput ...	978,524	5,552	5,574	6,082	6,114	6,741	6,198	5,303	5,938	6,454	7,453
Coimbatore ...	1,657,144	11,136	12,843	12,897	10,776	11,185	12,898	11,016	12,935	15,732	13,912
Cuddapah ...	1,120,714	13,285	11,243	12,282	14,648	15,412	18,906	18,258	16,642	19,444	16,801
Ganjam ...	1,376,069	12,038	12,016	10,789	10,354	10,739	16,669	11,414	15,852	13,876	14,165
Godávari ...	1,790,850	14,366	14,221	16,857	16,617	19,205	17,444	12,145	17,286	17,536	17,753
Kistna ...	1,548,355	13,221	12,933	14,056	12,910	14,925	14,486	11,310	14,780	15,446	14,655
Kurnool ...	678,464	11,925	9,984	10,771	11,015	11,492	15,916	15,008	13,536	15,560	14,315
Madras ...	389,984	3,674	3,422	3,726	3,553	3,758	3,973	3,306	4,064	4,588	6,635
Madura ...	1,293,829	8,043	9,158	9,496	10,265	9,845	7,760	7,068	7,619	9,491	8,770
Malabar ...	2,351,152	17,856	27,961	24,816	22,577	19,290	17,311	18,617	17,993	18,158	17,808
Nellore ...	1,219,883	6,097	7,702	8,094	8,999	8,999	9,481	8,708	7,940	10,415	11,539
Nílgiris ...	88,324	772	768	1,063	1,177	1,038	931	1,050	980	1,502	1,498
North Arcot ...	1,822,312	9,296	10,487	11,755	15,724	15,821	16,901	13,889	14,686	17,275	16,097
Salem ...	1,592,274	9,251	10,081	10,908	12,517	14,136	16,142	13,810	14,617	19,545	15,129
South Arcot ...	1,815,916	9,262	10,110	10,524	10,563	12,193	13,075	12,797	12,644	15,216	14,926
South Canara...	955,595	4,462	7,410	10,884	8,992	7,727	6,866	6,680	6,005	10,303	7,618
Tanjore ...	2,129,538	3,405	3,742	4,074	3,356	3,486	3,556	3,196	3,171	4,101	4,885
Tinnevelly ...	1,699,056	5,750	5,987	6,448	5,900	5,055	5,550	4,932	5,047	6,421	5,868
Trichinopoly ...	1,214,485	5,905	6,323	5,973	5,605	5,530	6,194	6,132	6,066	7,802	6,790
Vizagapatam ...	1,455,240	16,525	15,982	18,812	20,977	19,355	22,011	12,211	24,457	22,363	20,778
Total, Madras Presidency.	28,513,734	188,561	203,786	215,977	218,786	221,679	240,860	204,561	230,172	262,855	247,029

47. In all districts, with the exception of Chingleput, Ganjam, Godávari, Madras, Nellore and Tanjore, the death-rates from fever were lower than those of the previous year. The highest death-rate (21·1) occurred, as usually happens, in the Kurnool district and the lowest (2·3) in the Tanjore district. The rate of fever mortality was high in the districts of Madras (17·0), Nílgiris (16·9), Cuddapah (14·9) and Vizagapatam (14·3).

48. In table IX in appendix the monthly distribution of the deaths from fevers is shown. The largest number of deaths (27,311) was recorded in the month of December and the fewest (16,753) in March.

49. The subjoined table shows the deaths and death-rates from fevers in districts and municipalities :—

No.	Districts, exclusive of municipal towns.	Number of deaths from fevers.	Ratio per mille of population.	No.	Municipalities.	Number of deaths from fevers.	Ratio per mille of population.
1	Kurnool	14,034	21·3	1	Bezváda	161	15·9
2	Nílgiris	1,396	19·6	2	Parlákimedi ..	228	14·8
3	Madras	6,635	17·0	3	Tuticorin	232	14·2
4	Cuddapah	16,548	15·0	4	Ádóni	310	13·8
5	Vizagapatam ..	20,602	14·5	5	Kurnool	281	13·8
6	Ganjam	13,697	10·4	6	Cuddapah	253	13·3
7	Godávari	17,352	10·1	7	Tirupatúr	186	13·0
8	Kistna	14,202	9·6	8	Anakápallo ..	167	12·5
9	Nellore	11,340	9·6	9	Vizianagrum ..	275	12·2
10	Salem	14,417	9·6	10	Guntúr	214	10·9
11	North Arcot ..	15,588	8·9	11	Wálajápet	97	9·3
12	Coimbatore ..	13,586	8·5	12	Tirupati	123	9·3
13	South Arcot ..	14,520	8·3	13	Vizagapatam ..	281	9·3
14	South Canara ..	7,410	8·0	14	Vániyambádi ..	141	8·8
15	Malabar	17,147	7·9	15	Chidambaram ..	175	8·8
16	Chingleput	7,184	7·6	16	Cannanore	228	8·6
17	Anantapur ..	2,612	7·1	17	Cooncor	40	8·4
18	Bellary	6,368		18	Rajahmundry ..	184	7·5
19	Madura	8,296	7·1	19	Conjeeveram ..	269	7·2
20	Trichinopoly ..	6,152	5·5	20	Kumbakónam ..	334	6·7
21	Tinnevelly	5,526	3·3	21	Salem	385	6·5
22	Tanjore	3,750	1·9	22	Mangalore	268	6·5
				23	Chicacole	118	6·4
				24	Ellore	157	6·3
				25	Trichinopoly ..	530	6·3
				26	Ongole	56	6·1
				27	Tanjore	337	6·1
				28	Bellary	323	6·0
				29	Coimbatore ..	231	5·9
				30	Karúr	54	5·9
				31	Bimlipatam ..	48	5·6
				32	Negapatam ..	296	5·5
				33	Srírangam	108	5·5
				34	Anantapur	26	5·3
				35	Cuddalore	231	5·3
				36	Berhampore ..	122	5·2
				37	Nellore	143	5·2
				38	Vellore	206	5·1
				39	Periyakulam ..	82	5·0
				40	Ootacamund ..	62	5·0
				41	Gudiyátam	81	4·9
				42	Madura	353	4·6
				43	Máyavaram	104	4·5
				44	Erode	41	4·2
				45	Cochin	58	3·7
				46	Tellicherry	82	3·3
				47	Mannárgudi ..	64	3·3
				48	Calicut	185	3·2
				49	Pálghat	108	3·0
				50	Palamcottah ..	54	3·0
				51	Tinnevelly	56	2·4
				52	Masulipatam ..	78	2·2
				53	Cocanada	60	2·0
				54	Palni	22	1·6
				55	Dindigul	17	1·2
	Total ..	237,762	8·8		Total ..	9,267	6·4

The district presidency rate was 8·8, or 2·4 more than the municipal presidency rate (6·4). In 16 municipal towns, the death-rates were higher than those of the districts, in one they were the same, while in the remaining 38 municipalities they were lower. It is possible that the lower rate of fever mortality in towns as compared with that in rural circles is partly due to the indiscriminate classification of all diseases with inflammatory symptoms as fever in the more rural or less educated tracts of the country.

BOWEL-COMPLAINTS.

50. The Government of India having directed that the designation of diseases entered in the annual form No. X be changed from "bowel-complaints" to "dysentery and diarrhœa," all diseases which are not included under dysentery and diarrhœa and which used to come under bowel-complaints are now registered under "all other causes."

51. There were 34,223 deaths recorded under "dysentery and diarrhœa" in the presidency during the year, or 7,615 more than were registered last year from bowel-complaints.

52. The subjoined table shows the death-rates under bowel-complaints from 1882 to 1890 and that for 1891 from dysentery and diarrhœa.

Years.	Ratio per mille of population.	Years.	Ratio per mille of population.
1882	0·6	1887	0·9
1883	0·7	1888	1·0
1884	1·0	1889	1·0
1885	1·1	1890	0·9
1886	0·9	1891	1·2

The death-rate for 1891 was 1·2 and was higher than any of the previous recorded death-rates from bowel-complaints since 1882.

53. The district, which recorded the highest mortality from "dysentery and diarrhœa," was Madras with a death-rate of 11·5 per 1,000 and following it comes Chingleput with a ratio of 4·2 per 1,000 of population. The two districts usually return the highest death-ratios from this complaint. The lowest ratios were recorded in the Cuddapah, Ganjam, Godávari, Nellore, and Vizagapatam districts, the death-rate being the same in each, viz., 0·5 per 1,000 of population, Ganjam excepted, where it was only 0·2.

54. Table X in appendix shows the deaths from "dysentery and diarrhœa" during each month of the year. The largest number of deaths was recorded in December and the fewest in May.

55. The following table shows the number of deaths registered from "dysentery and diarrhœa" in each district and municipality during 1891 :—

No.	Districts, exclusive of municipal towns.	Number of deaths from dysentery and diarrhœa.	Ratio per mille of population.
1	Madras	4,480	11·5
2	Chingleput	3,926	4·2
3	Malabar	4,696	2·1
4	Nílgiris	122	1·7
5	South Canara ..	1,233	1·3
6	South Arcot	2,102	1·2
7	North Arcot	1,864	1·1
8	Tinnevelly	1,676	1·0
9	Kurnool	513	0·8
10	Salem	1,195	0·8
11	Coimbatore	1,200	0·7
12	Kistna	1,010	0·7
13	Anantapur	240	0·6
14	Bellary	548	
15	Madura	749	0·6
16	Cuddapah	570	0·5
17	Nellore	597	0·5
18	Trichinopoly ..	571	0·5
19	Tanjore	796	0·4
20	Godávari	609	0·3
21	Vizagapatam ..	414	0·3
22	Ganjam	168	0·1
	Total ..	29,279	1·1

No.	Municipalities.	Number of deaths from dysentery and diarrhœa.	Ratio per mille of population.
1	Bezváda	120	11·9
2	Tuticorin	142	8·7
3	Bimlipatam ..	60	7·0
4	Tanjore	372	6·8
5	Karúr	60	6·5
6	Wálajápet ..	61	5·9
7	Rajahmundry ..	135	5·5
8	Ongole	50	5·4
9	Mannárgudi ..	102	5·3
10	Cochin	82	5·2
11	Coonoor	23	4·8
12	Vizagapatam ..	144	4·7
13	Madura	358	4·6
14	Negapatam ..	247	4·6
15	Conjeeveram ..	162	4·3
16	Kumbakónam ..	215	4·3
17	Máyavaram ..	97	4·2
18	Parlákimedi ..	61	4·0
19	Coimbatore ..	154	3·9
20	Mangalore ..	126	3·9
21	Periyakulam ..	62	3·7
22	Guntúr	71	3·6
23	Tirupati	47	3·6
24	Tirupatúr	51	3·6
25	Cuddalore	159	3·6
26	Trichinopoly ..	299	3·5
27	Tinnevelly ..	80	3·4
28	Vellore	137	3·3
29	Erode	31	3·1
30	Chidambaram ..	61	3·1
31	Gudiyátam ..	51	3·0
32	Calicut	162	2·8
33	Ootacamund ..	34	2·7
34	Cocanada	76	2·5
35	Berhampore ..	56	2·4
36	Chicacole	44	2·4
37	Cannanore ..	62	2·3
38	Salem	135	2·3
39	Ellore	54	2·2
40	Palamcottah ..	40	2·2
41	Anakápalle ..	29	2·2
42	Bellary	104	1·9
43	Srírangam ..	37	1·9
44	Kurnool	37	1·8
45	Vizianagrum ..	41	1·5
46	Pálghat	63	1·7
47	Cuddapah ..	31	1·6
48	Tellicherry ..	38	1·6
49	Masulipatam ..	33	0·9
50	Anantapur ..	4	0·8
51	Dindigul	10	0·7
52	Vániyambádi ..	10	0·6
53	Palni	7	0·5
54	Nellore	13	0·5
55	Adóni	4	0·2
	Total ..	4,944	3·4

The district presidency rate was 1·1 per 1,000 of population and was 2·3 less than the municipal presidency rate (3·4). In 49 municipal towns, the death-rates were higher than in the districts, in five they were lower and in one equal.

The highest death-rate in municipal towns from "dysentery and diarrhœa" is reported to have occurred at Bezváda, where it attained the ratio of 11·9 and next to it comes Tuticorin with a death-rate of 8·7. Those two municipalities usually returned the highest death ratios from this cause. The lowest death-rate (0·2) was registered at Adóni.

INJURIES.

56. The deaths recorded from injuries amounted to 10,542, or 140 more than the deaths registered in 1890, and the death-rate per mille of population was 0·4. There was a decrease in the number of deaths registered from suicide, wounds and accidents in 1891 as compared with 1890, but an increase in the number of deaths from snake-bite and killed by wild beasts.

The following table shows the deaths from injuries for the past twenty years:—

Years.	Suicides.	Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.	Years.
1872 ..	2,366	9,668	3,116	15,150	1872
1873 ..	2,077	9,185	2,889	14,251	1873
1874 ..	1,876	8,590	2,899	13,065	1874
1875 ..	1,811	8,057	2,553	12,421	1875
1876 ..	1,715	7,083	2,377	11,175	1876
1877 ..	2,575	11,797	2,088	16,460	1877
1878 ..	2,464	10,554	1,989	15,007	1878
1879 ..	1,926	8,324	2,369	12,619	1879
1880 ..	1,487	6,985	2,373	10,845	1880
1881 ..	1,603	7,532	2,392	11,527	1881
1882 ..	1,644	7,665	2,302	11,611	1882
1883 ..	1,477	7,714	2,318	11,509	1883
1884 ..	1,514	7,498	2,290	11,502	1884
1885 ..	1,573	7,716	2,370	11,659	1885
1886 ..	1,628	9,057	2,418	13,103	1886
1887 ..	1,784	7,339	2,205	11,328	1887
1888 ..	2,483	6,587	2,331	11,401	1888
1889 ..	2,392	6,768	2,346	11,506	1889
1890 ..	1,991	6,369	2,042	10,402	1890
1891 ..	1,916	6,322	2,304	10,542	1891

57. The death-rates varied in the different districts (excluding towns) ranging from 0·1 per 1,000 of population in the Nílgiris to 0·5 in the Cuddapah, Kurnool, North Arcot and South Canara districts.

58. As usual there were more suicides among females than males. The deaths ascribed to wounds and accidents numbered 6,322, and, as frequently happens, the largest number occurred in the North Arcot district. Snakes and wild beasts caused 2,304 deaths in 1891 against 2,042 in 1890, the largest number (214) occurring, as usually happens, in the South Arcot district.

ALL OTHER CAUSES.

59. The registered mortality from "all other causes" amounted to 315,664 in 1891 against 287,149 in 1890 and 276,693 the mean of the five years 1886–90. The death-rates under this head during the last ten years are shown in the table in the margin.

Years.	Ratio per mille of population.	Years.	Ratio per mille of population.
1882	7·1	1887	9·8
1883	8·0	1888	9·8
1884	9·1	1889	10·1
1885	9·2	1890	10·1
1886	9·3	1891	11·1

60. The following statement showing the ratios of deaths from cholera, small-pox, fevers, and dysentery and diarrhœa per mille of population during 1891 in each circle of registration is given as required by the Government of India—*vide* G.O., Mis. No. 2366, dated 12th November 1886, Public:—

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.
Ganjam.	1	Chicacole Taluk	173,734	0·005	0·3	12·9	0·1
	2	Berhampore do.	258,501	0·08	0·2	10·5	0·2
	3	Goomsur do.	175,512	0·3	0·08	9·2	0·2
	4	M. T. Chicacole	18,302	...	...	6·4	2·4
	5	M. T. Berhampore	23,599	...	...	5·2	2·4
	6	M. T. Parlákimedi	15,365	...	...	14·8	4·0
	7	Zemindaries	664,168	0·1	0·1	10·3	0·09
	8	Agency Tracts	46,939	...	0·06	6·2	0·04
		Total ...	1,376,420	0·09	0·1	10·3	0·2
Vizagapatam.	9	Sarvasiddhi Taluk	121,209	0·03	0·6	15·4	0·4
	10	Narsapatnam do.	82,026	...	0·3	15·6	0·2
	11	Anakápalle do.	112,474	0·009	0·04	13·3	0·4
	12	Vizagapatam do.	49,636	...	0·2	14·6	0·2
	13	Viravilli do.	148,861	0·08	0·2	14·8	0·2
	14	Bimlipatam do.	73,948	0·09	0·6	13·9	0·5
	15	Srunguvarapukottah do.	115,982	...	0·3	13·6	0·2
	16	Vizianagrum do.	87,169	0·05	0·2	15·0	0·3
	17	Gajapatinagar do.	100,520	...	0·2	14·4	0·5
	18	Chipurupalle do.	115,856	...	0·01	12·6	0·01
	19	Sálúr do.	65,371	...	...	15·7	0·8
	20	Bobbili do.	94,772	...	0·08	11·3	0·2
	21	Pálkonda do.	135,182	...	0·1	15·3	0·1
	22	Párvatipur do.	78,609	...	0·1	17·4	0·2
	23	M. T. Vizagapatam	30,291	0·1	0·03	9·3	4·7
	24	M. T. Bimlipatam	8,582	...	...	5·6	7·0
	25	M. T. Vizianagrum	22,577	...	...	12·2	1·8
	26	M. T. Anakápalle	13,341	...	0·1	12·5	2·2
		Total ...	1,455,806	0·02	0·2	14·3	0·5
Godávari.	27	Rámachandrapuram Taluk	220,780	0·5	2·6	12·5	0·3
	28	Amalápuram do.	227,157	0·2	2·3	6·7	0·3
	29	Narsápur do.	200,153	0·2	1·6	3·6	0·2
	30	Bhimavaram do.	108,599	1·2	1·8	5·5	0·3
	31	Tanuku do.	188,306	0·3	6·9	9·8	0·4
	32	Ellore do.	124,216	2·1	1·4	11·9	0·3
	33	Yernagúdem do.	159,364	0·4	2·1	14·2	0·8
	34	Rajahmundry do.	106,641	2·4	1·4	14·6	0·6
	35	Peddápuram do.	124,314	0·3	1·3	15·4	0·3
	36	Bhadráchalam do.	35,656	...	1·1	6·3	0·4
	37	M. T. Cocanada	30,411	1·6	0·8	2·0	2·5
	38	M. T. Rajahmundry	24,555	1·6	3·5	7·5	5·5
	39	M. T. Ellore	25,092	8·7	1·5	6·3	2·2
	40	Zemindaries	216,238	1·5	0·8	11·4	0·3
		Total ...	1,791,512	0·8	0·2	9·9	0·5
Kistna.	41	Répalle Taluk	184,340	[illegible]·0	4·8	3·8	0·8
	42	Bápatla do.	151,736	6·4	4·5	9·9	1·0
	43	Guntúr do.	116,437	[illegible]·5	6·2	8·7	1·1
	44	Palnád do.	125,799	1·1	4·9	15·4	0·9
	45	Narasaraopet do.	128,791	2·3	5·9	13·6	0·9
	46	Gudiváda do.	99,233	[illegible]·4	4·8	6·0	0·5
	47	Sattenapalle do.	110,290	0·6	0·7	13·1	0·6
	48	Masulipatam do.	140,426	1·1	5·4	3·0	0·3
	49	Nandigáma do.	107,288	0·3	6·3	11·0	0·4
	50	Bezváda do.	72,797	1·9	7·1	13·9	0·8
	51	Vinukonda do.	66,977	2·6	5·0	14·4	0·4
	52	M. T. Masulipatam	35,056	3·2	5·4	2·2	0·9
	53	M. T. Guntúr	19,646	3·6	2·3	10·9	3·6
	54	M. T. Bezváda	10,098	5·1	4·2	15·9	11·9
	55	Zemindaries	179,566	1·8	2·3	9·4	0·3
		Total ...	1,548,480	2·8	5·3	9·5	0·8
Nellore.	56	Gúdúr Taluk	99,249	2·2	0·1	8·8	0·5
	57	Rápúr do.	49,774	0·3	0·5	15·9	0·6
	58	Nellore do.	136,235	1·6	0·1	8·2	0·5
	59	Atmakúr do.	83,911	1·9	0·4	12·4	0·8
	60	Kávali do.	60,650	0·6	0·08	8·8	0·5
	61	Udayagiri do.	48,043	1·1	0·5	10·6	0·6
	62	Kandukur do.	97,113	1·3	1·0	12·8	0·5
	63	Kanigiri do.	50,174	0·1	0·04	10·9	0·3

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.
Nellore—cont.	64	Ongole Taluk	144,764	1·2	0·2	10·1	0·5
	65	M. T. Nellore	27,505	18·9	0·1	5·2	0·5
	66	M. T. Ongole	9,200	1·8	0·8	6·1	5·4
	67	Zemindaries	413,618	0·5	0·1	7·8	0·4
		Total ...	1,220,236	1·4	0·3	9·5	0·5
Madras.	68	Madras Town	405,848	4·4	0·1	16·3	11·0
Chingleput.	69	Saidápet Taluk	204,580	4·2	0·9	7·7	3·7
	70	Chingleput do.	117,218	4·5	0·2	6·7	5·3
	71	Madurántakam do.	223,067	7·1	0·6	6·4	4·2
	72	Conjeeveram do.	148,374	5·7	0·5	8·2	5·5
	73	Tiruvallúr do.	143,324	2·9	0·4	8·9	3·1
	74	Ponnéri do.	107,543	5·2	1·2	8·2	3·1
	75	M. T. Conjeeveram	37,275	5·3	0·7	7·2	4·3
		Total ...	981,381	5·0	0·6	7·6	4·2
South Arcot.	76	Cuddalore Taluk	254,978	6·5	1·8	6·4	0·8
	77	Villupuram do.	243,896	12·6	4·9	5·6	1·5
	78	Chidambaram do.	245,413	10·7	2·4	6·4	0·5
	79	Tindivanam do.	264,261	10·4	3·5	5·5	2·5
	80	Kullakurchi do.	196,029	4·6	0·9	12·0	0·5
	81	Tirukoilúr do.	206,489	8·3	3·2	9·2	1·1
	82	Tiruvanámalai do.	154,859	10·1	3·4	11·7	1·8
	83	Vriddháchalam do.	187,068	6·4	1·0	12·9	0·8
	84	M. T. Cuddalore	43,545	8·0	0·6	5·3	3·6
	85	M. T. Chidambaram	19,837	12·3	0·9	8·8	3·1
		Total ...	1,816,375	8·8	2·6	8·2	1·3
Trichinopoly.	86	Trichinopoly Taluk	231,296	3·3	0·3	3·3	0·6
	87	Musiri do.	258,068	1·9	0·1	3·4	0·4
	88	Kulitalai do.	201,990	3·1	0·04	2·0	0·4
	89	Perambalúr do.	172,281	3·5	0·4	6·5	0·6
	90	Udayárpálaiyam do.	247,176	8·9	0·4	12·0	0·6
	91	M. T. Trichinopoly	84,449	5·3	1·2	6·3	3·5
	92	M. T. Srírangam	19,773	2·1	0·3	5·5	1·9
		Total ...	1,215,033	4·2	0·3	5·6	0·7
Tanjore.	93	Tanjore Taluk	320,341	2·6	0·8	2·3	0·4
	94	Kumbakónam do.	320,625	3·3	0·6	2·0	0·3
	95	Máyavaram do.	215,950	4·1	0·5	3·5	1·0
	96	Shiyáli do.	114,041	7·7	0·8	1·8	0·7
	97	Nannilam do.	220,202	2·9	0·6	1·1	0·5
	98	Negapatam do.	163,091	3·0	0·2	1·5	0·5
	99	Mannárgudi do.	162,241	2·3	0·5	1·8	0·3
	100	Tiruturaipúndi do.	168,103	2·3	0·2	1·6	0·1
	101	Patukóta do.	244,717	1·0	0·4	1·5	0·1
	102	M. T. Tanjore	54,745	1·1	1·3	6·1	6·8
	103	M. T. Kumbakónam	50,098	3·8	0·5	6·7	4·3
	104	M. T. Máyavaram	23,044	2·4	0·6	4·5	4·2
	105	M. T. Negapatam	53,776	6·4	0·7	5·5	4·6
	106	M. T. Mannárgudi	19,409	3·9	0·5	3·8	5·3
		Total ...	2,130,383	3·0	0·6	2·3	0·9
Madura.	107	Madura Taluk	138,486	7·9	2·9	7·8	0·8
	108	Melúr do.	132,537	7·1	1·6	2·0	0·2
	109	Tirumangalam do.	203,693	3·5	3·3	7·8	0·6
	110	Periyakulam do.	215,677	0·3	3·0	10·0	0·6
	111	Dindigul do.	290,601	9·5	1·4	8·5	0·8
	112	Palni do.	158,200	5·0	2·3	3·4	0·5
	113	Sattenandal Villages	1,161	...	...	3·4	...
	114	M. T. Madura	76,847	6·0	2·6	4·6	4·6
	115	M. T. Dindigul	14,182	10·6	1·1	1·2	0·7
	116	M. T. Periyakulam	16,446	0·2	5·7	5·0	3·7
	117	M. T. Palni	13,315	21·9	1·4	1·6	0·5
	118	Zemindaries	33,237	13·7	1·3	5·4	1·4
		Total ...	1,294,382	5·9	2·4	6·8	0·9

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.
Tinnevelly.	119	Ootapidáram Taluk	253,516	0·9	4·1	8·2	2·0
	120	Tenkarai do.	283,110	3·2	2·8	2·7	1·4
	121	Tinnevelly do.	130,193	3·1	2·5	1·7	0·5
	122	Srivilliputtur do.	163,508	0·2	1·2	1·5	0·5
	123	Sankaranainarkoil do.	181,064	0·4	0·5	1·4	0·6
	124	Nángunéri do.	174,347	4·0	1·2	2·7	0·5
	125	Ambásamudram do.	165,152	4·0	0·8	2·2	0·7
	126	Sátúr do.	150,886	1·8	4·2	5·2	1·1
	127	Tonkási do.	140,405	3·6	0·3	2·3	1·0
	128	M. T. Tinnevelly	23,221	7·9	1·6	2·4	3·4
	129	M. T. Palamcottah	17,964	4·5	1·4	3·0	2·2
	130	M. T. Tuticorin	16,281	2·6	8·3	14·2	8·7
		Total ...	1,699,747	2·4	2·2	3·4	1·1
Kurnool.	131	Rámallakótah Taluk	74,369	5·6	0·04	21·7	0·6
	132	Pattikonda do.	105,438	7·4	0·5	23·4	0·9
	133	Nandikátkur do.	72,741	3·9	0·1	26·1	0·8
	134	Nandyál do.	78,282	10·9	0·2	19·7	1·6
	135	Koilkuntla do.	76,296	4·7	0·05	20·4	0·6
	136	Sirvél do.	57,197	3·3	0·1	21·5	1·2
	137	Cumbum do.	109,851	1·1	0·6	19·0	0·4
	138	Márkápur do.	84,048	1·6	0·7	19·3	0·5
	139	M. T. Kurnool	20,329	6·8	...	13·8	1·8
		Total ...	678,551	4·8	0·3	21·1	0·8
Cuddapah.	140	Badvél Taluk	82,445	3·3	0·8	17·8	0·2
	141	Proddutur do.	90,653	12·2	0·1	13·9	0·4
	142	Sidhout do.	59,076	6·3	0·9	16·7	0·5
	143	Pullampet do.	134,366	11·5	0·6	16·9	0·6
	144	Cuddapah do.	128,471	8·2	0·1	14·3	0·3
	145	Jammalamadugu do.	91,958	7·0	0·7	12·5	0·3
	146	Pulivendla do.	95,617	7·8	0·2	14·9	0·5
	147	Ráyachóti do.	92,541	0·7	0·1	13·6	0·5
	148	Kadiri do.	116,262	2·7	0·3	11·2	0·6
	149	Váyalpád do.	104,462	0·8	1·6	18·0	0·8
	150	Madanapalle do.	106,215	0·3	1·0	15·9	0·9
	151	M. T. Cuddapah	18,982	2·1	0·4	13·3	1·6
		Total ...	1,121,038	5·5	0·6	1·5	0·5
Bellary.	152	Bellary Taluk	95,287	3·0	0·3	4·3	0·5
	153	Hospet do.	85,500	0·4	0·1	21·5	0·6
	154	Kúdligi do.	74,840	1·8	0·3	7·2	0·6
	155	Huvanhadgalli do.	70,317	3·3	0·3	9·7	3·2
	156	Harpanahalli do.	75,401	5·6	0·2	11·0	1·3
	157	Alúr do.	65,586	6·4	0·7	5·2	0·3
	158	Adóni do.	99,644	5·9	0·3	8·3	0·2
	159	Ráyadrug do.	80,032	5·3	0·9	14·8	0·3
	160	M. T. Bellary	53,460	2·9	0·4	6·0	1·9
	161	M. T. Adóni	22,141	18·6	...	13·8	0·2
	162	Zemindaries	10,532	...	0·5	20·2	0·5
		Total ...	733,040	4·2	0·4	9·5	0·9
Anantapur.	163	Anantapur Taluk	86,909	7·5	0·2	3·1	0·04
	164	Gooty do.	110,597	7·8	0·3	3·9	0·7
	165	Tádpatri do.	98,964	13·7	0·3	0·8	0·4
	166	Penukonda do.	73,023	11·5	0·1	7·8	0·6
	167	Dharmavuram do.	100,873	5·6	0·7	7·4	0·2
	168	Hindupur do.	73,270	...	0·6	3·9	0·5
	169	Madakasira do.	55,113	0·2	0·7	3·9	0·4
	170	M. T. Anantapur	4,907	18·5	...	5·3	0·8
		Total ...	603,656	7·2	0·4	4·4	0·4
North Arcot.	171	Chittoor Taluk	171,907	3·3	1·1	11·3	0·6
	172	Chendragiri do.	79,919	5·9	2·3	7·5	0·7
	173	Palmanér do.	41,815	0·02	0·4	10·4	0·1
	174	Gudiyátam do.	137,956	4·2	0·9	10·8	0·8
	175	Vellore do.	129,258	7·4	1·2	9·9	1·1
	176	Pólúr do.	111,877	5·6	1·3	9·4	1·9
	177	Wandiwash do.	148,100	4·1	2·2	3·5	1·4

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population. Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhœa.
N. Arcot—*cont.*	178	Arcot Taluk	147,388	5·4	1·9	5·7	1·8
	179	Wálajápet do.	188,790	3·6	2·0	6·3	1·4
	180	M. T. Vellore	40,958	7·0	1·9	5·1	3·3
	181	M. T. Wálajápet	10,387	3·8	...	9·3	5·9
	182	M. T. Gudiyátam	16,690	2·9	3·8	4·9	3·0
	183	M. T. Tirupati	13,282	5·4	0·5	9·3	3·6
	184	Zemindaries	584,596	2·6	2·0	10·4	0·8
		Total ...	1,822,873	4·0	1·7	8·8	1·2
Salem.	185	Salem Taluk	267,547	5·9	0·3	9·4	0·7
	186	Atúr do.	158,554	7·5	0·8	11·3	1·0
	187	Námakal do.	254,577	2·0	0·6	6·9	0·6
	188	Tiruchengód do.	191,328	2·4	0·2	11·8	0·8
	189	Hosúr do.	131,770	0·3	0·1	8·7	0·7
	190	Kistnagiri do.	120,929	0·7	0·9	7·0	0·9
	191	Dharampuri do.	135,826	1·9	1·0	7·1	0·5
	192	Tirupatúr do.	133,070	5·4	2·2	12·9	1·0
	193	Uttankarai do.	109,456	3·8	1·3	12·8	1·2
	194	M. T. Salem	59,631	7·2	0·2	6·5	2·3
	195	M. T. Vániyambádi	15,933	7·1	0·4	8·8	0·6
	196	M. T. Tirupatúr	14,278	5·0	3·8	13·0	3·6
		Total ...	1,592,899	3·7	0·7	9·5	0·9
Coimbatore.	197	Coimbatore Taluk	228,837	6·2	1·3	10·6	0·6
	198	Erode do.	185,805	3·2	0·7	6·4	0·8
	199	Satyamangalam do.	151,313	2·0	0·3	11·8	0·6
	200	Polláchi do.	172,909	13·3	1·4	10·4	0·7
	201	Palladam do.	213,391	3·5	1·0	9·1	1·4
	202	Bhavání do.	94,128	1·4	0·6	11·4	0·4
	203	Kollegál do.	77,522	...	0·9	12·3	1·0
	204	Udamalpet do.	112,572	3·4	2·5	7·7	0·7
	205	Karúr do.	167,950	7·3	1·4	4·8	0·3
	206	Dhárápuram do.	195,232	4·9	1·2	3·8	0·7
	207	M. T. Coimbatore	88,967	3·8	2·1	5·9	3·9
	208	M. T. Erode	9,864	9·7	1·0	4·2	3·1
	209	M. T. Karúr	9,205	9·6	...	5·9	6·5
		Total ...	1,657,690	5·0	1·1	8·4	0·9
Nilgiris.	210	Nílgiri Taluk	46,756	1·4	0·5	19·4	1·1
	211	South-East Wynaad	25,440	0·5	1·7	18·3	2·7
	212	Wellington Cantonment	1,725	...	0·5	12·2	1·2
	213	M. T. Ootacamund	12,335	0·6	0·1	5·0	2·7
	214	M. T. Coonoor	4,778	2·1	0·8	8·4	4·8
		Total ...	91,034	1·0	0·8	16·5	1·9
S. Canara.	215	Mangalore Taluk	216,950	0·02	0·1	6·6	0·9
	216	Kásaragód do.	243,881	0·3	0·1	7·3	1·0
	217	Uppinangádi do.	110,367	...	0·06	10·3	1·4
	218	Udipi do.	237,432	1·1	0·3	6·7	1·7
	219	Kundapur do.	115,113	0·03	0·1	12·6	1·9
	220	M. T. Mangalore	32,099	...	...	6·5	3·9
		Total ...	955,842	0·3	0·2	7·9	1·4
Malabar.	221	Chirakal Taluk	246,288	1·2	0·4	8·0	1·0
	222	Kóttayam do.	141,194	0·1	0·9	7·9	0·6
	223	Kurumbranád do.	261,024	0·7	1·7	7·9	0·7
	224	Calicut do.	148,877	1·7	5·2	8·1	2·2
	225	Ernád do.	296,143	5·6	4·7	9·3	3·2
	226	Ponáni do.	392,654	3·3	2·9	3·9	4·2
	227	Walawanád do.	308,102	1·8	1·3	7·9	2·6
	228	Pálghat do.	306,115	2·4	2·3	8·1	1·3
	229	Wynaad do.	88,091	...	0·9	17·6	0·5
	230	Cochin do.	1,463	...	7·5	2·7	4·8
	231	Anjengo do.	2,534	...	0·4	0·4	1·3
	232	Tangachéri do.	1,665	...	...	3·6	0·6
	233	M. T. Tellicherry	24,581	0·2	2·4	3·3	1·6
	234	M. T. Calicut	57,085	1·2	20·4	3·2	2·8
	235	M. T. Pálghat	36,339	4·6	2·2	3·0	1·7
	236	M. T. Cochin	15,698	6·2	5·2	3·7	5·2
	237	M. T. Cannanore	26,386	0·8	0·3	8·6	2·3
		Total ...	2,354,234	2·2	2·7	7·6	2

NOTE.—In this statement the ratios are calculated on the population including Europeans and Eurasians.

SECTION IX

SANITARY WORKS—CIVIL.

MUNICIPALITIES.

61. Excluding the City of Madras which has an Act (I of 1884) of its own, the number of municipalities administered under the District Municipalities Act IV of 1884 was, as in previous years, 55.

62. *Sanitary Works.*—The nature and description of the sanitary works executed in the different towns will be found summarized in the appended statement, which also shows the condition of each town in respect of its water-supply, drainage and conservancy and the rate of mortality per mille of population. As in previous years the works undertaken during 1891 were of the following kinds:—

(*a*) Sinking, repairing and cleansing wells, &c.

(*b*) Construction and repair of drains, public latrines, cinerators, dust-bins, markets, slaughter-houses, &c.

(*c*) Improvement of village-sites, &c.

63. In some towns comprehensive schemes for draining them and projects for giving the people the benefits of an improved and wholesome water-supply were in progress, and in others they were under preparation or investigation. Detailed information regarding these will be found furnished in the report of the Sanitary Engineer. As heretofore, the sources of water-supply and the systems of drainage remained very much in the same defective condition, and until these potent auxiliaries to health are put in a satisfactory condition a marked diminution in the mortality of our towns cannot be hoped for. The conservancy arrangements which obtained in the towns continued very much the same as reported on in previous years. In some towns the conservancy arrangements were well looked after, but in others they were very indifferently attended to. Appended is a statement showing the conservancy establishment that was maintained in each town, of which the following is an abstract showing the aggregate strength of the staff and the material employed during the year:—

Establishment.	1890.	1891.	Material.	1890.	1891.
Inspectors, Overseers, &c.	220	198	Carts	1,097	1,149
Maistries	108	108	Dust-bins	7,768	8,175
Peons	307	213	Public latrines	958	1,191
Sweepers, &c.	2,159	2,300	Private latrines	17,310	22,918
Toties for public and private latrines.	1,535	1,670			
Tank watchers	151	161			

Under all heads with the exception of "Inspectors, overseers, &c.," and "peons" there has been an increase in 1891 when compared with 1890.

64. The total number of public latrines in all the mofussil towns aggregated 1,191 against 958 in the previous year. They varied in number from 3 in Bimlipatam to 206 in Ootacamund. In 20 towns the numbers were the same, in 25 others there was an increase ranging from 1 to 159, and in 10 there was a decrease ranging from 1 to 4. The greatest increase occurred in Ootacamund 159 and the greatest decrease in Nellore 4.

65. The system of private scavengering made some progress in 1891 when compared with 1890 both as regards the number of towns and the houses served. During the year under notice it was newly introduced in 5 towns, viz., Bimlipatam,

Palni, Dindigul, Vizianagrum and Trichinopoly, thus raising the number of towns which enjoy the benefits of the system to 48. There were on the whole 5,608 more private latrines cleaned by municipal scavengers in 1891 than in 1890, making a total of 22,918 houses. Excluding the 5 towns in which the system was newly introduced private scavenging progressed in 31 towns and in 8 it showed a retrogression. The towns in which the greatest progress was made were Kurnool 1,134, Coimbatore 420, Conjeeveram 179, Chicacole 144, and Tuticorin 130 and the towns in which the greatest decrease took place were Bellary and Ootacamund where the number of latrines fell off by 171 and 95 respectively. In 4 towns, Anantapur, Karúr, Palamcottah and Cuddalore, the system remained stationary. Mangalore which stood first in 1890 and 1889, again headed the list with the largest number of private latrines under municipal management, viz., 2,450, then came Srírangam 1,670, Trichinopoly 1,610, Bellary 1,462, Tuticorin 1,290, Vizianagrum 1,273, Kurnool 1,200, and Negapatam 1,108.

66. The following statement shows the details of the conservancy establishments maintained in the towns and the number of private latrines cleaned by municipal agency:—

Statement showing the Conservancy Establishment in each Municipality of the Madras Presidency during the year 1891.

Municipalities.	Population as per census of 1891.	Inspectors.	Supervisors.	Overseers.	Maistries.	Peons.	Sweepers, &c.	Toties for cleaning public latrines.	Toties for private scavengering.	Number of latrines scavengered by the municipality.	Carts.	Latrines. Pucka built.	Latrines. Brick wall enclosures.	Latrines. Mud wall enclosures.	Latrines. Tatty.	Dust-bins. Wooden.	Dust-bins. Masonry.	Dust-bins. Iron.	Tank watchers.
Coonoor ...	4,778	1	...	...	1	...	18	7	7	112	12	10	...	...	...	2	...	45	...
Anantapur ...	4,907	1	...	...	...	2	16	8	3	123	3	1	4	3	...	...	26	45	...
Bimlipatam ...	8,582	1	...	4	...	2	37	3	31	281	2	3	...	...	...	...	30	...	1
Ongole ...	9,200	1	...	...	...	2	20	4	6	276	3	...	¶ 6	...	1	...	64	...	1
Karúr ...	9,205	2	...	...	1	2	20	7	1	25	7	3	...	5	5	...	33	34	...
Erode ...	9,884	1	...	...	...	4	25	9	2	88	19	4	...	9	§ 1	...	75	50	1
Bezváda ...	10,098	1	2	...	1	5	34	10	1	12	25	7	4	...	...	...	...	104	...
Wálajápet ...	10,387	3	...	...	4	...	12	9	3	140	6	7	...	...	...	...	53	§§487	6
Ootacamund ...	12,335	2	...	4	4	...	65	24	32	160	26	150	50	6	...	8	...	36	...
Tirupati ...	13,232	1	...	...	2	...	37	5	...	...	18	...	1	...	10	...	145	20	3
Palni ...	13,315	1	...	...	1	4	10	4	2	100	10	...	...	4	...	...	23	16	3
Anakápalle ...	13,341	...	...	1	3	1	43	20	...	...	4	2	2	12	3	...	10	24	1
Dindigul ...	14,182	2	...	...	...	3	24	17	4	79	26	2	...	15	...	...	30	22	3
Tirupattúr ...	14,278	...	...	...	2	...	32	8	...	...	14	...	...	4	3	...	32	55	1
Parlákimedi ...	15,365	2	...	...	...	3	32	4	6	31	5	10	...	...	2	††100	...	...	3
Cochin ...	15,698	1	...	4	1	...	21	6	33	250	9	4	3	...	3	12	...	...	...
Vániyambádi ...	15,933	...	...	...	2	...	40	11	...	...	22	...	...	5	5	...	...	78	7
Tuticorin ...	16,281	2	...	...	...	5	16	† 14	...	1,290	17	...	1	...	9	...	43	26	...
Periyakulam ...	16,446	1	...	...	...	2	8	5	1	60	9	...	...	7	1	...	5	10	1
Gudiyátam ...	16,690	1	...	...	5	...	15	4	3	133	12	§ 2	3	5	...	...	100	18	11
Palamcottah ...	17,964	1	...	...	1	2	12	7	4	70	18	6	2	...	...	...	106	...	3
Chicacole ...	18,302	...	1	...	1	4	38	5	15	292	6	...	4	...	1	2	28	...	3
Cuddapah ...	18,962	4	...	...	...	6	29	28	13	498	16	25	...	6	...	...	§§166	7	...
Mannárgudi ...	19,409	2	...	...	2	...	60	2	...	...	...	...	2	1	17	46	...	...	4
Guntúr ...	19,646	...	...	5	1	5	36	34	12	147	30	18	...	...	...	...	11	24	4
Srírangam ...	19,773	3	...	...	...	10	18	20	18	1,670	23	...	8	...	9	...	84	1	1
Chidambaram ...	19,837	1	...	...	4	...	20	6	2	76	11	...	1	...	7	...	271	45	4
Kurnool ...	20,329	1	...	...	1	8	36	13	2	1,200	7	38	...	...	...	...	255	...	...
Adóni ...	22,441	1	...	...	2	8	25	20	13	750	6	6	...	6	...	...	74	51	8
Vizianagrum ...	22,577	2	...	7	6	1	135	11	67	1,273	22	22	...	...	...	100	25	11	4
Máyavaram ...	23,044	3	...	...	...	5	15	† 15	...	174	21	4	...	...	2	...	150	22	6
Tinnevelly ...	23,221	3	...	1	...	6	39	8	2	64	20	1	6	2	...	...	140	...	1
Berhampore ...	23,599	4	...	...	...	...	83	21	26	563	19	...	5	15	2	...	120	...	4
Rajahmundry ...	24,555	2	...	1	1	7	46	22	40	590	18	4	4	5	8	‡‡129	112	5	2
Tellichérry ...	24,581	3	...	1	2	...	25	13	18	365	15	7	...	...	**21	12	40	...	...
Ellore ...	25,092	4	...	...	...	...	37	13	...	...	10	...	9	5	12	...	60	20	1
Cannanore ...	26,386	2	...	1	1	2	18	16	8	334	12	11	11	...	...	10	18	...	...
Nellore ...	27,505	2	...	...	6	...	42	24	13	486	23	...	12	1	11	...	102	60	...
Vizagapatam ...	30,291	14	...	...	7	...	154	53	10	210	11	...	48	...	20	21	180	30	1
Cocanada ...	30,441	...	...	2	...	6	45	34	6	94	8	7	...	...	8	...	...	18	6
Mangalore ...	32,099	9	...	...	...	...	24	...	‡33	2,450	5	7	5	...	...	...	88	15	...
Masulipatam ...	35,056	6	...	...	...	...	50	...	8	208	23	8	§ 5	...	...	...	...	...	1
Pálghat ...	36,339	1	...	...	8	2	42	14	10	220	26	7	2	...	4	...	...	151	...
Conjeeveram ...	37,275	4	1	...	...	...	40	5	5	317	23	‖1	9	...	...	...	‖‖376	28	4
Coimbatore ...	38,967	3	...	1	7	...	78	25	30	650	39	17	8	7	1	12	...	112	1
Vellore ...	40,958	6	...	...	...	9	32	42	10	400	44	21	4	...	...	...	403	168	7

* 18 of these attend to private scavengering also. † Attend to private scavengering also. ‡ Three of these clean public latrines.
§ Of zinc. ‖ Corrugated iron. ¶ Of stonewall. ** Sentry box. †† Of bamboo. ‡‡ Includes 83 mud bins.
§§ Stone slabs. ‖‖ Some are stone slabs.

Statement showing the Conservancy Establishment in each Municipality of the Madras Presidency during the year 1891—continued.

Municipalities.	Population per census of 1881.	Inspectors.	Supervisors.	Overseers.	Maistries.	Peons.	Sweepers, &c.	Totics for cleaning public latrines.	Totics for private scavengering.	Number of latrines scavengered by the municipality.	Carts.	Latrines. Pucka built.	Latrines. Brick wall enclosures.	Latrines. Mud wall enclosures.	Latrines. Tatty.	Dust-bins. Wooden.	Dust-bins. Masonry.	Dust-bins. Iron.	Tank watchers.
Cuddalore ...	43,545	7	...	...	...	6	43	24	5	50	26	12	...	...	9	...	242	50	3
Kumbakónam ...	50,098	6	...	...	...	6	45	18	18	341	38	† 13	20	...	...	44	170	§ 40	2
Bellary ...	53,460	10	...	1	2	19	64	47	23	1,462	60	15	...	11	...	...	305	101	4
Negapatam ...	53,776	5	* 1	...	1	12	96	16	80	1,108	44	...	15	...	1	...	517	24	4
Tanjore ...	54,745	6	...	...	6	24	78	32	13	706	66	...	28	...	2	...	208	17	11
Calicut ...	57,085	1	...	1	9	...	48	17	25	710	...	5	5	...	...	...	21	...	...
Salem ...	59,631	3	...	...	11	...	148	55	12	385	52	1	42	‡ 3	2	...	47	160	1
Madura ...	76,847	6	...	...	...	13	100	25	...	...	67	4	...	...	2	...	72	106	...
Trichinopoly ...	84,449	9	...	2	2	17	69	89	41	1,610	110	2	15	59	2	...	212	80	24
Total ...	1,456,422	157	5	36	108	213	2,360	953	717	22,918	1,149	467	344	196	184	498	5,267	2,410	161
Madras ...	‖ 397,626	2	...	20	50	144	1,326	455	15	15	661	...	217	...	...	...	2,003	1,515	...

* Health officer. † Urinals. ‡ Of zinc. § Zinc dust-bins. ‖ Excludes floating population, &c.

	Per cent.		Per cent.
Bezváda ...	74·9	Nellore ...	60·9
Wálnjápet ...	73·3	Ellore ...	60·0
Tellicherry ...	72·5	Anakápalle ...	59·9
Trichinopoly ...	72·5	Cuddapah ...	59·3
Chidambaram ...	72·4	Mangalore ...	59·5
Cochin ...	71·0	Adóni ...	59·1
Negapatam ...	70·8	Berhampore ...	58·3
Váníyambádi ...	70·0	Cannanore ...	58·3
Máyavaram ...	68·9	Bimlipatam ...	58·0
Pálghat ...	68·2	Conjeeveram ...	57·7
Rajahmundry ...	68·0	Tiruputúr ...	56·9
Guntúr ...	65·8	Tirupati ...	56·1
Karúr ...	65·6	Tanjore ...	55·3
Salem ...	65·6	Dindigul ...	55·1
Madura ...	65·4	Mannárgudi ...	51·9
Cuddalore ...	65·1	Bellary ...	51·2
Gudiyátam ...	65·0	Ongole ...	51·2
Tinnevelly ...	64·2	Tuticorin ...	49·1
Erode ...	63·8	Vizagapatam ...	48·8
Chicacole ...	62·9	Vellore * ...	47·3
Masulipatam ...	62·0	Parlákimedi ...	44·5
Srirangam ...	61·7	Palamcottah ...	37·9
Ootacamund ...	61·3	Coonoor ...	29·8
Palni ...	60·9	Kumbakónam ...	17·1

67. The total estimated income of the mofussil municipalities for 1891-92 was Rs. 26,52,995 against Rs. 21,17,640 for 1890-91. Of this amount the allotment made for sanitation was Rs. 9,97,380 or 37·6 per cent. and the actual expenditure during the first nine months of that year amounted to Rs. 5,57,140 or 55·8 per cent. of the allotment. The municipal councils of the marginally noted towns did not utilize a fair share of the sanctioned allotments in the period under notice.

68. The annexed statement shows in detail the expenditure for nine months in 1891-92 under each item of sanitation, of which the following is an abstract, and of the transactions for the full year 1890-91 :—

	1890-91 (for the full year). Amount sanctioned.	1890-91 Amount spent.	1891-92. Amount sanctioned.	1891-92. Amount spent in 9 months ending December 1891.
	RS.	RS.	RS.	RS.
For conservancy	4,20,517	3,90,348	4,46,415	3,16,565
For improvement of village or town sites	1,25,639	1,21,414	1,89,240	1,22,925
For improvement of water-supply, cleansing, repairing and construction of tanks and wells	69,591	55,655	66,375	41,964
For sanitary arrangements during fairs and festivals.	12,205	11,805	12,595	8,994
For construction and repair of markets and slaughter-houses	24,241	12,580	35,927	12,206
For other sanitary objects	1,37,920	52,704	2,46,828	54,486
Total ..	7,90,113	6,44,506	9,97,380	5,57,140

Statement showing the Estimated Income and Allotment for Sanitary Purposes in each Municipality during the year 1891-92.

Municipalities.	Population as per census of 1881.	Estimated income, 1891-92.	Rate per cent. of sanitary allotment to estimated income.	Rate per cent. of sanitary expenditure to amount sanctioned.	1891-92. Sanitary allotment. Amount sanctioned.	Sanitary allotment. Amount expended in nine months ending December 1891.	Conservancy. Amount sanctioned.	Conservancy. Amount expended.	Improvement of town sites. Amount sanctioned.	Improvement of town sites. Amount expended.	Improvement of water-supply, including cleansing, repairing, &c. Amount sanctioned.	Improvement of water-supply, including cleansing, repairing, &c. Amount expended.	Sanitary arrangements during fairs and festivals. Amount sanctioned.	Sanitary arrangements during fairs and festivals. Amount expended.	Construction and repair of markets and slaughter-houses. Amount sanctioned.	Construction and repair of markets and slaughter-houses. Amount expended.	Other sanitary objects, including construction and repair of tanks, &c. Amount sanctioned.	Other sanitary objects, including construction and repair of tanks, &c. Amount expended.
		RS.			RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Anantapur ...	4,907	24,900	15·9	77·0	3,970	3,058	2,260	1,777	1,500	1,083	50	103	30	...	50	47	800	46
Adóni ...	22,441	46,950	26·5	59·1	12,070	7,674	8,450	6,142	2,600	1,276	360	236	...	...	...	19	1,560	1
Bellary ...	53,460	1,03,970	46·2	51·2	48,100	24,621	28,570	20,057	7,230	2,202	3,250	762	...	...	300	150	8,750	1,450
Conjeeveram ...	37,275	83,070	45·9	57·7	18,190	8,767	7,660	4,889	2,050	1,219	940	798	1,250	1,214	3,040	515	350	132
Cochin ...	36,987	45,340	28·1	54·7	12,290	10,337	9,600	8,279	...	...	600	1,210	...	...	150	11	1,850	537
Cuddalore ...	9,964	15,060	28·1	63·8	4,080	2,602	3,020	2,299	100	6	260	255	30	42	370	...	300	...
Cuddapah ...	9,205	18,870	31·0	63·6	5,860	3,843	3,200	2,223	2,000	918	60	199	...	...	170	219	340	284
Calicut ...	18,962	49,160	32·0	59·3	15,776	9,358	8,324	5,995	100	...	2,952	1,787	...	...	* 3,000	864	1,400	712
Kumbakónam ...	23,599	25,070	37·4	58·3	9,380	5,477	5,930	4,438	2,900	636	200	142	...	...	60	22	290	230
Cuddalore ...	18,302	22,170	22·8	62·9	5,060	3,183	2,960	2,007	1,730	1,021	240	121	...	...	70	...	60	34
Parlákimedi ...	15,365	12,960	31·3	44·5	4,070	1,811	2,220	1,441	...	...	330	296	...	...	...	...	1,480	74
Palamcottah ...	30,941	44,190	36·7	70·7	16,220	12,938	7,280	5,424	4,480	4,796	1,560	2,223	...	...	2,000	5	900	490
Pallore ...	25,022	23,940	41·9	60·0	10,050	6,063	6,170	4,305	2,660	1,126	70	69	...	34	400	...	750	499
Rajahmundry ...	24,555	33,050	52·9	68·0	17,500	11,908	9,660	7,120	4,800	3,231	1,430	719	...	...	1,320	706	250	132
Bezváda ...	10,008	69,080	32·5	74·9	22,500	16,856	7,170	5,157	9,500	7,510	2,300	699	80	...	2,280	2,280	1,170	1,170
Guntúr ...	19,616	38,520	49·7	65·8	19,160	12,615	8,780	6,718	4,350	2,068	3,420	3,160	...	...	2,000	...	600	675
Masulipatam ...	35,056	41,220	38·5	62·0	15,890	9,865	7,350	5,679	6,500	2,627	1,020	904	...	...	270	183	750	372
Kurnool ...	20,329	31,210	20·2	110·0	9,113	10,025	6,503	7,455	2,310	2,312	150	86	...	...	...	...	150	192
Dindigul ...	14,123	34,370	39·1	55·1	13,440	7,416	5,060	3,686	3,880	1,770	3,000	637	...	...	800	622	1,200	721
Madura ...	76,847	2,30,220	21·4	65·4	49,270	32,209	31,040	19,627	...	...	10,250	9,460	2,500	1,900	1,000	509	4,500	718
Palni ...	13,315	12,700	56·8	60·9	7,215	4,397	2,755	2,021	2,400	1,715	690	656	70	5	1,100	...	200	...
Periyakulam ...	16,446	11,200	46·1	77·0	5,061	3,901	2,390	1,850	1,950	1,795	144	54	...	...	217	17	360	185
Calicut ...	57,085	75,715	22·9	81·5	17,350	14,133	9,480	6,913	6,920	6,877	...	...	...	...	200	103	750	240
Cannanore ...	25,336	22,230	38·3	58·3	11,490	6,699	7,850	4,066	2,720	1,990	400	76	...	...	470	332	470	235
Cochin ...	15,098	21,040	31·0	71·0	6,530	4,642	5,070	3,773	...	...	30	30	...	...	270	17	1,160	823
Pálghat ...	36,339	58,400	31·6	68·2	16,910	11,541	5,690	3,887	9,850	7,053	200	46	60	...	...	...	1,020	555
Tellicherry ...	24,581	53,280	22·7	72·5	12,105	8,783	7,430	4,066	3,500	3,223	50	6	...	...	100	29	1,025	859
Nellore ...	27,505	42,910	36·7	60·9	15,745	9,589	9,115	6,393	3,300	2,401	500	27	30	...	2,000	330	800	438
Ongole ...	9,290	15,910	36·1	51·2	5,030	2,578	2,650	1,928	690	152	660	465	...	...	1,000	...	30	15
Gudiyátam ...	16,690	19,550	33·4	65·0	6,350	4,250	3,400	2,327	2,440	1,408	350	413	...	30	150	...	150	72
Tirupatúr ...	13,333	11,400	42·8	56·1	4,880	2,741	2,980	2,069	1,000	188	500	447	10	...	350	...	40	40
Vellore ...	40,958	78,870	29·9	47·3	21,980	10,406	13,990	9,146	5,000	710	1,600	546	...	...	600	...	980	...
Wálajápet ...	10,387	12,940	20·0	73·3	2,530	1,855	2,430	1,810	...	...	50	45	...	...	50	...	...	...
Coonoor ...	4,778	68,740	32·2	29·8	59,262	17,697	5,870	4,377	3,580	2,266	792	520	...	...	850	537	46,200	9,997
Ootacamund ...	13,355	1,09,070	65·4	61·3	71,300	43,769	19,670	16,752	13,750	14,406	1,230	824	...	...	500	18	36,250	11,704
Salem ...	59,631	68,750	40·0	65·6	27,540	18,071	18,640	14,141	4,600	1,144	500	1,201	...	...	...	287	3,900	1,208
Tiruputúr ...	14,278	15,890	37·8	56·9	6,015	3,424	2,320	1,706	1,790	1,257	420	376	...	...	900	...	585	85
Váníyambádi ...	15,133	10,770	30·8	70·0	3,320	2,327	3,050	2,110	...	...	30	...	...	...	200	100	170	88
Chidambaram ...	19,837	18,250	22·5	72·4	4,115	2,983	3,225	2,351	...	...	310	90	335	335	170	158	75	69
Cuddalore ...	43,545	43,760	45·8	65·1	20,040	13,063	9,590	6,445	...	...	1,570	318	7,000	5,184	10	10	1,470	1,105
Mangalore ...	32,099	51,460	24·3	59·5	12,530	7,463	7,810	4,587	...	...	930	226	...	...	100	53	3,090	2,537
Kumbakónam ...	50,098	1,01,630	30·2	17·1	1,29,730	22,367	14,080	9,097	7,350	4,210	640	190	...	...	100	192	1,07,560	8,578
Mannárgudi ...	19,409	24,390	25·8	51·9	8,752	4,547	2,680	2,017	4,350	1,885	1,202	457	250	...	200	100	170	88
Máyavaram ...	23,044	34,050	40·9	68·9	13,965	9,626	5,855	4,174	2,220	1,418	1,025	542	130	130	2,000	1,544	2,735	1,808
Negapatam ...	53,776	70,450	50·5	70·8	35,660	25,523	16,010	11,126	13,150	11,043	4,880	3,031	150	...	520	72	250	...
Tanjore ...	54,745	72,830	34·1	55·3	24,860	13,751	15,260	9,946	2 200	1,218	3,460	1,393	...	...	1,500	...	2,380	1,231
Palamcottah ...	17,964	21,890	24·0	37·9	5,270	1,996	2,990	1,835	1,070	...	770	36	...	...	130	25	310	...
Tinnevelly ...	23,231	36,770	24·3	64·2	9,060	5,824	5,160	3,846	2,830	1,589	500	230	70	35	100	...	400	134
Tuticorin ...	16,281	33,340	45·5	49·1	14,476	7,114	5,575	3,368	5,990	2,728	2,950	931	...	...	...	...	258	87
Srirangam ...	19,773	24,400	30·0	61·7	9,570	5,912	7,120	4,494	1,820	1,065	30	145	600	35	10	84	...	39
Trichinopoly ...	84,449	3,11,750	16·6	72·5	51,910	37,667	28,010	20,698	13,080	10,709	3,970	2,924	...	...	4,520	1,774	1,430	1,562
Anakápalle ...	13,341	17,160	41·8	59·9	7,180	4,301	3,860	2,148	2,600	1,842	250	...	...	...	...	...	970	301
Bimlipatam ...	8,582	13,550	33·8	58·0	4,580	2,657	2,550	1,800	1,330	650	550	157	...	...	...	...	120	50
Vizagapatam ...	30,291	44,150	46·3	48·8	20,440	9,989	10,250	7,632	6,350	851	2,530	845	...	...	310	98	1,000	583
Vizianagrum ...	22,577	26,250	55·8	77·4	14,660	11,350	8,610	6,297	4,300	2,478	180	608	...	...	120	90	1,450	877
Total ...	1,456,422	26,52,995	37·6	55·8	9,97,380	5,57,140	4,46,415	3,16,565	1,89,240	1,22,925	66,375	41,964	12,595	8,994	35,927	12,206	2,46,828	54,486
Madras ...	405,848	11,15,120	38·4	80·7	4,28,940	3,46,891	2,36,660	3,08,155	1,06,000	84,257	25,520	35,307	...	...	...	211	11,530	17,961

* Construction of cart stands and repair of roads.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Anantapur.	9	545	Dust-bins were purchased and repaired (Rs. 46) and a slaughter-house constructed (Rs. 47); some wells were repaired (Rs. 103).	Fair in quality and quantity; from a large tank and 12 wells. A few wells require walls and platforms.	No regular system. The main streets have side drains to carry off rain water. A thorough system of drainage is highly desirable. Cess-pools abound, which are emptied when full.	Street sweepings, refuse, &c., are collected and deposited outside of the town, and the night-soil buried at a distance. There are eight public and many private latrines which are kept clean.	41·1	Unsatisfactory. Cholera prevailed during a part of the year in the town.
Adóni.	2	11,321	No sanitary works of any importance undertaken during the year. Drain, market and slaughter-house were repaired (Rs. 20) and minor improvements to water-supply effected (Rs. 15).	From step wells and springs reserved for drinking and guarded A water-supply scheme is now under consideration.	Natural. Pucka drains exist in the southern portion of the town. Cess-pools abound.	The rubbish, &c., is collected in dust-bins, of which there are 125, then removed to the rubbish depôt and sold by auction. There are 12 public and 750 private latrines, and 23 toties employed to clean them. The latrines are freely used. Private scavenging is carried on.	44·5	Except for a severe epidemic of cholera, the general health was fair.
Bellary.	26	2,056	Improvement of water-supply (Rs. 545); construction and repair of latrines, slaughter-house, drains and markets and removal of prickly-pear (Rs. 1,606).	From wells, the Mainwarring tank and Fort ditch. The two latter are guarded by watchmen. The open feeding channel to the Fort ditch is constantly attended to to prevent pollution.	No system. Surface drains carry off storm water in some parts. House drainage is bad and many cess-pools exist. The cess-pools are, as a rule, pucka built, and are emptied by municipal agency on payment.	The street sweepings, &c., are carted to the depôts and eventually sold. There are 15 pucka and 11 mud-wall latrines against 12 pucka and 9 mud-wall latrines in 1880. Those in use are freely resorted to, but the number is insufficient. Private scavengering is successfully carried on.	32·3	With the exception of cholera, which prevailed for a time, the general health was, on the whole, fairly good.
Conjeeveram.	4	9,319	Rs. 659 were spent in improvements to water-supply, Rs. 446 in the erection of a market and some bazaar sheds and Rs. 202 in repairs to market and drains.	From Lalakal channels, wells, tanks and rivers. Unsatisfactory, being subject to pollution. Four tanks are guarded by watchmen. The supply from tanks, other than the reserved, and public and private wells in Big Conjeeveram, is bad.	Defective and without system. Side channels carry off storm water. House sewage flows into back-yards, where it soaks into the soil. Cess-pools exist, and they are cleaned when necessary.	The street sweepings and night-soil are removed in carts to depôts away from the town where the sweepings are sold as manure, and the night-soil buried. There are 10 public latrines on the trench system, and they are freely used. The number is insufficient. There are 376 fixed and 28 movable dust-bins. Private scavenging is in force.	37·5	With the exception of cholera which prevailed, it was fair on the whole.
Coimbatore.	3	12,969	Rs. 1,168 were spent in the improvement of water-supply and Rs. 848 in repairs to latrines, drains and market.	From wells and tanks. Quantity sufficient but quality bad. There are many private wells, but only a few contain good drinking water. Most wells have parapet walls and platforms.	No change since last report; defective and without system. Side ditches exist. Cess-pools abound and are seldom cleaned.	Indifferent. The town rubbish is taken to rubbish depôts and there burnt in cinerators, but this is very imperfectly done. Many of the rubbish heaps are the accumulations of years, and they have not been removed, though repeatedly recommended. There are 33 latrines, some in bad repair. Night-soil is taken to the depôt and buried in pits. In some places streets and lanes are used for purposes of nature. There are 124 dust-bins.	36·7	Unsatisfactory.
Erode.	11	897	One well was sunk and others repaired (Rs. 255); 12 dust-bins constructed and prickly-pear and rank vegetation removed (Rs 258).	Obtained from a tank, the Cailingaroyan channel, a few wells, and to some extent from the Cauvery; fairly good. The tank and wells are reserved for drinking and watched over. The channel water is subject to pollution.	Defective. Side ditches exist. The only masonry drain in the town is in a very foul condition from want of sufficient flushing. Cess-pools exist which are seldom cleaned.	The main streets are swept twice a day, and the town sweepings carted to the depôt, where they are stored and sold. There are 14 public latrines, which are regularly cleaned twice daily, and the night-soil is now taken to a distance from the town and there buried. The former night-soil depôt had to be closed owing to its proximity to habitations. The rubbish, &c., from markets are burned in cinerators. Private scavenging is carried on to a limited extent.	33·6	With the exception of cholera it was fairly good.
Kadir.	1	9,205	Wells were sunk and repaired and other improvements to water-supply effected (Rs. 199) and Rs. 493 spent in the construction and repair of dust-bins, drains, markets and slaughter-houses and latrines.	Obtained from the Amaravatty river and wells. 17 public wells are reserved for drinking. These have parapets and platforms, but no drains. The water in the private wells is mostly brackish.	No system. Only 1 pucka built drain exists in Komutty Street. Side-cuttings exist. A drainage scheme is under contemplation.	The streets are swept once daily in the morning, and the side ditches cleared and deepened in the evening. The street sweepings are carted to the rubbish depôts outside town limits, and partly burnt in cinerators and partly sold. There are 13 public latrines, which are freely resorted to. The contents of latrines are removed to the rubbish depôt and buried in pits. There are 67 dust-bins, of which 34 are of corrugated iron. Private scavenging is in force. The conservancy staff was strengthened during the year by 1 sweeper and a toty.	38·3	Fairly good. Cholera prevailed sporadically.
Cuddapah.	19	999	Rs. 712 were spent n surveying the town for a drainage scheme. One cart-stand was constructed (Rs. 330) and Rs. 1787 were spent on improvements to water-supply.	The Bhooga spring water, which has been brought into the town is freely used by the people. The water has been analysed and found to be wholesome.	Imperfect and unsatisfactory. Side-cuttings carry off storm water; house sewage flows into cess-pools, which are cleaned occasionally.	Street sweepings and night-soil are removed daily out of the town and buried in trenches and annually sold. There are 31 public latrines, of which 25 are pucka built, and 173 dust-bins. The latrines are kept clean and are freely resorted to. Private scavengering is in force.	27·0	On the whole fairly good. Cholera prevailed to some extent.
Berhampore.	4	5,899	Nothing important. Rs. 60 were laid out in improvements to water-supply and Rs. 353 in repairs to latrines, dust-bins, cinerators, market and slaughter-houses and latrines.	Principally from four tanks, viz., the Thammayya, Ramalingam, Kommapelly and Bijapur tanks. Water from these tanks subjected to pollution. Wells in the Cantonment are reserved for drinking only.	Defective. U and V shaped drains exist in the principal streets; cess-pools exist, which are daily emptied.	The refuse and street sweepings are collected in dust-bins and taken to three depôts outside town limits, where they are burnt in cinerators. There are 22 latrines, and the night-soil is removed to a selected spot half a mile from the town and buried in trenches. The contents of cess-pools are taken in barrels and emptied on fields and open spaces outside municipal limits.	19·5	Very satisfactory. No epidemics.
Chicacole.	3	6,101	Nothing important undertaken; Rs. 40 were spent in some minor improvements to water-supply; prickly-pear and rank vegetation were removed and drains made and repaired (Rs. 141).	From wells, tanks and river. The last source is subject to much pollution, and is largely used by the people. The tanks have raised embankments and watched; the wells are provided with parapet walls and platforms.	Defective. The natural drainage is towards the river on the west. A drainage scheme is under consideration. Cess-pools exist and are kept clean by the owners under municipal supervision.	Fairly well attended to. The refuse is stored in depôts on the outskirts of the town and eventually sold to ryots. There are four brick built and one temporary latrines. The night-soil is taken to depôts at the north and south end of the town and buried in pits.	19·2	Said to be good. No epidemics.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—*continued.*

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Parlakimedi.	3	5,122	Rs. 286 were spent in sinking a well.	From wells and tanks. The well-supply is fairly good, but the tank supply is suspicious as the tanks are liable to contamination. Two tanks are reserved for drinking and watched over. The watching appears to be indifferent.	Natural and good. A few made drains exist to carry off refuse water from houses. Cess-pools, few.	The refuse is collected and burnt in cinerators and then sold as manure. Ten latrines of brick and chunam are provided and they are freely used.	23·2	On the whole satisfactory. No epidemics.
Cocanada.	5	6,088	Construction and repair of tanks (Rs. 623); construction of a reservoir (Rs. 1,477); construction of dust-bins and a slaughter-house (Rs. 129); repairs to latrines and drains and removal of prickly-pear (Rs. 870).	Fair as regards quantity and quality. Obtained from the canals, wells and tanks. Eight tanks and three wells are reserved for drinking. The tanks are watched over.	No system. Only one well-constructed drain exists in the town, running from the market tank to the salt creek. House drains are connected with this. Cess-pools exist in private houses and they are kept in a very filthy condition. A municipal garden has been started for the utilization of refuse.	The refuse is burnt in 3 cinerators and the ashes mixed with the night-soil. There are 14 latrines, of which 7 are masonry. Two more are to be constructed. The latrines are freely resorted to and kept fairly clean. The night-soil is buried in pits near the cinerators.	17·4	Said to be satisfactory. Cholera prevailed to some extent.
Ellore.	9	2,788	Minor improvements to water-supply (Rs. 25); construction and repair of latrines (Rs. 231) and repairs to drains (Rs. 268).	From the Kistna canal, tanks and wells. Indifferent. 28 wells and 2 tanks are utilized for drinking. Canal water is subject to great pollution. The surroundings of the drinking water wells are looked after by the council and one of the tanks is watched over but not as it should be. Wells have platforms.	Same as last reported. No system. One pucka drain exists along the main bazaar. House sewage flows into streets or irrigation channels. There are 26 licensed and 50 unlicensed cess-pools. There is considerable improvement in them.	The town refuse is stored in four depôts and sold annually. There are 26 latrines which are kept fairly clean and freely resorted to. Eighty dust-bins are provided, of which 60 are masonry and 20 iron.	28·6	Unsatisfactory. There were two epidemics of cholera; measles, chicken-pox and small-pox also prevailed.
Rajahmundry.	12	2,046	A well was sunk (Rs. 631); drains and a slaughter-house constructed (Rs. 754) and latrines, drains and market repaired (Rs. 84).	Obtained chiefly from the river Godávari and from a tank and wells. The tank and 21 wells are reserved for drinking. The river and tank water is subject to pollution though watchers are employed.	No system. Surface drainage fair. Cess-pools exist.	Fairly well attended to by an adequate staff. The street sweepings are taken to the cinerators. There are 21 public latrines which are freely used and 22 toties and 33 scavengers employed to clean them and the cess-pools.	32·3	Indifferent.
Guntur.	13	1,511	Two tanks and seven wells were constructed (Rs. 2,647) and others repaired (Rs. 173); Rs. 157 were spent in other improvements to water-supply and Rs. 675 for surveying the town for a drainage scheme; Rs. 2,000 were set apart for the construction of a market.	The sources of water-supply are the Black water tank and several wells; the former is guarded by two watchmen. Quality of water said to be good; quantity insufficient in dry season.	Drainage is left almost entirely to nature. The town is being surveyed with a view to systematic scheme of drainage being prepared. There are 17 cess-pools, all pucka built.	Rubbish is first collected in dust-bins and then taken to fields situated on the outskirts of the town. There are 35 dust-bins, of which 24 are movable bins. More are required. Night-soil is removed to trenches near the rubbish depôt and there buried. Air-tight iron carts are necessary for the removal of night-soil. There are 18 public latrines; most of them are sturdy large masonry enclosures; they are freely resorted to. Private scavengering is finding favour among the residents.	34·6	Public health was unsatisfactory. Cholera prevailed during three months in the year. Small-pox also prevailed sporadically.
Masulipatam.	4	8,764	No works of any importance executed during the year. Wells, latrines, drains, markets and slaughter-house were repaired (Rs. 805); Rs. 800 spent on certain improvements to water-supply and Rs. 307 in the removal of prickly-pear and rank vegetation.	For nine months from the Kistna canal and for three months (March to May) from wells. The latter supply is insufficient. The Kistna canal water is brought up to the town limits in an open channel and is then taken into the town in masonry conduits.	No system. Side-cuttings alone exist to carry off storm water.	The sweepings are burnt in cinerators outside town limits. There are eight masonry and five zinc latrines, which are not very freely used. Private scavenging is in force and arrangements are being made to extend it.	29·9	Fair; cholera prevailed during three months, and small-pox more or less all through the year.
Bezwada.	4	2,524	One well was sunk and another repaired (Rs. 699); latrines, markets and dust-bins were constructed (Rs. 3,330) and dust-bins and market repaired (Rs. 120).	The chief sources are the Kistna river and canals. There are also wells, but they are not much used for drinking purposes, the people preferring the river and canal water.	Defective. No proper system. The surface water is carried away by large drains, which empty into canals; cess-pools exist, and they are cleaned twice a day.	Rubbish from houses and streets and night-soil are carted away out of the town, the former being sold annually as manure and the latter buried in pits. There are four pucka and seven zinc sheeted temporary latrines, which are freely used and kept clean.	64·6	Unsatisfactory. Cholera and small-pox prevailed.
Kurnool.	5	4,066	Nothing of importance. Some minor improvements were effected to water-supply (Rs. 86), a drain was constructed, and latrines, dust-bins and drains repaired, costing in all Rs. 172.	Obtained from the Government Irrigation canal brought into the town in masonry conduits. Springs in the bed of the river Hindri are used by those living on its banks.	Masonry drains exist in nine of the main streets and are flushed every day. There are nearly 400 cess-pools.	The house and street refuse are collected in dust-bins and carted to a selected spot, where it is sold periodically by auction. There are 38 latrines, and the contents are taken in closed vehicles to the depôt and buried. There are 255 dust-bins.	33·4	Indifferent. Cholera prevailed twice in an epidemic form.
Dindigul.	2	7,091	Construction and repair of wells, tanks and other improvements to water-supply (Rs. 432); construction of dust-bins, drains and market (Rs. 714) and repairs to latrines, dust-bins, drains, markets and slaughter-house (Rs. 628).	From two rain-fed tanks and the Jubilee well. The tanks are conserved. The Jubilee well supplies one of the suburbs of the town. A water project has been sanctioned by Government.	Fair. Streets are provided with V-shaped drains of cut stone. Cess-pools exist, and they are cleaned by municipal scavengers.	Fairly well attended to. The sweepings and contents of dust-bins are carried to two pieces of waste land outside town limits and sold whenever possible. There are 17 public latrines, two being of brick and chunam with covered roofs. The latrines are cleaned daily.	41·4	Indifferent; a violent outbreak of cholera occurred at the close of the year.
Madura.	13	5,911	Rs. 3,549 were spent in connection with the water-supply scheme and Rs. 5,279 devoted to other improvements to water-supply. Dust-bins were constructed (Rs. 566) and latrines, markets, a tank and a well repaired (Rs. 1,288).	From three large wells sunk in the bed of the river, from which water is pumped into reservoirs. There are many wells in the town, but the quality is not satisfactory.	Same as last reported. Defective; a proper drainage system is very much required, especially as more water is being brought into the town.	Refuse is deposited some distance out of the town in trenches; night-soil is conveyed thereto in air-tight carts and buried. Latrine accommodation is wholly inadequate.	35·7	Cholera broke out in a very severe form in October; otherwise the general health was fair.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—*continued.*

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Palni.	7	1,902	No sanitary works of any importance were undertaken during the year. Two wells were sunk (Rs. 170); one repaired (Rs. 375); and other improvements to water-supply effected (Rs. 24).	No change; from a tank, wells and a river. The tank supply is a very unsatisfactory one.	No regular system. side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depôts and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to.	49·7	Unsatisfactory. Cholera prevailed in the town from March to May.
Periyakulam.	27	669	Six latrines and 6 dust-bins were constructed (Rs. 170); one well, a slaughter-house and some drains were repaired (Rs. 36).	Defective. The chief source of water-supply is the river Varahanadi. There are also 8 drinking water wells, but all have not been provided with walls, platforms and drains, and the surroundings of many of these wells are in a very insanitary condition.	The town is in great need of a drainage system. The main drain of the town is the river—the chief drinking water-supply. There are few cess-pools, which are not kept in a cleanly condition.	The refuse is carted off to rubbish depôts and annually sold as manure. Night-soil is taken to one of the rubbish depôts and there buried in pits. There are 2 pairs of public latrines for both sexes and 6 more for females only; all of these are simple enclosures. The latrines are freely resorted to by females. Private scavenging is in force.	30·4	General health was pretty good in the beginning of the year. Cholera to a slight extent and small-pox somewhat severely prevailed.
Calicut.	13	4,991	Dust-bins were constructed (Rs. 225); a latrine and a market repaired (Rs. 118).	Sources same as last reported, principally from wells. Quality generally good and sufficient in quantity. A large tank in the centre of the town and 14 public wells are set apart for drinking. The wells require platforms and drains. There are also numerous private wells. The well water in the Moplah part of the town is bad. There are 18 public tanks used for washing, &c.	Same as last reported. A few of the large streets have side drains, which carry away the rain water into 4 main drains, and these empty into the sea. No cess-pools.	No change since last report. Some of the refuse and street sweepings are burnt and the rest are used for filling up hollows and low-lying places. There are 5 pucka built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	48·3	Very indifferent. Small-pox prevailed and caused many deaths.
Cannanore.	4	6,591	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house.	From 34 wells: 31 of these are situated in the cantonment and 3 in the old town. The cantonment wells contain good water, but those in the old town contain unwholesome water; 23 wells are reserved for drinking. All wells have parapet walls and circular stone drains.	No system in the old town. A system of street drainage by open laterite stone drains exists in the cantonment. House drains are connected with street drains in the cantonment. There are 6 cess-pools in old Cannanore, which have been ordered to be closed.	The refuse is collected in dust-bins and removed in carts to a plot of ground 3 miles distant, where it is buried. There are 28 dust-bins, 10 being masonry (laterite), which are emptied morning and evening. There are 11 pucka built and 14 wooden sentry-box latrines. The latter placed on the beach. Private scavenging is in force.	23·0	Fairly good.
Coolim.	15,696		Rs. 30 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals, drains, dust-bins and markets.	Bad; supply is derived from shallow pools dug in the ground. Those who can afford it use water brought from Alwaye. Rain water collected in iron tanks is used for a large part of the year.	Bad. No system exists. Masonry drains in unsatisfactory condition exist in a few streets. House sewage flows into street drains in the better part of the town. Surface drainage exists in the poorer quarters of the town.	Is attended to as well as circumstances permit. A portion of the rubbish is carted to a distance from the town and burnt and the remainder is sold.	46·8	Very unsatisfactory.
Palghat.	9	4,038	Nothing exceptional. Improvement of water-supply (Rs. 46) and repairs to latrines (Rs. 97).	Good and abundant. The sources are wells, tanks and rivers. Wells are used for drinking, but most wells have no parapet walls, platforms or drains. Nine public wells are set apart for drinking; they are provided with parapets and side flooring.	No improvement since last report. No regular system. Side-cuttings exist for surface drainage. House sewage flows into backyards.	Fairly well attended to. The rubbish is collected in 8 depôts and burnt and sold to ryots. There are 13 public latrines, which are kept in good condition. Private scavenging is in force.	29·4	Fairly good on the whole.
Tellicherry.	4	6,145	Nothing of importance. Rs. 894 were spent in the construction and repair of latrines, dust-bins, drains, market and a well.	Good; obtained solely from wells. 20 public wells are set apart for drinking, and in addition there are many private ones.	No system. Seven pucka masonry drains were provided during the year.	The sweepings are collected in dust-bins and then taken to a depôt out of the town and burnt in the dry weather. There are seven public masonry latrines in the town and 21 sentry-box ones on the beach for the fishermen. The night-soil is removed in carts to the night-soil depôt, where it is buried in pits three feet deep. The liquid excreta are collected in tubs and emptied into the sea. The latrines are cleaned morning and evening. Private scavenging is in force.	22·4	Satisfactory.
Nellore.	25	1,100	A well was repaired (Rs. 27) and dust-bins and a slaughter-house constructed (Rs. 418). Rs. 350 were spent in taking surveys for a drainage scheme.	Unsatisfactory; obtained from wells, irrigation channels, two reservoirs, and the river Pennar. The water from wells within the town is brackish. The other sources are subject to great pollution. A few wells have parapet walls and platforms. The supply is insufficient in the hot weather.	No system. Drains, of faulty construction, are provided to 18 streets, which discharge into irrigation channels used as drinking sources.	Defective. A portion of the rubbish is taken in carts to two depôts and sold every year, but the greater portion is stored in backyards and vacant lands and used as fuel for pot-kilns. The night-soil from the public latrines is mostly buried in pits and trenches, while that from the private latrines is buried at the rubbish depôt. There are 24 latrines. They are not freely resorted to.	36·1	Unsatisfactory. Cholera prevailed.
Ongole.	4	2,300	No works of importance, except the sinking and repair of wells and other improvements to water-supply (Rs. 438) and the construction of a drain (Rs. 15).	From a tank and ten wells, all of which are reserved for drinking and guarded against pollution; quality fair.	Masonry drains are provided to seven streets. Side cuttings carry off storm water in others; house sewage flows into street drains. A few cess-pools exist here and there.	The street sweepings are collected in 64 dust-bins and then carted to the rubbish depôts, where they are eventually sold by auction. There are seven public latrines, six being masonry structures and one mud-wall enclosure.	28·8	Unsatisfactory. Cholera and dysentery prevailed.
Coonoor.	3	681	Two wells were repaired and other improvements effected to water-supply (Rs. 376). A latrine was completed (Rs. 77) and Rs. 579 spent on repairs to a drain, market, slaughter-house and removal of prickly-pear and rank vegetation. Rs. 9,889 were spent on the drainage scheme now under execution.	From three streams. The channels which bring the water into the town are subject to pollution and it is decided to pipe them. There are also two public wells near the market. One of these should be closed or measures taken to prevent leakage into it from a drain near it. The European residents obtain their water from natural springs belonging to private owners. The water-courses are watched over.	System unsatisfactory. A drainage scheme is now under execution. This will convey the sewage by means of pipes into the Coonoor river below the Coonoor bridge. House drains will be connected with the main drains.	The sweepings and night-soil are removed daily to a depôt and subsequently disposed of to cultivators. There are ten public latrines—four masonry and six of corrugated iron. Private scavenging is in force and 118 houses are served by municipal agency. The public latrines are freely used.	37·2	On the whole good.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—*continued.*

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Ootacamund.	11	1,121	Rs. 358 were spent on certain improvements to water-supply; and Rs. 11,717 on the construction and repair of latrines, dust-bins, drains and slaughter-houses.	Obtained from two reservoirs at Marlimund and Dodabetta. The water from Marlimund is brought into the town in pipes, that from Dodabetta comes in open channel and is subject to contamination. There are also two public and some private wells used by the people.	Of the native bazaar defective, and of the other parts within town limits the drainage is natural. No cess-pools. Some improvements in the drainage of the town were effected during the year.	Fairly well attended to. The street sweepings and rubbish are carted to a village three miles distant from the town and the night-soil is utilized on a sewage farm on the north-eastern slopes of Dodabetta. The town is provided with 46 public latrines freely used by the people.	24·1	Fairly good.
Gudiyattam.	1	16,690	Improvement of water-supply (Rs. 116); removal of prickly-pear and rank vegetation (Rs. 88); construction of latrines, drains and purchase of dust-bins (Rs. 72). The construction of a pucka latrine and market shed is in progress.	From springs dug in the river bed, a tank and private wells. The springs and tank are set apart for drinking purposes and watched over. The tank supply is subject to pollution. The watching requires more efficient supervision	No system. A few V-shaped drains are being constructed on the Cuttoor road. These do not appear to be on any approved plan. Cess-pools exist and are cleaned by owners.	The rubbish is removed by a contractor in carts outside town limits and used as manure. Ten public latrines exist on the dry earth system and 133 private ones. There are 118 dust-bins.	24·8	Do.
Tirupati.	...	...	A tank and three wells were repaired (Rs. 328) and latrines constructed and repaired (Rs. 40).	Obtained from two tanks and three wells. The tanks are set apart for drinking and guarded. The wells have parapet walls and platforms. Quality good.	No proper system. A drainage scheme has been sanctioned by Government. Some of the existing drains have stone slab rivetments. Cess-pools exist.	The street sweepings are stored in rubbish depôts and occasionally sold by auction. The night-soil from the latrines is removed in air-tight carts to the night-soil depôt and there buried in trenches. There are eleven public latrines—ten are tatty enclosures and one brick wall—freely resorted to.	33·0	Fair on the whole. Cholera prevailed during a part of the year.
Vellore.	4	10,339	A well was constructed at a cost of Rs. 88. Other improvements to water-supply cost Rs. 236.	From tanks, ponds within the fort and near its gate, wells and spring channels in the Palár river. These sources are reserved for drinking and watched over. The supply from one of the sources (the Suriagunta tank) is subject to pollution.	No system. Masonry drains are provided to some streets. Cess-pools exist and are not properly cleaned.	Fairly well attended to. The sweepings from houses and streets are collected in dust-bins and the night-soil mixed with dry earth and the sweepings carted by a contractor outside town limits and sold. There are 21 pucka latrines which are well attended to and fairly used.	30·3	Unsatisfactory. Cholera, small-pox, measles, fevers, influenza, &c., prevailed.
Wálajapet.	1	10,387	No sanitary works of any importance were executed. A few wells were repaired.	No change; obtained from tanks and wells set apart for drinking and guarded. The quality of the water is on the whole fairly good.	The main streets are provided with V-shaped and rough stone drains and some streets with side channels dug of earth. There are no cess-pools. House drains flow into street drains.	Fairly well attended to. The refuse of the town and night-soil are carted daily out of the town and sold by auction. There are seven pucka built latrines and two urinals. 140 private privies are scavenged by municipal totties.	35·0	Was on the whole fair. Cholera prevailed to a slight extent during the year.
Salem.	6	9,938	Sinking and repair of wells (Rs. 773); repairs to tanks and other improvements to water-supply (Rs. 480); construction of latrines and a market (Rs. 1,158) and repairs to latrines, drains and market and other sanitary improvements (Rs. 338).	Obtained from a river, numerous draw and step wells and a reservoir; the river supply is subject to pollution and unfit for drinking; 37 wells and the reservoir are reserved for drinking and the latter is watched. Quantity insufficient. A scheme is under consideration.	No system. Drainage is by side-cuttings. Masonry drains exist in a few places, cess-pools abound, but only a few are daily cleaned. A drainage scheme for the entire town is under consideration.	Fairly well attended to. The sweepings, &c., are collected in dust-bins and removed in carts to selected depôts. There is said to be little demand for manure. There are 48 latrines which are freely resorted to. The night-soil of latrines is removed in covered carts to selected depôts.	28·3	Unsatisfactory. Cholera and small-pox prevailed during six months.
Tirupattúr.	4	3,569	Improvements to water-supply (Rs. 340) and construction of a latrine and dust-bins (Rs. 85). A sheep slaughter-house and an iron double latrine designed by the Sanitary Engineer are under construction.	From a Teppakolam, irrigation tank and wells. Insufficient. Five public draw wells, two step wells and the Chetty tank are the chief sources of drinking water. A few private wells are also used.	Defective and without system. Side-cuttings exist and their general condition is bad; cess-pools abound.	Fairly well attended to. Street sweepings, rubbish, &c., are collected in dust-bins and removed in hand carts to selected depôts. There are six latrines—three tatty and three mud-wall enclosures.	36·9	Unsatisfactory. Cholera, small-pox and fevers prevailed.
Vaniyambádi.	1	15,993	Nothing important. Dust-bins were constructed and a slaughter-house repaired (Rs. 217).	Sources same as last reported, viz., river, wells and springs dug in the bed of the river. The river water is good, but subjected to pollution. The four public wells are kept in good condition. The water from the private wells is brackish and of doubtful quality.	No system. Defective. Side-cuttings exist to carry off storm water. Cess-pools abound and are rarely emptied.	The street sweepings, &c., are collected in dust-bins and removed in carts to selected depôts, where they are burnt. There are 10 public latrines which are kept fairly clean. The contents are removed in covered carts to a depôt beyond town limits.	28·4	Unsatisfactory. Cholera and small-pox prevailed.
Undamberam.	6	3,306	Nothing important. Dust-bins and a slaughter-house were constructed and a tank and latrines repaired (Rs. 375).	Sources same as last reported. Tanks and wells. Tank water is inferior. Wells in the temple supply good drinking water, but most of those outside contain brackish water. Two tanks are reserved for drinking and watched. Most wells have parapets, but very few platforms and drains.	No system. House sewage flows into side channels or into cess-pools.	The street sweepings, refuse, &c., are carted to the depôts and sold from time to time to ryots. There are eight public latrines in good repair and pretty freely used.	35·3	Cholera prevailed twice during the year. Unsatisfactory.
.....	11	3,959	Improvements to water-supply (Rs. 1,660); construction of latrines and dust-bins (Rs. 240); repairs to latrines and a market (Rs. 110).	The water-supply of Old Town is brought from the lake at Mount Capper. The water is good. The supply of New Town is from wells. The river Gudilum is also used.	Defective and without system. Pucka-built drains exist in the Old Town, but they are quite dilapidated and useless. House sewage flows into street, side-cuttings or into cess-pools. The cess-pools are not properly cleaned.	The rubbish is sold in advance and carted to the fields for use as manure. There are 12 pucka-built latrines in bad condition and nine leaf latrines. They are very little used, their surroundings being very filthy. The contents of latrines are said to be buried. Private scavenging is in force.	28·3	Except for cholera, was on the whole fair.
5		6,429	A well was sunk (Rs. 286); latrines, drains, and dust-bins were constructed (Rs. 2,473), and Rs. 117 spent in repairs to latrines, drains, markets and a slaughter-house.	From numerous wells and a tank; quality good. The tank is reserved for drinking and watched over. There are three public wells.	The public drains and water-courses are in good order. No cess-pools.	The night-soil and sweepings are removed daily in carts to the depôt, where the latter are incinerated and the ashes mixed with the night-soil in the manufacture of poudrette. This manure is stored and sold to cultivators. There are seven public latrines which are freely used by the people.	26·0	Good on the whole.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—*continued.*

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Kumbakónam.	3	16,699	Repairs to a tank and 2 wells and other improvements to water-supply (Rs. 151); construction of urinals and dust-bins (Rs. 1,040) and repairs to latrines, markets and slaughter-house (Rs. 530). Rs. 7,200 were spent on the general drainage scheme.	Fairly good. Obtained from the rivers Cauvery and Arasalar, a few wells and a tank set apart for drinking purposes and watched. Holes dug or wells sunk in the beds of rivers are also used during the hot weather. Watchmen are placed over the rivers when the water in them is low.	No regular system. Natural and by side-cuttings. Water flows into paddy fields or into irrigation channels. Pucka houses possess masonry drains and the house sewage flows into masonry cisterns or into the streets forming cess-pools. A drainage scheme is under execution.	No change since last report. The rubbish, &c., are carted to depôts outside town limits and sold in the hot months either for filling up pits or as manure. The night-soil is taken in covered iron carts to the rubbish depôt and buried in trenches. There are 20 public masonry latrines; they are freely used, but the number is insufficient.	33·1	Fairly good. Cholera and small-pox prevailed.
Mannárgudi.	4	4,852	Nothing important. Wells were repaired, and minor improvements effected to water-supply; latrines were constructed and markets repaired.	From river, tanks and wells. Five tanks and five wells are reserved for drinking. Watchers are employed to guard the tanks and the wells are provided with parapet walls and platforms. Almost all tanks are fed by a channel from the Vadavar.	No system. Natural and by side-cuttings. House sewage flows into back-yards where it is absorbed or into side-cuttings in the streets. Cess-pools exist and they are cleaned daily.	The street sweepings and rubbish are carted to the rubbish depôts and sold as manure. There are 20 public latrines, not much used, the people preferring fields, &c.	24·5	Satisfactory on the whole.
Mayavaram.	3	7,931	Improvements to water-supply (Rs. 323); construction of a market (Rs. 1,544); and other sanitary works, such as the construction and repair of latrines, dust-bins, drains, &c. (Rs. 1,818).	Obtained from the Cauvery, tanks and public and private wells; generally good. Three tanks are reserved for drinking and guarded. The reserved tanks have raised embankments. The public and private wells are provided with parapets and their surroundings kept clean.	Partly natural and partly artificial. No system; side-cuttings exist. Masonry drains are provided to four streets. Cess-pools exist and they are cleaned occasionally.	Fairly well attended to. The sweepings, refuse, &c., from streets, houses and dust-bins are carted away to two depôts outside town limits and sold as manure; sometimes they are used to fill up trenches beyond human habitations. There are six public latrines on the dry-earth system and kept fairly clean. The night-soil of public and private latrines is carted outside the town and buried in trenches and covered over with earth and sand.	30·5	On the whole fairly good. There were a few sporadic cases of cholera. Influenza prevailed epidemically in November and December.
Negapatam.	7	7,882	A well was sunk and others repaired (Rs. 386); Rs. 2,019 were spent in repairs to tanks and other improvements to water-supply, and Rs. 114 on repairs to a slaughter-house and removal of prickly-pear and rank vegetation.	Obtained from the river Uppanar, tanks and wells. Eight tanks are reserved for drinking and watched over.	No system. Cess-pools abound. Those on the road side and public streets are cleaned daily. The town sewage is removed in carts and emptied on the sea-beach.	The streets are swept daily and the refuse, &c., carted and deposited at the western end of the town. There are 541 dust-bins, 517 being masonry structures and 24 of galvanized iron. There are 16 public latrines and 1,108 private ones scavenged by municipal coolies. The contents of latrines are removed in carts and buried outside the town.	33·6	Unsatisfactory. Cholera and small-pox prevailed.
Tanjore.	8	6,843	Certain minor improvements to water-supply (Rs. 1,356) and repairs to drains (Rs. 1,231).	Obtained from the Sivagange tank brought into the town in covered masonry channels and stored in cisterns; subject to pollution. Supply abundant. The rivers Vadavar and Venner and tanks and wells are also used. Watchmen are appointed to guard the tank water against pollution. A water-supply scheme has been sanctioned.	No change since last report. In the Fort an elaborate system of masonry drains exists running into three drains which discharge into the Vadavar river; elsewhere there is no system. Cess-pools exist where there are no street drains and they are kept clean.	System same as last reported. A contractor removes the street sweepings, rubbish, &c., collected from the streets and dust-bins to villages outside town limits. It has been decided to terminate the contract system. There are 28 public latrines of brick and chunam which are in good condition and freely used. Private scavenging is in force and 706 private latrines were served.	29·1	Good on the whole.
* Palamcottah.	3	5,868	Nothing important. A market and a slaughter-house were repaired (Rs. 26), and the construction and repair of latrines and some repairs to dust-bins, market and slaughter-house were in progress at a cost of Rs. 415.	Sources same as last reported. A channel, a reservoir, a tank and wells. The three last named are used during the hot weather. The channel is subject to pollution. 17 wells are set apart for drinking. The reservoir and the tank are guarded by watchmen.	Same as last reported. No system. A few masonry drains and side-cuttings carry off the town sewage. House drains open into street drains; cess-pools exist and they are kept clean by the municipal scavengers.	The street sweepings, &c., are removed to the cinerator and burnt, the residue being used to cover up the night-soil, which is ultimately disposed of as manure. There are eight public latrines on the dry-earth system and freely resorted to. There are 106 dust-bins. Private scavenging is in force.	27·8	Was unsatisfactory on the whole. Cholera, small-pox, fevers and dysentery prevailed.
Tinnevelly.	1	23,221	Nothing important. Rs. 191 were spent in some minor improvements to water-supply; Rs. 100 in the purchase of movable dust-bins, and Rs. 35 were spent in repairs to drains.	Obtained chiefly from tanks and channels for the greater part of the year. Wells sunk in the bed of the tanks are also resorted to during the hot weather. The channel water is subject to contamination. The Teppacolam at the eastern end of the town is guarded, against pollution. The temple tanks are also used during the hot weather. A water scheme is under consideration.	By imperfect side-cuttings. Masonry drains exist in a few streets, but they are not properly flushed. House drains are connected with street drains. There are 350 cess-pools which are imperfectly cleaned.	Indifferent. The street sweepings, &c., are collected in dust-bins and carted to night-soil depôt, where they are burnt in a cinerator. The ashes are mixed with the contents of latrines and this manure is sold by auction. There are nine public latrines freely resorted to and kept fairly clean. There are 117 dust-bins.	31·1	Unsatisfactory. Cholera and small-pox prevailed.
Tuticorin.	3	5,427	Certain improvements were effected to water-supply (Rs. 830), prickly-pear and rank vegetation removed, dust-bins constructed and latrines repaired (Rs. 141).	Unsatisfactory and inadequate. Obtained from a tank and wells. The water from the tank is conducted by channels to a reservoir and then distributed. The reservoir is guarded by watchmen, but the water is open to much contamination.	Same as last reported. Defective and without system. Side-cuttings are made to carry off storm water during the rains. A few masonry drains exist, but they are not flushed. There are 20 cess-pools.	Same as last reported. The sweepings are generally carted away outside town limits and partly burnt, the ashes being used to cover up night-soil buried in pits. There are nine latrines which are freely used by the people.	47·4	Unsatisfactory. Cholera and small-pox prevailed.
Srirangam.	7	2,835	A well was sunk and others repaired (Rs. 117); latrines, markets, and a slaughter-house repaired (Rs. 123), and Rs. 21 were spent in some minor improvements to water-supply and the removal of prickly-pear and rank vegetation.	Obtained from the rivers Cauvery, Coleroon and Natoovaikal and wells. Six wells are reserved for drinking and their water is good. These wells are protected by good platforms.	No regular system. Side channels are cut during the monsoons to carry off rain water. A few cess-pools exist.	The refuse is sold as manure. The night-soil is removed daily to the depôt ¾ of a mile from the town and there buried in trenches. There are 17 public latrines on the dry-earth system which are freely used.	31·4	On the whole fair. Cholera prevailed.

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—*continued.*

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Trichinopoly.	10	8,445	Rs. 2,170 were spent in repairs to tanks and wells and other improvements to water-supply; Rs. 1,749 in the construction of latrine, drain, and market, and Rs. 1,588 were spent in repairs to latrines, rubbish depôt, a drain, markets and slaughter-houses.	Obtained from 24 tanks fed by channels from the Wyacondan, a branch of the Cauvery. The tanks are set apart for drinking and watched, but the quality of the water is bad, the feeding channels being subject to pollution. A scheme for supplying the town with sufficient and wholesome water has been sanctioned.	No system. Side-cuttings exist to carry off storm water. Masonry drains are provided to some of the main roads.	No change in system. The street sweepings are removed daily in carts to the rubbish depôts, where they are incinerated and the ashes sold as manure. The contents of latrines, solid and liquid, are carted daily to a selected site, buried in trenches and sold as manure after the expiration of 6 months. There are 78 public latrines freely resorted to and 292 dust-bins. Private scavenging is in force.	31·6	Reported to have been fairly good. Cholera prevailed at the end of the year.
Anakápalle.	12	1,112	Construction of drains (Rs. 151) and repairs to latrines, drains, markets, cart-stand and removal of prickly-pear and rank vegetation (Rs. 168). The construction of a slaughter-house and repairs to tanks were in progress.	Obtained from the river, two tanks and public and private wells. The river water is not much used, not being within easy reach; 9 public wells are set apart for drinking alone. All the wells, except two, are provided with parapet walls, platforms and drains. One tank is reserved for drinking and watched. The tanks are fed by a river channel subject to pollution.	No system. Some of the main streets are provided with V and U shaped masonry drains which are flushed daily. Some improvements in the drainage were effected during the year.	The street sweepings and rubbish are collected in dust-bins and carried to the cinerators and also to a place provided for the purpose outside town limits and burnt. There are 19 public latrines, of which 3 are pucka built. The night-soil is buried in pits outside the town; 3 latrines are on the trench system. The latrines are freely resorted to.	32·4	Fairly good on the whole.
Bimlipatam.	9	964	Nothing of importance executed during the year. A well was sunk and another repaired and other improvements to water-supply effected (Rs. 157) and drains constructed and repaired (Rs. 24).	Said to be good, chiefly from wells. Tanks are also used. All drinking water wells and one tank are set apart for drinking. All wells are provided with parapet walls, platforms and drains.	Good. V, U and ⊔ shaped drains exist which discharge into the sea. There are two cess-pools built of brick and chunam. They are emptied daily.	The refuse is partly burnt in a cinerator and partly thrown into the sea. Three pucka-built latrines are provided which are freely used.	29·8	Very good.
Vizagapatam.	8	10,037	A well was sunk and others repaired (Rs. 311); construction and repair of latrines, dust-bins, drains, market and slaughter-houses and removal of prickly-pear and rank vegetation (Rs. 646) and Rs. 507 were spent in connection with the water project under consideration.	From three large tanks and 147 public wells. The water of only one tank is good for drinking, but this runs dry in the hot months; 48 public wells are used for drinking. The water of most of these is slightly brackish. All wells have parapet walls and platforms and some have V-shaped drains.	Most streets are provided with V-shaped stone drains with a good fall. Owing to want of sufficient water for flushing difficulty is felt in keeping these drains clear.	The rubbish is collected in dust-bins and carted to the depôt and burnt in a cinerator. Four other cinerators exist in various parts of the town for burning the rubbish of those parts. There are 48 pucka and 20 temporary latrines which are freely resorted to. Two night-soil depôts were opened during the year and the contents of public and private latrines conveyed to these. Two more are to be opened. Private scavenging is in force.	26·3	Reported to be fair. There were a few sporadic cases of cholera.
Vizianagram.	4	5,644	Tanks were dug and wells sunk (Rs. 504); latrines repaired (Rs. 141), and Rs. 735 spent on the construction and repair of drains.	Good. Obtained from tanks and wells. Four tanks are conserved for drinking purposes. Quantity insufficient.	No regular system. Artificial side drains are provided to some streets. Stone V-shaped drains also exist. Drainage from houses and backyards is let into side drains whence it is carried off by underground tunnels to fields, &c. Cess-pools exist.	The street sweepings and refuse are carted and deposited in pits outside town limits and sold to ryots. There are 24 latrines freely used by the people. Private scavenging was introduced during the year.	27·7	Good.
Madras.	27	15,031	Improvement of water-supply (Rs. 33,800); construction and repair of latrines, dust-bins, and drains (Rs. 17,961) and repairs to slaughter-houses (Rs. 211).	Obtained from the Red Hills and Cholaveram tanks. The water is brought in an open channel to the outskirts of the town, where it is filtered into a main and then distributed to the town in pipes. A few wells are set apart for drinking, but not much used. Wells have parapet walls and some platforms.	By open masonry surface drains and in a part of the town by a system of underground sewers. The sewage is utilized to irrigate grass farms leased out to contractors. House sewage flows into cess-pools which abound in the town. The cess-pools are emptied by hand and the contents taken away in carts and buckets. For a good portion of the town there is no proper system. The drainage question of this town is now under report by an expert.	The street sweepings and rubbish are carried in carts to depôts in outlying parts of the town. The night-soil is collected in buckets on wheels and bullock carts with lids and taken to depôts; the carts going direct while the buckets are conveyed in boats. The night-soil is buried at the depôts and sold to contractors after some time. There are 217 public latrines in fair order and freely resorted to. More latrines are required. The sanitary condition of the town on the whole unsatisfactory. The introduction of private night conservancy is very desirable.	58·6	Bad. Cholera and influenza prevailed.

DISTRICT LOCAL FUND BOARDS.

69. The Madras Local Boards Act V of 1884 was in operation in all the districts of the Presidency except Madras, in which the City of Madras Municipal Act I of 1884 was in force. As in previous years there were 21 Local Fund Districts corresponding with the Collectorates, of which the Collector was the President. Each District Board had subordinate to it a number of Taluk Boards and Union Panchayats.

70. *Sanitary Works.*—The sanitary works undertaken during the year were much the same in character as those executed in previous years. They consisted in sinking and repairing wells, construction and repair of tanks, latrines, drains, dust-bins, &c., and improvement of village sites and water-supply generally. Particulars of these works are furnished in the annexed statement which also shows the condition of each district in respect of its water-supply, drainage, conservancy, and the rate of mortality per mille of population.

71. *Water-supply, Drainage and Conservancy.*—As usual tanks, ponds, wells, rivers, springs, canals, &c., formed the sources of water-supply. The drinking water sources appear to have been better watched from pollution and a great many tanks and wells were cleaned and deepened. The system of drainage underwent no change. It consisted chiefly of side-cuttings to carry off rain water. There were in all 862 villages conserved during the year out of a total of 42,862 villages in the several districts. Of these 272 are unions and 590 other villages. In the previous year 815 villages were conserved, of which 254 were unions and 561 other villages. Thus there was an increase of 47 towns. The largest number of villages conserved was in the Godávari district and the smallest in Nílgiris.

72. In the statement annexed the number of villages conserved in each district is given distinguishing unions from other villages.

73. The total estimated receipts of the district for 1891-92 was Rs. 83,04,687 against 81,13,429 in 1890-91. Of this sum Rs. 6,59,647 were allotted for sanitation and the actual expenditure amounted to Rs. 3,62,620 or 54·9 per cent.

With the exception of Chingleput, Ganjam and Nellore, the other districts have failed to utilize a fair share of the year's allotment.

74. In the table appended are given in detail, as compiled from the sanitary reports received from the several districts, the amounts sanctioned under the several heads of sanitation during 1891-92 and the amounts expended for nine months ending December 1891, an abstract of which is given as well as the transactions for 1890-91 :—

	1890-91 (for the full year).		1891-92.	
	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount spent in 9 months ending with December 1891.
	RS.	RS.	RS.	RS.
For conservancy	2,50,597	2,25,036	2,71,115	1,85,117
For improvement of village or town sites.	51,091	32,379	59,751	24,020
For improvement of water-supply, cleansing, repairing and construction of tanks and wells	1,30,338	95,469	1,82,024	1,11,130
For sanitary arrangements during fairs and festivals.	13,600	11,204	14,493	6,229
For construction and repair of markets and slaughter-houses	88,280	59,889	95,256	21,438
For other sanitary objects	51,622	26,869	37,008	14,686
Total ..	5,85,528	4,50,816	6,59,647	3,62,620

Statement showing the estimated Income and Allotment for Sanitation during the year 1891-92 in the District Boards of the Madras Presidency.

District Boards.	Population as per census of 1881.	Area in square miles.	Number of villages in the circle.	Number of villages conserved. Unions.	Number of villages conserved. Other villages.	Estimated income 1891-92.	Rate per cent. of allotment to estimated income.	Rate per cent. of sanitary expenditure to amount sanctioned.	1891-92. Sanitary allotment. Amount sanctioned.	1891-92. Sanitary allotment. Amount expended for nine months ending December 1891.	1891-92. Conservancy. Amount sanctioned.	1891-92. Conservancy. Amount expended.
						RS.			RS.	RS.	RS.	RS.
Anantapur ...	593,749	5,094	899	11	5	1,48,330	13·0	50·5	19,300	9,753	8,500	5,599
North Arcot ...	1,741,606	7,250	4,038	15	25	5,48,230	9·4	64·9	51,260	33,260	20,064	14,453
South Arcot ...	1,752,983	4,856	2,871	7	25	4,38,608	10·2	51·3	44,648	22,912	14,102	9,157
Bellary ...	657,139	5,876	1,182	18	26	2,65,440	12·6	52·5	33,445	17,558	17,638	11,332
South Canara ...	927,415	3,897	1,281	...	20	2,31,224	2·9	57·3	6,597	3,783	2,999	2,016
Chingleput ...	944,106	2,838	2,002	14	5	2,78,620	8·2	94·4	22,956	21,481	10,145	6,883
Coimbatore ...	1,599,654	7,827	1,444	18	24	3,54,860	12·1	41·1	43,036	17,701	12,624	8,528
Cuddapah ...	1,102,056	8,726	1,240	17	51	2,64,142	9·1	60·4	23,971	14,471	14,006	10,224
Ganjam ...	1,446,035	3,096	4,186	14	22	3,58,430	3·2	78·8	11,550	9,098	8,670	6,659
Godávari ...	1,700,525	6,499	2,028	12	91	6,77,391	6·7	50·6	45,199	22,866	13,836	8,809
Kistna ...	1,483,680	8,450	1,820	21	25	5,78,830	6·6	49·2	38,060	18,724	17,580	12,586
Kurnool ...	658,222	7,528	721	1	26	1,95,850	9·0	57·3	17,745	10,182	10,500	7,529
Madura ...	2,047,890	8,352	3,967	35	17	5,74,160	10·6	46·2	60,970	28,189	25,090	16,445
Malabar ...	2,204,946	5,784	432	...	38	4,87,680	4·9	33·6	19,990	6,723	5,860	4,273
Nellore ...	1,183,531	8,710	1,686	14	12	3,30,129	7·6	92·8	25,176	23,371	4,996	3,677
Nílgiris ...	73,921	937	8	...	5	1,37,410	15·4	68·1	2,118	1,443	1,190	915
Salem ...	1,503,057	7,642	3,871	12	34	4,27,740	10·6	61·8	45,509	28,112	18,481	11,910
Tanjore ...	1,929,311	3,629	3,546	18	19	8,70,620	3·8	54·6	32,727	17,869	23,080	14,959
Tinnevelly ...	1,642,281	5,374	1,494	23	71	4,83,970	13·6	43·3	65,873	28,516	19,863	13,369
Trichinopoly ...	1,110,811	3,544	1,483	10	30	2,70,910	9·7	41·2	26,039	10,723	10,641	7,637
Vizagapatam ...	1,715,677	3,449	2,663	12	19	3,82,413	6·1	63·5	23,460	14,885	11,250	8,157
Total ...	28,023,605	119,308	42,862	272	590	83,04,687	7·9	54·9	6,59,647	3,62,620	2,71,115	1,85,117

District Boards.	1891-92—*continued.* Improvement of village sites. Amount sanctioned.	Amount expended.	Improvement of water-supply, including cleansing, repairing, and construction of tanks and wells. Amount sanctioned.	Amount expended.	Sanitary arrangements during fairs and festivals. Amount sanctioned.	Amount expended.	Construction and repair of markets and slaughter-houses. Amount sanctioned.	Amount expended.	Other sanitary objects, including construction and repair of latrines, dust-bins, drains, &c. Amount sanctioned.	Amount expended.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Anantapur ...	880	501	2,210	728	310	137	6,200	1,697	1,250	1,091
North Arcot ...	4,628	2,448	14,715	11,270	819	232	9,442	4,178	1,592	684
South Arcot ...	3,325	948	21,699	13,366	905	441	3,950	...	667	...
Bellary ...	1,600	996	4,329	2,087	1,220	239	5,427	507	3,281	2,397
South Canara ...	...	...	1,055	358	1,262	814	761	390	520	205
Chingleput ...	1,482	1,136	9,611	11,502	895	623	...	...	823	1,337
Coimbatore ...	2,949	1,653	15,585	6,064	740	268	9,442	538	1,696	950
Cuddapah ...	1,217	1,346	4,237	1,575	380	150	2,248	458	1,883	718
Ganjam ...	950	497	950	1,740	210	17	...	...	770	185
Godávari ...	7,526	2,764	11,149	9,166	1,010	271	11,678	1,245	...	611
Kistna ...	4,600	1,245	13,330	3,936	1,220	358	...	...	1,380	599
Kurnool ...	2,371	840	2,897	750	690	130	...	...	1,287	933
Madura ...	3,380	1,092	3,810	2,537	550	192	26,500	7,687	1,640	236
Malabar ...	...	50	1,400	1,201	350	125	3,090	761	9,290	313
Nellore ...	2,394	2,456	17,296	16,663	487	440	...	...	...	135
Nílgiris ...	475	236	250	248	...	...	...	...	200	44
Salem ...	1,695	810	20,030	13,420	485	206	3,732	1,598	1,086	168
Tanjore ...	1,710	381	6,094	1,531	1,163	675	...	...	680	323
Tinnevelly ...	12,788	3,024	21,673	7,823	1,117	712	4,159	1,065	6,323	2,523
Trichinopoly ...	1,988	298	5,783	1,109	140	19	5,627	953	1,860	707
Vizagapatam ...	3,890	1,599	6,900	4,056	540	180	3,000	366	880	527
Total ...	59,751	24,020	1,82,024	1,11,130	14,493	6,229	95,256	21,438	37,008	14,686

ABSTRACTS OF SANITARY REPORTS OF LOCAL FUND CIRCLES.

Districts.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille per annum.	General Health.
Anantapur.	5,094	117	A well was sunk and several others repaired (Rs. 364) and other minor improvements to water-supply also effected (Rs. 122). Rs. 501 were spent towards the improvement of village sites, viz., repairing roads and streets, removing prickly-pear, &c. A few latrines, dust-bins and markets were constructed and repaired at a cost of Rs. 2,199.	Rivers, tanks and wells are the sources of supply. About 44 wells were set apart for drinking purposes and were guarded from pollution. With a few exceptions the wells yielded fairly good water.	No regular system. Side-cuttings exist in some of the unions. Many houses have cess-pool which are cleaned when full.	Refuse is collected in carts and deposited in places distant from the towns. In some places it is sold by auction. There were 67 latrines against 66 in 1890, and most of them are in good condition and resorted to freely by the people.	29·3	Unsatisfactory. Cholera prevailed in nearly all the taluks.
Bellary.	5,876	119	A few wells and tanks were constructed and repaired at a cost of Rs. 1,474 and other improvements to water-supply made (Rs. 269); several latrines and markets also were built, dust-bins erected and a drain constructed (Rs. 2,761); other improvements to village-sites, *e.g.*, repair of roads, removal of prickly-pear, &c., effected (Rs. 1,139).	Obtained, as usual, from two rivers, tanks and wells. Certain tanks and wells are set apart for drinking only and guarded from pollution.	No system. Surface drains exist to carry off rain water. House drainage flows into cess-pools.	Refuse is removed outside of town and village limits and sold periodically. There are 43 latrines against 40 in 1890, all of which are freely resorted to.	32·4	Unsatisfactory. Cholera prevailed in all the taluks and during March influenza was epidemic.
Chingleput.	2,833	333	Many wells were sunk (Rs. 3,673) and certain tanks and wells repaired and deepened and other improvements made (Rs. 7,645). A sum of Rs. 1,136 was spent towards the improvement of village sites. 19 dust-bins were erected (Rs. 120).	The people depend upon tanks, wells, rivers and channels for their water-supply. Owing to failure of monsoons in 1890-91 there was a diminution in the quantity of water and its quality was bad. None of the drinking water sources are guarded except one or two tanks in Chingleput town.	Main roads have side-cuttings. There are few cess-pools as a rule but many of long standing exist in Pulicat.	No change since last report. Street sweepings are carried to depôts, where they are allowed to accumulate and disposed of by auction from time to time. Public latrines exist only in four of the unions.	32·6	The health of the people was very unsatisfactory. Cholera visited every taluk and nearly every village of the district. Fever also was the cause of many deaths, it having prevailed in most of the taluks of the district.
Coimbatore.	7,827	204	A few wells were sunk (Rs. 1,935) and certain tanks and wells repaired and other improvements made (Rs. 4,074). Rs. 1,353 were spent in removing prickly-pear. A few latrines, dust-bins and markets were constructed and repairs to certain others executed at an outlay of Rs. 1,063.	Same as last reported. From rivers, tanks and wells. Well water is in some instances hard and brackish. Some of the wells are provided with parapet walls and platforms.	Streets and backyards of houses have no system of drains. Refuse water, as a rule, runs into streets or backyards, cess-pools exist in large towns and some villages, but they, are rarely, if ever, cleaned out.	The refuse of taluk stations and large villages is daily collected, removed to depôts and either burnt or sold as manure. Latrines exist in important villages, but people seldom use them.	25·6	Health unsatisfactory, cholera and small-pox having prevailed largely.
Cuddapah.	8,726	126	A few wells were sunk (Rs. 54) and certain tanks and wells repaired (Rs. 1,135) and other improvements made (Rs. 188). Rs. 1,346 were spent towards the improvement of village sites. Certain latrines, dust-bins, drains and markets were constructed and others repaired at a cost of Rs. 1,031.	From rivers and wells. Drinking water wells are guarded generally. This year in places there was a scarcity of drinking water.	No system. Side-channels exists on either side of the streets to carry away rain water. Drainage of houses empties into cess-pools which are cleaned by the house owners when full.	The sweepings of streets and latrines are, as usual, carted and deposited at some distance from towns and villages and periodically sold to ryots as manure. Conservancy is carried on partly on contract and partly on Amani system. Latrines exist and are kept clean. They are resorted to by the people, chiefly by females.	25·4	With the exception of cholera, small-pox and measles, which prevailed in the district in 1891, the health of the people on the whole was good.
Ganjam.	3,096	467	Two tanks were repaired and other improvements made at a cost of Rs. 232. Rs. 497 were spent towards the improvement of village sites. A few latrines and dust-bins were constructed (Rs. 71) and other sanitary improvements effected (Rs. 114).	Obtained from tanks, wells and rivers and was of fair quality. A few wells and tanks are set apart for drinking purposes and are guarded.	No system. Streets, as usual, are provided with side-cuttings. Several houses have cess-pools.	The refuse of the conserved villages are carried out of village limits and sold as manure. Latrines exist, but people, as a rule, resort to fields for purposes of nature.	13·3	On the whole satisfactory. Cholera and small-pox appeared in a sporadic form in certain taluks.
Godávari.	6,499	262	A few tanks were dug (Rs. 732) and wells sunk (Rs. 1,211) and repairs to certain others made (Rs. 6,168). Other improvements to water-supply cost Rs. 983. Certain improvements to village sites were effected which consisted in laying out a few roads and repairing others, removing prickly-pear and carrying out other improvement at a cost of Rs. 2,764. Certain dust-bins, drains, markets and slaughter-houses were constructed and others repaired (Rs. 1,856).	Is of fair quality and is obtained in the delta from the Godávari and its canals. Wells and tanks are the sources of supply in inland taluks.	Side-cuttings exist, which are in places not kept properly cleared.	The refuse and sweepings of villages are deposited on the fields. There are no latrines in any of the villages. People resort to fields. Latrines are much wanted in all unions.	22·1	Unsatisfactory. Cholera and small-pox prevailed and proved fatal in many cases.

ABSTRACTS OF SANITARY REPORTS OF LOCAL FUND CIRCLES—*continued.*

Districts.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
Kistna.	8,450	176	A few wells were sunk (Rs. 874) and repairs to certain tanks and wells made (Rs. 1,432). Rs. 1,245 were spent towards the improvement of village sites, i.e., laying out certain roads and streets and repairing others, removing prickly-pear and effecting other minor improvements.	Is obtained from the Kistna and is of fairly good quality. Some of the wells and tanks are set apart for drinking purposes. Divisional officers and village heads see that the drinking water sources are not polluted.	Natural, and on the higher ground very good. House drainage fair. No cess-pools.	The refuse in larger towns and villages is collected and removed to a considerable distance by the conservancy staff, while in others the ryots store it near houses and remove it to fields in hot weather for manure. Latrines exist and people resort to them freely. They are kept in good condition.	30·3	Unsatisfactory, owing chiefly to the prevalence of cholera and small-pox.
Kurnool.	7,528	87	Rs. 473 were spent in repairing certain tanks and wells. Certain streets were laid out (Rs. 300) and certain other improvements to village sites effected (Rs. 51). A few latrines and dust-bins were constructed (Rs. 443) and certain others repaired (Rs. 469).	*Of fair quality obtained from rivers,* springs and wells. Several wells are set apart for drinking purposes and watchmen are employed to prevent pollution of water supplies.	Natural. In some villages a system of drainage was started, but left unfinished. Houses have no drains.	Street sweepings are deposited outside villages and are either sold as manure or burnt in cheesters. The contents of latrines are removed to a distance from the villages and there buried in trenches. The latrines are freely used by the people.	32·9	Bad, owing to prolonged epidemic of cholera. Fevers also caused many deaths.
Madura.	8,352	245	Five new wells were sunk (Rs. 355) and repairs to certain tanks and wells made (Rs. 1,407) and other improvements to water-supply were effected (Rs. 80); several markets were constructed (Rs. 7,632) and one repaired (Rs. 55). A few roads and streets were repaired and prickly-pear and rank vegetation removed and other improvements to village sites effected at a cost of Rs. 1,092.	Obtained from rivers, tanks and wells—chiefly from tanks. One good tank is set apart in each town and nominally conserved for drinking purposes. Tanks are watched and wells are provided with parapets and platforms. No care is taken of river water.	No system. Cess-pools abound	The sweepings of conserved villages are thrown into dust-bins and eventually removed out of the town and sold by public auction. The sweepings of other villages are deposited in pits, while in others they are deposited on waste lands and finally removed to fields to be used as manure. Public latrines exist in larger towns; they are freely resorted to, while in smaller towns, people prefer going to surrounding fields.	28·2	Unsatisfactory. Cholera and small-pox prevailed.
Malabar.	5,734	355	Rs. 1,195 were spent in sinking certain wells and in repairing others. Two latrines were constructed and others repaired (Rs. 125). Three markets were	Same as last reported, viz., wells, tanks and rivers. Each dwelling house has a well, from which drinking water is obtained, but in most cases they are not protected with parapet walls, drains and	No improvement since last report. Side-cuttings exist to carry off surface drainage. Drainage of houses either flows into cess-pools or into backyards or side-cuttings.	The sweepings, &c., of the conserved villages are carried outside villages and are either burnt or buried and eventually sold as manure, while those of the non-conserved villages are removed to the fields by the ryots themselves to be used as manure.	20·4	Unsatisfactory, cholera and small-pox having prevailed largely.
Nellore.	8,710	136	[illegible] was repaired (Rs. 55) and rank vegetation removed (Rs. 2,343) and other minor improvements effected (Rs. 58). Dust-bins put up and drains repaired at a cost of Rs. 135.	but they are only nominally so, as they are subjected to much pollution.	rudely built stone revetments. Drainage of houses discharges either into side-cuttings or public streets.	[illegible] is carted outside the villages and deposited in convenient places. The sweepers engaged to clean streets do their work very indifferently.		throughout the district.
Nilgiris.	937	79	A few wells were sunk and two others repaired (Rs. 236). Rs. 248 were spent in removing prickly-pear and rank vegetation.	Obtained from a spring, a reservoir and wells. Spring water is good, but the quantity obtained is insufficient. The water from the reservoir is greatly polluted and unfit for drinking purposes.	Natural. No artificial drains exist. No cess-pools.	Refuse is in some cases used in coffee gardens and in others sold to estate owners. There are 3 latrines at Gúdalúr, which are resorted to chiefly by the people attending the market, the majority of inhabitants prefer using coffee gardens to the latrines. No latrine in other villages.	25·4	Was on the whole fairly satisfactory.
North Arcot.	7,250	240	A few wells were sunk and a tank was dug (Rs. 409) and repairs to several tanks and wells executed (Rs. 5,813). Other minor improvements to water-supply cost Rs. 165. Rs. 2,448 were spent towards the improvement of village sites, viz., repairing streets, removing prickly-pear and effecting other improvements. Several latrines, dust-bins and markets were constructed (Rs. 3,911), and others repaired (Rs. 946).	Obtained chiefly from river springs, tanks and public and private wells. The quality of water varies in each town and village being good in some and bad in others. In larger towns certain tanks and wells are set apart for drinking purposes and are guarded.	No regular system. Main streets are fairly well drained. Drainage of house either empties itself into open spaces, paddy fields or cess-pools. Houses have cess-pools, which are only occasionally cleaned out.	Refuse in larger towns is removed to the outskirts of the town and sold as manure by ryots; but in smaller towns where there is no rubbish depôt, it is thrown in heaps near prickly-pear clumps and finally carted away to fields for manure. There are 30 public latrines, but they are not freely resorted to.	26·1	Unsatisfactory, cholera, small-pox and fevers having prevailed.
Salem.	7,642	197	A few wells were sunk (Rs. 1,215) and several wells and 5 tanks were repaired (Rs. 10,501); other improvements to water-supply made (Rs. 1,257). Rs. 810 were spent in the removal of prickly-pear and rank vegetation, &c. Rs. 1,766 were laid out in constructing few dust-bins, markets, latrines, &c., and repairing others.	Fairly good; obtained from steps or draw-wells, tanks and rivers. Step-wells are guarded, as a rule, from pollution and the surroundings of other sources are kept as clean as possible. During the year water has been scarce in places owing to deficient rainfall.	Surface drains exist which in places are much neglected being obstructed by stones, rubbish and silt. Drainage of houses discharges either into cess-pools or street drains. There are many cess-pools, which are generally mere holes in the ground and seldom cleaned.	The refuse of conserved towns and villages is collected in dust-bins and removed in carts to selected depôts outside the town. In most places the accumulated refuse is annually sold by auction, while in others it is unsaleable. The contents of public latrines, where they exist, are removed beyond town in covered carts and buried in trenches. There are 28 latrines against 27 in 1890 which are freely resorted to particularly by females.	25·1	With the exception of cholera and small-pox which prevailed, the general health was on the whole fairly good.

ABSTRACTS OF SANITARY REPORTS OF LOCAL FUND CIRCLES—*continued.*

Districts.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
South Arcot.	4,856	361	A few wells were sunk (Rs. 129) and several tanks and wells repaired (Rs. 12,206). Other improvements to water-supply cost Rs. 573. Rs. 948 were spent in repairing a road and certain streets and in carrying out other improvements.	Obtained from rivers, ponds, springs and public and private wells. Some of these are reserved for drinking purposes and guarded from pollution. Scarcity of water was felt in many villages.	No system. Drainage of houses either flows into backyards or side channels. Cess-pools also exist. In union villages side channels exist for the drainage of streets.	The refuse is generally removed outside the village and sold in auction. There are 10 latrines against 9 in 1890, all of which are in good condition and freely resorted to by the people.	35·4	Unsatisfactory, cholera having prevailed throughout the district.
South Canara.	3,807	298	A few wells were sunk (Rs. 341) and others repaired (Rs. 171); certain latrines, dust-bins and markets also were constructed (Rs. 350) and others repaired (Rs. 134). Rs. 111 were spent for miscellaneous sanitary purposes.	Wells, public and private, and streams. Public wells are provided with walls and platforms, but the private ones are not so provided and hence exposed to pollution by surface impurities.	Natural. Houses have no drains. There are no cess-pools.	Scavengering establishments were maintained in 20 villages for the purpose of cleaning roads, lanes and drains. Public latrines are not made use of by the people.	20·4	Fairly satisfactory. Cholera and small-pox prevailed to some extent.
Tanjore.	3,629	531	Rs. 784 were spent in sinking a few wells and in repairing certain other tanks and wells. Some streets were repaired and other improvements to village sites made at a cost of Rs. 380.	The people living in the northern part of the district depend upon the river Cauvery, and springs dug in the bed of the river for their supply of water. In other parts channels, wells and tanks are used. The tanks are generally fed by surface drainage, rain water and streams. More wells are required.	No regular system except in a few places. Side ditches exist in most places, which serve as street drains. Sewage water runs into the backyards of houses.	The sweepings of important towns and villages are carted away daily and deposited in selected places far away from the town and eventually sold, either before or after they are burnt, in auction for purposes of manure, while in others they are given to scavengering cart contractors as part of their contract. Latrines are provided in only two unions. In other places the people resort to the fields.	27·1	Unsatisfactory, cholera having prevailed throughout the year.
Tinnevelly.	5,374.	306.	Rs. 7,586 were spent in digging a tank, sinking certain wells and repairing several others and in making other improvements; certain improvements to village sites, viz., laying out roads and repairing roads and streets, &c., cost Rs. 3,024. Some latrines, dust-bins and markets also were constructed and repairs to	Obtained from tanks, wells, rivers and channels, subject to contamination. In hot weather certain tanks in larger towns and villages are set apart for drinking purposes and guarded.	No regular system. A few main streets in large towns are provided with side-channels. Drainage of houses either flows into backyards or side-channels. Cess-pools exist, which are cleaned once in six months or when it suits the convenience of the owner.	The sweepings, &c., of the conserved villages are either removed by wheelbarrows or carts and deposited in some selected places and eventually sold as manure or buried in pits. In non-conserved villages the inhabitants themselves collect them for manuring purposes. There are 11 pucka-built latrines, but they are not much used owing to their inconvenient situations. In some places people prefer using adjoining gardens, &c., as latrines.	26·2	Unsatisfactory. Cholera appeared in certain months and was very fatal.
	3,544.	313	A few tanks and wells were repaired (Rs. 646) and Rs. 298 were spent in repairing a street, removing rank vegetation and making certain other improvements. A dust-bin and a market were constructed and a few latrines repaired.	Obtained from river channels, rain-fed tanks and wells, not generally of good quality. Well water is brackish and the channels which feed the tanks set apart for drinking purposes are subjected to impurities of all kinds.	No system. Ill-constructed channels exist in many villages to carry off storm water. There are cess-pools in all large towns and villages which are cleaned at intervals.	Street sweepings are removed by carts in some villages, while in others by sweepers themselves and eventually sold by auction as manure. Latrines are freely resorted to and kept fairly clean.	28·8	Unsatisfactory, cholera having prevailed in the district throughout the year.
	3,449.	497.	Rs. 3,869 were devoted to sinking and repairing certain tanks and wells and in making other improvements to water-supply. Rs. 1,599 in laying out and repairing certain streets and in removing rank vegetation, &c., and Rs. 823 in constructing and repairing latrines, dust-bins and markets.	Obtained from rivers, tanks and wells and exposed to pollution. In larger villages tanks and wells are supposed to be reserved and guarded, but people bathe and wash clothes in them.	Natural. Cess-pools are not many, but where they do exist, they are not often cleaned.	Refuse is removed to site or sites of the town and eventually removed to the fields. There are no latrines in most villages and people resort to fields, &c. In places where they exist they are not freely used.	16·7	Fairly good.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED.

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Anantapur	Anantapur ...	Sources same as last reported. From wells, tanks, rivers and streamlets. Sufficient, except in some villages. In some villages wells are set apart for drinking purposes and care is taken to prevent pollution generally.	No change. Natural. In a few villages wells are sunk to receive the drainage of houses. Cess-pools are rare.	In five villages sweepers (1 in each) were employed to clean the streets. The other villages are kept clean by the people themselves. Street sweepings, &c., are stored in fields and utilized for manuring purposes. Open latrine system is in vogue.
	Gooty and Tadpatri.	From wells, rivers, springs dug in beds of rivers, irrigation channels and tanks. Tank water is seldom used for drinking. Supply insufficient owing to failure of rain, quality fair. The wells in 2 places and the Pennér at Tadpatri are guarded by watchmen.	Natural, except in the main streets of 3 villages where artificial drains exist. Drainage water finds its way into streams, channels or ponds. Cess-pools exist in large towns which are cleaned at long intervals. Drainage of houses and backyards defective.	In taluk and Deputy Tahsildar's head-quarters, including other large villages conservancy establishments were employed. Sweepings, &c., in Gooty and Tadpatri are bought by ryots and used as manure. Public latrines exist in the above referred places and also in 6 villages in the Tadpatri taluk. Night-soil is removed daily by scavengers. Private privies exist in Gooty and Tadpatri. In other places people generally resort to adjoining fields and hills.
	Penukonda, Dharmavaram, Hindupur and Madakasira.	From rivers; also from tanks and wells reserved for drinking purposes; sufficient except in hilly tracts. A few wells are provided with platforms, the rest are so constructed as to prevent pollution.	Except in taluk head-quarter stations where artificial drains exist, drainage is natural. Cess-pools exist in the houses of big villages which are emptied when full.	No change. In the taluk and Deputy Tahsildars' head-quarters conservancy establishments are maintained and the sweepings, &c., sold as manure. The public latrines in three villages are in good condition. Private privies exist in some places and private arrangements made for cleaning them. In the other villages, the people keep their houses and streets clean, heaping the rubbish, &c., at a distance.
Bellary	Bellary ...	From wells chiefly; good	.....	In three unions and 2 villages sweepers were employed to clean the streets. Public latrines exist in the conserved villages. No arrangements made to remove the night-soil.
	Raidrug ...	From wells chiefly. The want of drinking water is much felt in some of the black soil villages. Drinking water is protected from pollution by the villagers themselves. A separate establishment exists at Raidrug.	.....	No system. Villages generally not clean. Except at Raidrug and Kanel there is no latrine accommodation in the villages, people resorting to open places for purposes of nature. Rubbish is stored in and around villages.
	Alúr ...	From wells and pits dug in the beds of nullahs. Scarcity was much felt in a few villages.	None. Sewage water from houses flows into sink pits and in villages, where water is scarce, it is let into stone troughs and given to cattle.	No information. Houses generally clean, but cattle are picketed in dwellings.
	Hospet ...	Sources same as last reported. Wells, river, tanks and channels. Generally sufficient. In union villages special arrangements exist for conserving drinking water. Many of the wells have parapet walls.	Natural. Masonry drains exist in Hospet and Narrainkery. Sewage water from houses flows into streets where it sinks in the soil or finds its own course. Cess-pools exist in some villages.	Conservancy establishments are maintained and latrines for females provided in the union villages. Elsewhere, there is no system of conservancy. Sweepers are employed in certain large villages where markets are held. Cattle are housed in dwellings, and, except in a few cases, there are no private latrines. People ease themselves in streets and open places and pigs and buffaloes are the scavengers.
Bellary.				
Bellary.	Kúdligi ...	From venkas and wells. Supply fair during the first half of the year, but deficient during the second half owing to drought. The drinking wells are provided with parapet walls.	No information	Fair in union villages where sweepers and scavengers are employed and latrines provided. Sweepers are employed in two other villages also. Elsewhere no system.
	Harpanahali ...	Same as last reported; obtained from tanks, springs, wells and ponds. The river Tungabhadra is also used by villages bordering on it. Sufficient. Water is not wholesome in some village. Sources are set apart for drinking purposes and generally kept clean under the management of village officers. Scarcity was felt in one important village. Some improvements to water-supply were carried out during the year.	Natural. Side-drains exist in Harpanahalli town. The construction of slab drains in Harpanahalli has been sanctioned.	Conservancy establishments are maintained in 4 villages. In Harpanahalli town, the sweepings are collected in dust-bins and carted away by scavengers and used as manure. Public latrines are provided for females and they are freely resorted to. The males resort to fields. The other villages are kept clean by village Madigas.
	Hadagally ...	No information	No information. Water-supply works are under execution.	Sweepers are employed in 8 villages to clean the streets. In the other villages, the streets, &c., are cleaned by the village vitties.
	Sandúr (Zemindary).	Obtained from wells, river and jungle streams. Pits dug in the beds of streams are used when wells run low. Draw-wells are set apart for drinking; wells have no parapets and very few have platforms and drains.	Natural and good. Rain and bathing water from houses flow into streets and cess-pools. There are 598 cess-pools cleaned once or twice a year.	Conservancy arrangements exist only in Sandúr and the establishment was increased during the year. No public latrines; people resort to open fields for purposes of nature. Private privies exist in Sandúr and are cleaned by scavengers. There are also cess privies in Sandúr and another village. On the whole the villages in Sandúr State are reported to be tolerably clean.
Chingleput.	Tiruvallúr ...	No change. From tanks, wells, ponds and river channels; quality good, quantity insufficient for want of rain. Sources not reserved for drinking purposes only. Wells in town have parapet walls, platforms and drains. Masonry tanks exist in 3 villages.	No change. By side-cuttings made by the villagers. Sewage from houses flows into streets, backyards and side-channel. Cess-pools exist in Trivellore which are kept clean.	Three villages were conserved and the sweepings and rubbish stored outside the villages and sold. The cleanliness of the other villages is attended to by the people themselves, the sweepings and rubbish being used as manure. One latrine for females exist at Tiruvallúr.
	Ponnéri ...	No change. From tanks, ponds, wells and a river; quality good, quantity insufficient from want of rain; sources not reserved for drinking purposes. Most wells have parapet walls and some of them platforms and drains also.	No change. Side-cuttings exist in some places. House drainage flows into streets and backyards; cess-pools exist.	Three villages were conserved and the sweepings deposited outside the villages and sold. The other villages are kept clean by the people themselves, the refuse being used as manure. No public latrines. Private privies exist in Pulicat which are kept clean.
	Saidápet ...	From wells, tanks, springs and rivers. Sources are protected from pollution by the villagers. One tank at Avadi has a watchman. Most of the wells have parapet walls and in important villages they are provided with drains also. Owing to want of rain sufficient water was not available.	Natural. In some villages side-channels exist, and in the cantonments of St. Thomas' Mount, Pallávaram and Poonamallee masonry drains.	Six villages were conserved. There are public latrines at Saidápet. The sweepings of streets and the contents of latrines are deposited outside the towns and sold.
	Chingleput ...	From the Pálár and its channels, tanks, ponds and wells; quality good, quantity insufficient owing to want of rain. In Chingleput and Tirupórúr ponds and wells are reserved for drinking purposes and watchman employed to guard them. In other important villages they are looked after by village servants. The wells in Chingleput and a few other important villages have parapet walls, platforms and drains.	No change. Masonry drains and side-channels exist in Chingleput and Tirúpórur. A cess-pool exists near the Local Fund Chuttram in Chingleput and is daily emptied. House drainage flows into backyards.	Three villages were conserved and the sweepings deposited outside the villages. The others are kept clean by the people themselves, sweepings, &c., being utilized as manure.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Chingleput.	Madurántakam ...	No change. Tanks, ponds and wells are the chief sources. Good, but insufficient owing to want of rain. Many wells have parapet walls and a few are provided with platforms and drains also. Tanks or ponds are not set apart for drinking purposes only.	Natural. Side-cuttings and masonry revetments exist in the cusbah villages. No cess-pools.	No change. Three villages were conserved and the street sweepings deposited outside and sold. In the others the rubbish and refuse from streets and houses are removed to fields by the inhabitants.
	Conjeeveram ...	No change. From tanks, ponds, wells and river channels; quality not good, quantity insufficient in the hot season. Wells generally are protected with parapet walls and platforms.	Natural and good	No change. Streets and houses are daily swept by the inhabitants and the refuse, &c., used as manure. Two villages are conserved. No latrines.
	Coimbatore ...	Same as last reported. From wells, tanks, ponds, rivers, channels and jungle streams. Generally good and sufficient. Wells in certain villages are set apart for drinking purposes.	Natural. In a few villages side-channels exist. Drainage water flows into jungle streams or ditches. Drainage of houses flows into backyards, low places, &c., where it soaks into the soil. No cess-pools, but pits dug here and there.	No change. Sweepings, cow-dung, &c., are stored in backyards and used as manure. Scavenging establishments are maintained in large villages. Latrines exist in Mettupalaiyam, but in other places people resort to waste lands for purposes of nature.
	Erode ...	Obtained from rivers, channels, jungle streams, wells and tanks. The river supply is constant. Water from all sources except the channel is wholesome. Wells only are set apart for drinking purposes. In most villages they are protected by parapet walls and hedges. The tanks are rain-fed.	Natural. No cess-pools	No system in the taluk generally. Conservancy is attended to by the monegars who get the village servants and ryots to do the work. The house sweepings are removed daily to gardens or accumulated in the village common and used as manure. Four villages are conserved and the refuse, &c., from streets and houses removed by sweepers employed for the purpose. No public latrines.
	Satyamangalam ...	No change since last reported. From the river Bhavání and its two channels and wells. Villages bordering on the river and its channels use the river water for drinking and it is wholesome. The wells are well protected against pollution by surface drainage.	Same as last reported. No system. Drains exist in the union villages of Satyamangalam and Gopichettipolliem. House sewage flows into street drains where it dries up or soaks in the earth. The drains were improved during the year.	Four villages were conserved and a sanitary staff employed in each to clean the streets. The sweepings were carted to a distance and sold by auction when accumulated. Houses were kept clean by owners and their scavenging fairly attended to.
	Pollách ...	From wells and jungle streams. Sufficient. A few step and draw-wells are reserved for drinking purposes in Pollách and generally kept clean. In the other villages and hamlets one or two wells are set apart for drinking.	Natural. Artificial drains in a neglected condition exist in some important villages.	Special conservancy establishments are entertained in 5 villages where the sweepings are deposited in places distant from the villages and burnt or sold by auction. House sweepings in some of these villages are thrown in the streets; in all others they are stored in backyards and used as manure.
	Palladam ...	From wells mainly. Tanks, rivers and springs dug in jungle streams are also used. Most of the wells are intended for irrigation purposes. A well or two is reserved in each village for drinking, but the supply was insufficient. Most of them have parapet walls and their surroundings clean. The tanks with one exception are not used for drinking. The jungle streams used to a limited extent.	Natural. Rain water finds its way to streams. Sewage water from houses is absorbed in the earth.	In 6 village scavengers are employed to sweep the streets, while in others the villagers do the work. The refuse of streets and houses is stored and taken to the fields. Latrines and dust-bins are provided at Palladam. The rubbish in this town is stored near [illegible]
Coimbatore.	[illegible]	Obtained from rivers, jungle streams, wells, tanks and ponds. Sufficient in the rivers and some of the wells. The rivers are subject to pollution and very few step wells are reserved for drinking purposes and specially protected. The draw-wells are protected by masonry or wooden parapet walls or wooden railings. Very few have platforms, but the majority have the surrounding ground raised and sloping downwards. No drains. The tanks are rain-fed and the surface water flows into them.	No system in the taluk as a whole. Side-cuttings exist in a few villages, which discharge into rivers, jungle streams or tanks. Drains are provided in Bhavání and they are cleaned daily by an establishment. Except in the houses of well-to-do people in Bhavání where the house drains open into streets and side ditches house sewage flows into backyards and sink into the soil.	A sanitary establishment is employed in Bhavání and the sweepings, &c., sold on contract. In the other villages, the people keep the houses and streets and lanes clean and remove the refuse to fields. A sweeper is employed at Audiyur. Public latrines exist in Bhavání.
	Kollegál	Same as last reported. From rivers, tanks, wells, ponds and jungle streams. Sufficient on the whole. One tank in cusbah Kollegál is watched over, but subject to pollution.	No system. The drainage of Kollegál is indifferent. The side-channels empty themselves into fields and water channels. There are few cess-pools which are left to take care of themselves. No attempt made to drain houses and backyards.	Conservancy establishments are employed at Kollegál and two other villages. The sweepings, &c., are taken to a distance and burnt and the night-soil from public latrines is buried or used on fields. House conservancy is attended to by the owners and the filth, &c., used as manure or buried in the backyards.
	Udamalpet	Sources same as last reported. From the river Amaravati and wells. Two or three wells are set apart for drinking in each village or hamlet, and the monegars are strictly enjoined to see that the wells are not fouled. A well and a tank are reserved and guarded at Udamalpet, but the tank is subject to pollution.	No system. Side-channels exist in Udamalpet and other large villages.	Conservancy establishments are entertained at Udamalpet and two other villages. The sweepings at Udamalpet are stored and sold by auction while the night-soil is buried at a distance from the town. Latrines exist at Udamalpet and a few other villages. No system elsewhere. Sanitation is looked after by the Village Magistrates and Revenue Inspectors.
	Karur	Chiefly from rivers, streams, tanks and wells. Fairly good. River water is used for drinking and other purposes by villages which adjoin them. Most wells are step wells and some have parapet walls and are fenced.	No system. House sewage flows into backyards and sinks there.	No system. The houses are kept clean, the sweepings in some are thrown at a distance on the outskirts of the village, while in others they are stored in backyards until removed to the fields. No latrines or dust-bins except at Aravakurchi or Pallapatti. Sweepers are employed in two villages.
	[illegible] ...	From the river Amaravati and its channels and wells. Tanks also exist, but they are not used for drinking. River water is especially used for drinking by people living in the vicinity of the river. Drinking wells are protected by walls or fences and the village officers and the people are enjoined to keep them from pollution.	No system. Side-cuttings exist in the bazaar streets.	A sanitary staff is employed in the union town and the rubbish, &c., removed daily to six depôts. Domestic cleansing is attended to by the people themselves. House owners having no private latrines resort to the public latrines. 40 dust-bins are provided.
Cuddapah.	Badvél	From tanks, wells, rivers and channels. Insufficient. No sources set apart for drinking purposes and protected from pollution. Most of the wells have no parapet walls. In several villages water is scarce in the hot season.	Natural. Side-drains existing in only 2 villages. Refuse water of houses and backyards flows into streets and in some villages in cess-pools.	Only five villages conserved. Street sweepings and night-soil are removed outside the villages by scavengering establishment and sold. Four of these have dust-bins. In other villages street and house sweepings together with the dung of cattle are collected in the backyards of houses and steps are being taken to put an end to this nuisance. House conservancy is attended to by the owners themselves. Not satisfactory.
	Proddutur ...	From channels from the Pennér river, Kundu river, wells and reservoirs specially constructed. Sufficient. Only the channel water near Proddutur town is protected from pollution. Drinking wells of some villages have parapet walls; not analysed.	No system. Drainage of streets and lanes flows into fields and channels. Cess-pools attached to every house in the town of Proddutur are occasionally emptied. Unsatisfactory.	Four villages forming Proddutur union are conserved. House sweepings are thrown into the dust-bins which are daily cleaned by scavengers and stored outside the town for sale. Public latrines exist in Proddutur town and in a few villages. In the former the latrines are cleaned by scavengers and in the latter cattle are doing the work of scavengers. Very few houses in the town have private latrines. House conservancy is attended to by the people themselves.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Cuddapah—*continued.*	Sidhout ...	From rivers and wells. Good and sufficient. Sources are not set apart for drinking purposes; wells have parapet walls.	No change. Natural. In Sidhout town side-channels exist which empty into the Penner river. House sewage soaks in backyards of houses.	Eight villages were conserved. Dust-bins exist in two villages. Contents of public and private latrines are removed outside the town and sold. House conservancy is attended to by people themselves. House and street sweepings with the cattle dung are collected and carried not far off from the village where they are stored and used as manure.
	Pullampet ...	From wells, tanks, rivers and river channels. Scarcity of drinking water was felt this year. Sources not set apart for drinking purposes. Most of the wells have no platforms and parapet walls.	Natural. Side channels exist in Rájampet town. Cess-pools in the backyards of houses are never cleaned. In the rainy season sewage water finds its way into the nullans and eventually to tanks and rivers.	Ryots make their own arrangements for the conservancy of their houses. Seven villages are conserved. Street sweepings and other rubbish are removed outside the villages and sold.
	Cuddapah ...	No change. From wells, rivers, streams and channels. Good and sufficient; sources are not set apart for drinking and not protected from pollution.	Natural. Side drains exist in 3 villages. Rain water flows through streets and lanes. Sewage water from houses flows either into pits dug in backyards or into streets.	No change. Four villages are conserved. The street sweepings and the contents of the public latrines in those villages are removed outside the villages and sold as manure. House conservancy is attended to by the owners themselves who use the rubbish and refuse from houses as manure.
	Jammalamadugu ...	No change. From rivers, pits dug in bed of rivers, wells and tanks. Generally good and sufficient. Wells are protected by parapet walls and set apart for drinking purposes. In villages where tanks are the only sources of water supply, people suffer much from scarcity of water during the hot season.	Natural with the exception of Jammalamadugu town where artificial drains exist which lead into the Penner river. In the town house drainage flows into cess-pools and in villages it flows into shallow pits.	Jammalamadugu town and 6 villages are conserved. Dust-bins exist in Jammalamadugu town. The sweepings of houses and streets are stored outside the town and sold for manure. In villages the house sweepings are thrown in dung heaps and used as manure. The public latrines are not properly cleaned and buffaloes are doing the work of scavengers.
	Palivendla ...	No change. From wells, rivers, vankas and river channels. Good and sufficient. Wells are specially set apart for drinking purposes.	Side drains exist in 2 villages. In some villages house drainage flows into streets and in others into cess-pools, which are occasionally cleaned.	Two villages are conserved. The scavengering establishment is worked under Amani system. House sweepings collected in dust-bins together with street sweepings and night-soil are removed outside the villages and stored for sale. The night-soil manure is not purchased.
	Ráyachóti ...	From river, springs dug in it and wells. Good and sufficient on the whole. A big koneru in cusbah and wells in the bed of the river are guarded by watchmen to prevent pollution. Several wells have parapet walls. The Taluk Board have taken steps by providing funds for digging and repairing several drinking water wells.	Side drains exist in the Ráyachóti union. Refuse water is allowed to soak in the backyards of houses. No cess-pools.	In the town sweepers remove refuse from houses and sweepings of streets to a distance where they are sold as manure. A grant is allotted for the entertainment of sweepers in some villages, but owing to the difficulty of securing sweepers, conservancy is attended to by people themselves. The refuse is removed to the manure heaps of each individual ryot. In cusbah there are 6 public latrines, of which 4 are built of mud walls and 2 of stone walls. These as well as private ones are daily cleaned and the night-soil is removed to a distance where it is buried in pits. In villages people resort to adjacent fields for purposes of nature.

	Kadiri	From dug wells, a stream and a koneru. These two are watched over from being polluted. Good and sufficient. Very few wells have parapet walls.	Natural. House drainage flows into street channels and thence to the stream. There are some cess-pools in the backyards of houses which are occasionally cleaned.	Eight villages are conserved and kept fairly clean. Refuse from houses are thrown into dust-bins which are removed along with street sweepings outside the town and sold. Contents of public and private latrines are conveyed to a pit at a distance. The scavenging of the Kadiri union is kept under Amani.
	Váyalpád ...	From wells, tanks and river. Good, but not abundant. Sources are set apart for drinking purposes and guarded against pollution.	No change since last report. No system. Side-cutting exist. In Váyalpád masonary drains covered with slabs are provided to two streets. Rain water flows into streams, tanks and fields. Very few houses have drains. House sewage sinks into the soil or flows into cess-pools, which are occasionally cleaned.	No change. Some villages are conserved and the sweepings stored outside the village and sold as manure. In the others they are heaped up in corners and eventually used as manure. Latrines and dust-bins are provided at Váyalpád and Pilér. The night-soil from public and private latrines are removed in baskets in Váyalpád and thrown in fields and in Pilér those of public latrines are thrown into pits dug near them.
	Madanapalle ...	From wells, streams and tanks. Good, but insufficient from want of rain. Draw-wells are used for drinking purposes and prevented from pollution. Generally these have parapet walls.	Natural. In cusbah side-channels exist which flow into Bahuda river. In some villages house drainage flows into cess-pools, which are in most cases never emptied and in others it flows into streets.	Twelve villages are conserved. House conservancy in Madanapalle is attended to by private sweepers. House sweepings are thrown into dust-bins, which are sold along with the street sweepings and night-soil from public latrines. Private latrines are never cleaned, night-soil being allowed to remain in pits which are very deep.
Ganjam.	Chicacole	No change. From tanks, wells and rivers. Quantity abundant, quality on the whole indifferent. Tanks in three places are reserved for drinking. Many wells have parapet walls and platforms.	No system. Rain water finds its own course.	No change. Eight villages were conserved and the sweepings removed to the outskirts and either sold or burnt. The sweepings, &c., from the other villages were removed to the fields and used as manure. No public latrines. In some places private privies exist in backyards of houses and private arrangements made for cleansing them. The night-soil is generally thrown on waste grounds.
	Berhampore ...	No change. From tanks and rivers in some places, and in others from wells. In some villages scarcity of water was felt during the hot season. In 6 big villages tanks are reserved and in another a well for drinking purposes. Wells used for drinking are fenced and have platforms.	No change. Except in portions of Ichápur and Chatrapur, there are no properly constructed drains. Rain water finds its own course.	Fourteen villages were conserved. In other respects same as in Chicacole taluk.
	Goomsur	No change. From tanks, wells and streams. Except in the vicinity of streams the want of water is sometimes felt. Quality generally not good. Most of the wells are fenced, but arrangements are not made to prevent waste water again finding its way into them. Some river ghauts in three places are reserved for drinking.	No change. No system, except in Russellkonda.	No change. Five villages were conserved. Rubbish, as a rule, is piled up near houses and used as manure during cultivation season. Latrines exist in two places; in the other places people resort to fields for purposes of nature.
	Parlákimedi and Tekkali (Zemindaries).	No change. Same as in Chicacole taluk	No change. Same as in Chicacole taluk.	No change. Same as in Chicacole taluk.
Godávari.	.....	Sources same as last reported. From the Godávari canals, rain-fed tanks and wells. Insufficient in tanks owing to failure of the monsoon. Watchers were employed to guard some tanks from pollution.	No change. Natural	Domestic cleansing is gradually improving and village sanitation is receiving greater attention since the introduction of Taluk Boards and Unions. The number of unions is 12.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Kistna.	Répalle	No change. From the Kistna irrigation channels, rain-fed tanks and wells. Quantity enough, quality good. Tanks used for drinking not guarded against pollution. Some wells have parapet walls. Platforms and drains to wells often wanting.	Natural. In a few villages side-cuttings exist. House drainage is sometimes allowed to stagnate in backyards.	No change. Six villages were conserved and the sweepings sold. The other villages were kept clean by the people themselves, the rubbish being collected in heaps and used as manure. No public latrines.
	Bápatla	From wells, tanks and irrigation channels. Quantity insufficient during the hot season. Quality good. Sources protected from pollution in a few villages. A few wells have parapet walls.	No change. Natural. Sewage water from houses flows into streets.	Seven villages were conserved. In other respects same as in Répalle taluk.
	Guntúr ...	From wells, tanks and the Kistna canals. Generally sufficient and good. Tanks are set apart for drinking purposes and are protected from pollution generally; some wells have parapet walls, platform and drains.	Natural. Drainage water in the northern and western portions flows into the streams. Cess-pools exist in one village which are emptied daily.	No change. Houses and streets were kept clean by the people themselves. The sweepings were used as manure. Only one village was conserved.
	Palnád ...	From wells generally. In a few villages from tanks, streams and channels. Sources reserved for drinking purposes only and protected from pollution generally. Wells have parapet walls, but no platforms or drains.	Natural. Drainage water from houses is allowed to stagnate in backyards, cess-pools exist in backyards and outside houses; those outside are cleaned occasionally.	No change. Four villages were conserved and the sweepings, &c., removed to a distance or used as manure.
	Narsaraopet ...	No change. From wells, tanks and streamlets. Quality good. Sources reserved for drinking purposes only and protected from pollution generally.	No change. Natural. There are very few cess-pools, which are emptied when full.	No change. Two villages were conserved. One sanitary maistry exercises supervision over all the villages of the taluk. Street sweepings are used as manure.
	Gudivada	No change. From wells and tanks. Quantity sufficient. Quality not very good. Tanks are used for drinking purposes only and one tank is protected from pollution. Only four wells are provided with parapet walls, platform and drains.	No change. Natural. Artificial to some extent in two villages.	No change. Three villages were conserved and the sweepings sold. Public latrines at Gudivada are cleaned daily.
	Sattenapalle ...	No change. From wells, tanks, river and hill streams. Quantity insufficient, quality not good. Wells reserved for drinking purposes only. Some wells have mud parapet walls.	Natural. House drainage soaks in backyards and in rainy season flows into streets.	Sanitary arrangements generally not satisfactory. Three villages were conserved, the sweepings, &c., were used as manure.
	Bandar	From irrigation channels, wells and tanks. Quantity scanty in the hot season. Quality not very good. Sources generally protected from pollution. Some wells have parapet walls and a few have platforms.	No change. Chiefly natural. Artificial in two unions. House drainage flows into streets.	No change. Four villages were conserved. One Sanitary Inspector was employed to attend to sanitation of villages generally. Street sweepings, &c., were used as manure.
	Nándigáma ...	No change. From rivers, tanks and wells. Good and sufficient except in the hot season. Sources not set apart for drinking purposes, but protected from pollution. Some wells have parapet walls and a few have platforms and drains.	No change. Natural. Artificial in two villages. Cess-pools exist in one of them, which are emptied once a week.	No change. Two villages were conserved. Sweepings, refuse, &c., are used as manure.
Kurnool.	Besvéda	From the Kistna river its canals, tanks and wells. Quantity sufficient. Quality good. Sources protected from pollution by village officers. Wells have parapet walls.	Natural	No change. Two villages were conserved. The street sweepings are used as manure. Public and private latrines exist.
	Vinukonda	From wells, tanks, streams and a few rivulets. Supply generally sufficient and good. Wells are set apart for drinking purposes and protected. Some have parapet walls.	Natural. There are a few cess-pools in Vinukonda, which are kept clean.	No change. One village was conserved, and the sweepings thrown outside the village and sold.
	Násvid Zemindari.	No change. From wells, tanks and streams. Good and sufficient. In some villages tanks are set apart for drinking purposes and protected from pollution.	No change. Natural. Artificial in Násvid.	No change. Four villages were conserved. The sweepings, &c., were used as manure in most cases.
	Vissanapet Zemindari.	No change. From wells, tanks and streams. Quantity insufficient in the hot season. Quality good. Sources protected from pollution. One well has parapet wall and platform.	No change. Natural. Artificial in 1 village.	No change. Two villages were conserved. Street sweepings are removed to a distance outside the villages and used in some places as manure.
	Pattikonda	From wells generally. In some villages from the Hindri river and its channels, and in 1 village from a tank. Generally good and sufficient, except in the hot season in some villages. Wells are set apart in some villages, notably in Pattikonda town for drinking purposes only and guarded against pollution by village watchmen. Most of the wells have neither platforms and drains. The water of Munro's well at Pattikonda was found to be good on analysis.	No change. Natural. Sewage water from houses is let into cess-pools, which are cleaned once a year or allowed to get absorbed in the ground.	No change. Four villages were conserved, and the street sweepings, rubbish, and contents of public latrines are burnt in cinerators or sold as manure. Domestic cleansing and sweepings of streets in other villages are attended to by the people themselves, the sweepings, rubbish, &c., being stored in heaps and utilized as manure. Generally there are no private privies.
	Rámallakót	From wells, rivers, spring channels and the Kurnool-Cuddapah canal. Sufficient. In the hot season some of the streams get dry. The water of the Tungabhadra was found usable on analysis. Drinking water wells are guarded by villagers from pollution; they have no platforms.	Natural. Rain water finds its way into streams and nullahs. House drainage is let into streets where it gets absorbed into the ground. Cess-pools exist in some villages, which are emptied when full occasionally.	Four villages were conserved, and the sweepings, rubbish, &c., removed outside the villages where they are stored and sold as manure. Public latrines exist in these places, which are freely resorted to; the night-soil is buried. The other villages are kept clean by the people themselves utilizing the sweepings, &c., as manure.
	Nandikótkur ...	From rivers, canals, wells and tanks. Sufficient and good. About 150 wells are provided with parapet walls. Drinking water wells are guarded by villagers and village servants from pollution.	Natural. In Nandikótkur artificial drains exist. Drainage water finds its way into streams and low grounds. Sewage water from houses is let into cess-pools, which are cleaned when full periodically or into streets.	Four villages were conserved, and the sweepings stored outside the villages and sold. The other villages were kept clean by the people themselves utilising the sweepings as manure. In the conserved villages public latrines exist which are cleaned by toties employed.
	Nandyál	From river, streams, wells, Kurnool-Cuddapah canal, tanks and spring channels. Sufficient except in some villages in the hot season. In 1 or 2 villages tanks are specially reserved for drinking purposes. Wells are guarded from pollution by the villagers. Some of the drinking water wells at Nandyál have parapet walls and platforms.	Natural. In 2 villages artificial drains exist. Drainage water runs into rivers, pools or manure pits. House sewage is let into cess-pools, which are periodically cleaned or let into streets.	In 6 villages, sweepers and scavengers were employed to clean the streets and public latrines. The sweepings and rubbish are collected and sold. Night-soil is buried. The other villages are kept clean by the people themselves utilizing the rubbish, &c., as manure.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Kurnool—cont.	Koilkuntla ...	No change. From wells, tanks and rivers. Generally good and sufficient, except in places dependent on tanks which get dry in the hot weather, when people resort to distant rivers and wells. Wells are watched by village watchmen. A few of them in Koilkuntla are provided with parapet walls, platforms and drains. In some villages, wells have parapet walls only. The tanks are cleaned in the hot season.	Natural. In two villages artificial drains exist. For other particulars same as in the other taluks.	No change. Two villages were conserved and the sweepings sold. As for other particulars same as in other taluks.
	Sirvel	No change. From draw-wells, rivers, tanks and channel. Good and sufficient. The villagers generally guard the drinking water wells from pollution.	No change. Natural. In other respects same as in other taluks.	No change. Four villages were conserved and the sweepings sold. The other villages are kept clean by the people themselves utilising the sweepings, &c., as manure. In 2 of the conserved villages public latrines exist.
	Cumbum	From wells, streams and channels, from the Cumbum tank and the tank itself. Generally good and sufficient except in the latter part of the year. Wells set apart for drinking purposes are watched by the people themselves. Some wells have parapet walls. The water of Cumbum tank was found to be good on analysis.	Natural. In 2 places artificial drains exist (side cuttings). Drainage water finds its way into rivers and streams. Sewage water from houses is let into streets or into cess-pools, which are cleaned once in 3 or 4 months.	No change. Four villages have conservancy staffs to keep the streets and the public latrines clean. Sweepings and night-soil are stored at a distance and periodically sold. The other villages are kept clean by the people themselves utilising the rubbish, &c., as manure.
	Márkápur	No change. From 4 streams and wells. Generally good except in villages at the foot of the Nalamalai hills. Many wells have no parapet walls and those that are set apart for drinking are guarded by the villagers against pollution.	Natural. Cess-pools exist in two villages which are cleaned when full. House drainage is let into streets where it gets absorbed in the soil.	Two villages were conserved and the street sweepings sold. Night-soil from the public latrines in Márkápur is carried to a distance and sold. In other respects same as in other taluks.
	Madura	From the river Vaigai, tanks and wells. Well water is in most cases good, and a few are reserved for drinking. Most of the wells have parapet walls.	No system	In conserved villages the sweepings are deposited in rubbish depôts and sold as manure, while in others people heap them on their own grounds or on the village common and are eventually carried to fields. The latrine in Sholavandan union is resorted to only when fields are not available for purposes of nature. Private houses are with a few exceptions, not kept clean.
	Tirumangalam ...	Wells, tanks, and rivers form the chief sources of water-supply. Village heads are made responsible to see that the ryots do not pollute the water.	There are no properly constructed drains except in certain unions and a few villages where well-to-do people exist. The sewage of villages where no drains exist is allowed to run into pits.	In union villages the sweepings are daily removed by scavengers while in others they are heaped up in remotest parts and eventually used as manure to fields. The streets in towns and villages are kept neat. There are 3 latrines in Tirumangalam, which are kept clean and females alone resort to them.
Madura.	Melúr	Wells, uranies and streams. Wells generally yield good water. In union villages certain uranies and wells are reserved for drinking purposes and guarded.	There are no proper drains. No cess-pools. In union villages small drains are dug to carry off surface and drainage water.	The refuse of union villages is stored in places remote from the town and sold by auction, while in others it is heaped up by the inhabitants in their waste lands and used as manure by them.
	Dindigul ...	Obtained from wells and rivers; good in quality and sufficient in quantity. In important villages wells are provided with parapet walls and platforms. The conservancy of drinking water receives the attention of local officials.	Streets are provided with side-cuttings to carry off rain water.	The sweepings of villages under the management of Panchayats are removed by scavengers, while in others the people themselves remove the rubbish.
	Palni	A tank, a few wells, a river, jungle streams and channels. During heavy rains, the tank water undergoes much pollution. Some of the wells are protected by parapet walls. The river yields fresh drinking water.	Neither drains nor cess-pools exist. Sewage of houses in many villages either percolates in the ground or runs into the streets, sometimes into tanks also. Union villages have side-drains.	In union villages carts are maintained for the removal of street sweepings, while in others the refuse is either stored in backyards or in some distant place set apart for the purpose. No public latrines.
	Periyakulam ...	Rivers, channels and wells. No tank or well is set apart for drinking purposes. In one place a watchman is employed to protect water from contamination.	Union towns require attention regarding drainage.	In union villages the refuse and sweepings are removed to a selected locality by sweepers and carts and there stored up till sold by auction. In other villages the villagers themselves remove them to the fields to be used as manure. No latrines. People resort to fields and open ground around villages for purposes of nature.
	Kodaikánal Division.	Obtained from wells and springs. Some of the wells are protected by parapet walls.	.....	No conservancy establishment is maintained except in the union village of Kodaikánal. Orders are, however, issued to village officers to pay strict attention to sanitation.
	Head Assistant Collector's Division.	Tanks, uranies and river Vaigai supply water. When these get dry, wells and spring channels sunk in their beds answer their purpose. In union villages, &c., uranies and wells are conserved and guarded from pollution.	With a few exceptions, the drainage is natural. There are no cess-pools. House sewage empty into pits or pots burried in ground and are cleaned when full.	In unions and large villages, dust-bins are provided to receive house sweepings which are removed by conservancy carts and deposited in some remote part where they are either burnt or sold as manure. In other villages the owners themselves attend to the cleansing of their houses and backyards.
Malabar.	.....	From wells. Good and abundant. Scarcity is felt in the dry season in exceptional localities.	Natural. The soil being porous the water is readily absorbed.	Scavenging establishment to a limited extent are employed in a few villages. Public scavenging is impossible and unnecessary, as there is not much accumulation of filth and people dwell in detached houses. Latrine accommodation is not provided, the sea-beach answering the purpose in villages on the coast.
Nellore.	Nellore ...	From the Pennér river and ponds and wells	No system. Natural side-channels exist in some places to carry off storm water.	No system and not properly attended to. Scavengers are employed in five villages to clean the streets. Domestic cleansing is attended to by the people themselves, but the houses generally are filthy with rubbish accumulations in front of them. Prickly-pear abounds.
	Atmakúr	From tanks, wells, rivers, ponds and irrigation channels. Good on the whole, but insufficient in some villages.	Natural. Some villages have drains here and there.	No system. Rubbish and dung are stored in backyards and removed to fields during the hot season. Domestic cleansing indifferent.
	Gúdúr	From wells, ponds, dorutus and tanks, good and sufficient on the whole.	No change since last report. No system. Natural. Drainage channels exist in Gúdúr.	No system The streets on the whole are generally clean. Scavengers are employed in two villages. Domestic cleansing is attended to by house owners and the refuse used on fields.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Nellore—*continued.*	Ongole	The chief sources are rivers, wells and ponds. Tanks and vagus are also used. The river water is generally good. Ponds containing good water are looked after by the village officers to prevent pollution. Well water is mostly used for drinking and special care is taken of those containing fresh water. Drinking wells have parapet walls. Step wells are subject to pollution. Scarcity was felt in some villages.	No system. Drainage of streets flows through vagus. No special arrangement for drainage of houses.	No system. Conservancy staffs are employed in Chennakurti, Santanulapadu and the unions of Addanki and Kottapatam. The house sweepings and dung are deposited in pits adjoining houses and eventually used on fields.
	Kanigiri	No change. From ponds, wells and vagus ...	No change. Mostly natural. Side-cuttings exist in Kanigiri.	No system. Indifferent. Houses generally not clean. Rubbish is stored in backyards and the heaps removed only when ordered. Scavengers are employed in two villages.
	Pólúr Division ...	Obtained from tanks, ponds and wells. Good ...	Generally good ...	Generally good.
	Venkatagiri do. ...	From wells, tanks, ponds and river, but tanks and wells appear to be the chief sources.	No system. Natural. Side-channel exist in Venkatagiri. House sewage flows into backyards and dries up.	At Venkatagiri scavengers are employed who remove the refuse, &c., from street and dust-bins. House owners clean their premises and the rubbish is thrown into dust bins. Elsewhere no system. Domestic cleansing is attended to by the people and the rubbish is stored and removed to fields.
	Podili do. ...	From wells, tanks, rivers, channels and vagus ...	No system. Side ditches exist in Podili village. House sewage flows into backyards where it is absorbed or into streets.	No system. The village officers look after the cleanliness of villages. Cattle are housed inside dwellings and the cow sheds are generally filthy. Dung is stored in backyards.
	Darsi do. ...	From rivers, lakes, tanks and springs	...	...
	Chittoor ...	No change. From wells, rivers, springs and tanks. Sufficient and generally good. Water of Chittoor town analysed and found good. Watchmen are employed to guard sources in large villages and Chittoor town. Wells are provided with parapet walls. Tanks are surface fed or fed by springs and the bunds are generally built of stones.	No change. Natural. In Chittoor town artificial drains exist in important streets. In Chittoor house drains empty into the street drains, which again discharge into the fields. Two hundred and fifty cess-pools exist in Chittoor town cleaned occasionally by the owners.	In Chittoor town streets are conserved by the scavengers employed by the Union Panchayat. No conservancy arrangements exist, except in 3 places. Street sweepings, rubbish, &c., are used as manure. Twelve public latrines exist in Chittoor town and the contents of these with those of private privies are removed in carts and buried at a distance.
	Chandragiri ...	No change. Same as in Chittoor taluk. Wells have parapet walls, platforms and drains. The tanks are for the most part masonry built.	Natural, except in some places where side-channels have been cut. House drainage flows into [illegible] or backyards which are [illegible]	Five villages are conserved; no arrangements elsewhere. Street sweepings, &c., are used as manure. In Renigunta, they are sold in auction. A few private privies exist in Chandragiri town and their contents are removed to a distance. No public latrines.
North Arcot.	Palmanér ...	No change. Same as in Chandragiri taluk. Watchmen are employed at the principal tanks. Wells have parapet walls, platforms and drains; tanks are for the most part masonry built.	Natural, except in two villages, where side-drains have been constructed. Drains discharge into neighbouring tanks. Cess-pools exist in villages and are occasionally emptied.	One town (Palmanér) is conserved. No arrangements elsewhere. Street sweepings, &c., in Palmanér town are deposited at a distance and sold by auction. Refuse from houses is removed to fields by the owners. One public latrine was newly constructed. Its contents as well as of private privies are cleared by paid agencies and removed to a distance.
	Gudiyátam ...	No change. Same as in Chandragiri taluk. Watchmen are employed in important villages. Some of the wells have parapet walls and drains.	Natural, except in four villages, where side-channels have been cut. In some places, the drainage of houses and backyards discharge into streets. There are cess-pools in villages.	Four villages are conserved. The other villages are kept clean by the people themselves. Street sweepings, refuse, &c., are used as manure. No public or private privies.
	Vellore	From ponds, rivers, river channels and wells. Sufficient and good. Some ponds and wells are reserved for drinking purposes only. Some of the wells have parapet walls, platforms and drains. Some of the ponds are masonry built.	Natural, except in large villages, where side-channels are cut. House drainage flows into pits dug in streets or backyards, which are never emptied. No cess-pools.	Four villages are conserved; no arrangements elsewhere. Street sweepings, rubbish, &c., are used as manure. No public or private latrines.
	Pólúr	No change. From ponds, wells and river channels. Sufficient and good. In large villages watchmen are employed to guard sources of drinking water. In other villages village servants see that water is not polluted. Some wells have parapet walls and platforms. Tanks are masonry built and surface fed.	Natural, except in two villages, where side-channels are cut. Drainage water from houses in some villages flows into pits dug in backyards. There are cess-pools in some villages.	Two villages are conserved; the other villages are kept clean by the people themselves. Street sweepings, &c., are deposited at a distance and sold by auction. Refuse from houses is removed to fields by the owners. No public latrines; but there are private privies in Pólúr town, the contents of which are buried at a distance.
	Wandiwash	No change. From wells, tanks, rivers, channels and streams. Sufficient and generally good. In Wandiwash town 3 ponds are reserved for drinking purposes and watchmen employed to guard them. In Wandiwash town, wells have parapet walls and drains. Most tanks are masonry built. Some are fed by river channels.	Natural. In Wandiwash town side-channels exist. Drainage water flows into irrigation channels or streams. No cess-pools.	No conservancy establishment, except in Wandiwash town; the street sweepings are deposited at a distance and sold. No public latrines; but there are private privies, the contents of which are sold.
	Arcot	No change. Same as in Chittoor. Water was not analysed. Some wells have only parapet walls.	Natural, except in four places. The drains generally discharge into rivers, channels or streams. There are cess-pools, which are occasionally emptied.	No conservancy arrangements exist, except in 3 places. Street sweepings, rubbish, &c., are used as manure. There are a few public latrines in Arcot, which are cleaned by the sweepers employed by the union.
	Wálajá	No change. Same as in Chittoor. Some wells have only parapet walls. Most tanks are masonry built and surface fed.	Except in four places there are no regular street drains. The drains generally flow into irrigation channels or streams. No regular cess-pools.	Four towns are conserved. No arrangements elsewhere. Street sweepings, rubbish, &c., are deposited at a distance and sold by auction. There are public latrines in 3 towns and they are cleaned by scavengers paid by the union.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Talaks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
North Arcot—*cont.*	Puttur Division Kálahasti do. Tirutani do. Maderpauk do. Punganur do. Venkatagirikota do. Kangundi do. Arni do.	Water is obtained from wells, rivers, springs and tanks, except in Venkatagiri, Kangundi and Arni divisions where there are only wells. It is particularly deficient in Puttur, Tirutani, Maderpauk and Venkatagiri divisions and sufficient and good in others. Wells have generally parapet walls, platforms and drains in Puttur and Tirutani. They have no parapet walls in Maderpauk, no drains in Kálahasti and neither platforms nor drains in others. Many of the tanks in Tirutani, Punganur and Kangundi and two in Kálahasti are masonry built. They are occasionally cleaned out, except in Puttur, where they have never been cleaned, and Punganur where not one tank has been cleaned out. 14 tanks were repaired and cleaned out this year from famine funds in Maderpauk.	The drainage of streets is natural and that of houses and [illegible] except in the towns of Kálahasti, Punganur, Venkatagirikota and Kangundi, where there are side-drains. There are a few cesspools in Puttur, Tirutani, Kálahasti, Punganur and Arni which are emptied when full. In Arni it is allowed to discharge into Periyá tank.	No conservancy arrangements exist, except in the towns of Puttur, Tirutani, Kálahasti, Venkatagirikota, Kuppam and Arni and four villages in Punganur. In Maderpauk division, villages are kept clean by the people themselves. Street sweepings, rubbish, &c., are deposited at a distance and sold in public auction.
Salem.	Salem and Attur ...	From rivers, jungle streams and wells chiefly. Generally good. One tank in Tiruvangalam is set apart for drinking purposes only and is watched over. In some villages in the Salem taluk scarcity of water was felt. Drinking water wells are mostly protected by parapet walls and platforms. The wells and tanks are mostly masonry built. In small villages, the people themselves see that drinking water wells are not polluted.	Natural. In two unions (Attur and Rasipur) side-cuttings exist. Drainage water finds its way into rivers and fields. Sewage water from houses flows into streets and lurking lands. In Salem taluk cesspools exist which are emptied once a year.	In big villages conservancy establishments were entertained. The sweepings are sold as manure. The other villages are kept clean by the people themselves utilising the sweepings as manure. Night-soil from public latrines is buried and sold as manure.
	Námakal	From the Cauvery, its channels, wells and tanks. Except along the Cauvery and its channels the supply is limited and want of water was much felt during the hot season. In some villages tanks are reserved for drinking purposes and watched over. Some wells have parapet walls, platforms and drains.	Natural and good. In three unions attempts are made to open side-drains. Cess-pools exist in some villages which are cleaned once a year.	Domestic cleansing generally satisfactory. Nine villages were conserved and the street sweepings, &c., deposited at a distance and sold or removed to fields for manuring purposes. People generally resort to fields for purposes of nature.
	Hosúr Sub-Division.	From tanks, wells and rivers. Sufficient, except in some villages and generally good. In some of the villages, tanks and wells are reserved for drinking purposes and watchmen employed to guard them from pollution. Many wells have parapet walls; very few have platforms and drains.	No change. Natural. In large villages side-cuttings exist. Drainage water flows into adjacent lands or tanks. Sewage water from houses stagnates in backyards or is let into streets. Cess-pools exist in the big villages and emptied periodically.	Three unions and 14 villages were conserved. Street sweepings, &c., are stored and sold as manure. Public latrines exist in a few places. Night-soil is stored and sold as manure.
	Tirupatúr ...	Sources same as last reported. From wells, tanks and rivers. Generally sufficient and good. Tanks and wells are reserved for drinking purposes only.	Natural	No change. Three villages were conserved. Street sweepings and rubbish are sold as manure. The other villages are kept clean by the people themselves utilising the rubbish as manure.
South Arcot.	[illegible]ankarai ...	From wells, tanks and rivers. One tank in the cusbah is solely used for drinking purposes, and a watchman is deputed to see that the water is not polluted. Most of the wells have parapet walls and platforms.	In the taluk there are side ditches in the streets. Rain-water runs into fields and open spaces.	Four villages were conserved, and the sweepings are stored outside the villages. In the other villages the ryots store the rubbish, &c., in open places, utilizing the same as manure.
	Chidambaram and Vriddháchalam.	From wells, tanks, rivers and canals. Quality good, quantity insufficient owing to want of timely rains. Some tanks are reserved for drinking purposes and are watched over.	Natural. Refuse water from houses sinks in backyards or runs into streets.	.....
	Cuddalore	Wells, tanks, rivers, channels and springs are the chief sources. Quality generally good.	No regular system. Sewage water from houses soaks in backyards.	In a few important villages scavengering establishments are maintained. In villages refuse is generally stored on private lands and used as manure.
South Canara.	.....	From wells chiefly. In the hot weather rivers and streams in the forest tracts are resorted to. Well water good. Quantity insufficient owing to the failure of the rains.	Natural. Singularly good	South Canara is essentially an agricultural district and cultivators reside in separate and detached homesteads on their own holdings and not in villages. Scavengering establishment was therefore maintained for the few towns big enough and compact enough to require it. Domestic cleansing fairly good.
Tanjore.	Tanjore	From rivers, channels, springs dug in river beds, tanks and wells. Five wells set apart for drinking purposes at Vallam are guarded. Some of the wells have parapet walls, platforms and drains.	Natural. At Vallam masonry drains exist and at another village side-cuttings. House drainage flows into backyards where it gets absorbed in the soil.	No change. Seven villages were conserved and the sweepings used as manure. The other villages are kept clean by the people themselves. There are four public latrines at Tiruvádi; night-soil is burnt.
	Kumbakónam ...	No change. From rivers, tanks and wells. In the hot season temporary springs are dug in river beds. In five villages, tanks are reserved for drinking purposes.	No change. Natural. In some villages side-cuttings exist. House drainage flows into backyards, where it sinks into the soil.	No change. The streets in general are kept neat and clean. The sweepings are sold as manure. Three villages were conserved. There are latrines at Mahajanakudi, which are cleaned daily. There are no private latrines, the people generally resorting to fields for purposes of nature.
	Máyavaram ...	No change. From rivers, tanks and wells. In the hot season springs are dug in the river beds and fields. Two tanks in Tranquebar and one in Tirukadayur are reserved for drinking purposes, and watchers placed over them. In some villages wells with parapet walls and platforms were also reserved for drinking purposes. Tank water is generally not good.	No change. Natural. House drainage flows into backyards, where it sinks into the soil or into adjoining channels.	No change. Street sweepings, refuse from houses, &c., in villages not conserved are stored near houses and eventually removed to fields and used as manure. In conserved villages they are removed to a distance and sold. No public latrines. Private privies exist, but they are not regularly cleaned.
	Shiyáli ...	No change. River channels, tanks and wells form the chief sources. Most of the wells have parapet walls. In Shiyáli town 2 tanks are reserved for drinking purposes and watched over.	No change. Natural. Side-cuttings exist in a few villages. Drainage water flows into fields. Sewage water from houses flows into backyards where it sinks into the soil.	No change. Conservancy establishments were employed in 4 villages. The other villages were kept clean by the people themselves, utilizing the sweepings and refuse from houses as manure.
	Nannilam ...	No change. From rivers, channels, tanks, wells and in the hot season from springs dug in river beds also. Almost all wells have parapet walls. Two tanks in 2 unions are reserved for drinking purposes and are guarded by watchmen.	Natural. Drainage water flows into streets and channels. House drainage either flows into backyards, where it gets dried up or is let into streets.	Two villages were conserved and the sweepings removed outside the villages and sold as manure. In the other villages the people themselves keep them clean utilizing the sweepings, refuse from houses, &c., as manure. No public latrines.
	Tiruturaipúndi ...	No change. Rivers, wells and tanks form the chief sources. In Tiruturaipúndi and Mutupet 2 tanks in each are reserved for drinking purposes and are watched over.	No change. Side-cuttings exist generally. Sewage water from houses soaks in backyards.	The refuse of the town is generally used in filling up stagnant pools and small pits. No public latrines.

ABSTRACT OF THE SANITARY ESTIMATE OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—*continued.*

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Tanjore—*cont.*	Negapatam ...	No change. Rivers, channels and tanks. Abundant. Five tanks are reserved solely for drinking purposes during the hot weather.	Natural. Side-cuttings exist in 1 village. Drainage water flows into channels and pools. Sewage water from houses is let into backyard and into streets.	In villages where conservancy establishments exist the rubbish and sweepings are removed outside the villages and burnt. The other villages were kept clean by the people themselves. No public latrines.
	Patukóta	Tanks, ponds and wells are the sources of supply for drinking purposes. Want of water was much felt in the hot season when temporary springs and wells are dug. There are a few jungle streams in this taluk. Two tanks are reserved for drinking purposes and watch over.	No change. Natural. Rain water flows into ponds, pools and fields. In 2 villages side channels exist. There are about 1,000 cess-pools which are never emptied.	No change. Four villages were conserved and the sweepings carted outside the villages. The other villages are kept clean by the people themselves. The refuse, &c., being stored in backyard and used as manure. There are 2 public latrines. Some of the houses have private privies which are cleaned by totties.
	Mannárgudi	From rivers and tanks fed by them and by jungle streams. Tank water generally pure and good. 30 wells are reserved for drinking.	No change. In big villages side-cuttings exist.	No change. In villages where conservancy establishments are maintained the sweepings &c. are deposited in places set apart for the purpose and ultimately sold. In the other villages they are stored up in Government waste lands and used as manure by the villagers.
	Orapidáram and Pattukóta.	No change. From wells, tanks, ponds and river sufficient. Ponds and wells are set apart for drinking and the people themselves see that they are not polluted. Many wells have parapet walls and some have also platforms and drains.	No change. No system. Side-cuttings exist in 2 villages. Rain water flows into low lands. Refuse water from houses flows into cess-pools or manure pits in backyards.	No change. Seven villages have sweepers to clean the streets. No special arrangements elsewhere. Refuse from houses are thrown in manure pits in backyards. No public or private latrines. People resort to backyards and adjoining lands for purposes of nature.
	Tenkarai ...	No change. From river channels, tanks and wells. Sufficient except in a few villages in the hot season. Some wells are set apart for drinking purposes in villages where no other supply is available. Most of the wells have parapet walls, platforms and drains.	Natural. House drainage flows into backyards, sides of streets or into cess-pools.	Street-sweepings in unions and villages where scavengers are employed are stored away from houses and burnt or sold as manure. Refuse from houses are used by the owners as manure. There are a few public latrines. No use is made of the night-soil.
	Sankaranainárkoil ...	No change. From wells, tanks, pools, river channels and streams. Of fair quality, but insufficient. Sources are set apart for drinking purposes. Many wells and square tanks have parapet walls and some wells have platforms and drains also.	No change. Natural. Artificial drains exist in a few places.	In some villages sweepers are employed to remove the street sweepings to a distance which are sold. Refuse, &c., from houses are accumulated in corners of houses and periodically removed to fields. Night-soil from public latrines is said to be daily removed. One sanitary majstry on Rs. 10 is employed for the whole taluk with funds to employ temporary sweepers in villages he inspects to clean them.
	Tinnevelly ...	No change. From rivers, channels, tanks and wells. Ample and good. Most of the wells have parapet walls, [illegible] reserved for drink-	No change. Natural. Sewage water from houses runs into backyards.	No change. Sweepers are employed in some villages, the street sweepings being stored in pits outside the villages and annually sold. The cleansing of the other villages is attended to by the people
		by parapet walls and many of them are set apart for drinking only.	[illegible] drainage flows into streets.	In unions and two other villages scavengers are appointed to keep the streets clean. An itinerating staff is employed to attend to the cleanliness of the other villages of the taluk.
	Nángunéri ...	No change. Chiefly from wells. About half the number are provided with parapet walls. Some have platforms and drains also. Tanks, streams, channels and pits dug in the latter two are also resorted to. Sufficient and good on the whole. One square tank is set apart for a portion of the year in the cusbah town for drinking purposes only.	No change. Natural. In a few big villages side-cuttings exist. Gutters of houses discharge into streets, backyards or side-drains of streets.	In villages where sweepers are employed the street sweepings are removed outside village limits and used as manure or burnt. The refuse from houses and contents of private privies are stored in backyards or vacant places and eventually carried to the fields for manuring purposes. There are no public latrines.
	Ambásamudram ...	No change. From rivers, channels, tanks and wells. Generally good; quantity was insufficient in the first half of the year. In some big villages tanks are set apart for drinking purposes in the hot season and are watched. Many of the wells have parapet walls, platforms and natural drains.	Natural. Drainage water flows into rivers, channels, streams and tanks. Sewage from houses runs into backyards and streets.	No change. 16 villages were conserved and the sweepings are stored in pits and subsequently sold as manure. The backyards of houses are generally filthy, refuse from houses, manure, &c., are stored in backyards.
	Sátúr ...	No change. From wells, tanks and rivers. Fair. Most of the wells have parapet walls, platforms and drains. Tank water is not used for drinking purposes.	Natural. In some places artificial drains exist. Drainage water flows into jungle streams. Cess-pools exist.	The streets are daily swept in unions and occasionally in villages. Sweepings and refuse are heaped at a distance and sold. Private latrines are cleaned at the expense of owners of houses. Night soil is buried.
	Tenkási ...	No change. From wells, tanks, river, streams and channels. No special arrangements are made to prevent pollution. Almost all the wells have parapet walls, but generally no platform.	No change. Side-channels exist in some places. Masonry drains exist to a very limited extent in three villages. Sewage water from houses flows into streets and backyards generally.	No change. Sweepers are employed in some villages; the street sweepings are used to fill up hollows and permitted to rot in out-of-the-way places. Refuse from houses, such as ashes, are stored in backyards and used as manure.
Trichinopoly	Trichinopoly ...	From rivers, channels leading from them, wells and tanks; ample and good. Tanks in four villages and a portion of a channel in another are reserved for drinking purposes and watchmen appointed to guard them from pollution. Drinking-water wells have parapet walls and platforms.	Natural. In one village the streets are sectioned and provided with tunnels to drain them. House sewage flows into backyards, streets and low lying places.	17 villages were conserved. The street sweepings from five of them are carted to a distance and used as manure. The people clean the other villages themselves. Rubbish, &c., are heaped in backyards and used eventually as manure. The public latrines at Lálgudi are cleaned regularly, but not the private ones.
	Musiri ...	No change. From rivers, channels branching off from them, tanks and wells. Generally good and on the whole sufficient. In two villages tanks are set apart for drinking purposes and watchmen appointed to protect them from pollution. Some of the wells have parapet walls, platforms and drains.	Generally natural. In some villages side-cuttings exist. Drainage water flows into channels, jungle streams or tanks. House sewage flows into backyards and is either absorbed into the soil or finds its way to pits, channels or tanks.	In three towns conservancy establishments are employed. In two of these, street sweepings, rubbish, &c., are heaped up at a distance and periodically sold. The other villages are kept clean by the people themselves. Street sweepings, rubbish, &c., are heaped up near dwellings and in open places at a distance and utilized as manure in the cultivation season.
	Kulitalai ...	From the Cauvery, its branches, wells, tanks and uranies. Sufficient and generally good. Tanks and wells are set apart for drinking purposes and in the hot weather the village Talayari see that they are not polluted. One tank has a watchman paid from Local Fund. Local Fund wells alone have parapet walls, platforms and drains.	Natural. House sewage flows into backyards where it soaks into the soil and into streets.	10 villages were conserved. Rubbish and night-soil from latrines are removed to a distance, the former either burnt or sold as manure and the latter buried. The other villages are kept clean by the people themselves who resort to fields for purposes of nature.
	Perambalúr ...	From the Vellar, its branches, jungle streams, wells and tanks. Generally good and ample. In some parts water was scanty in the hot season. In four villages tanks were reserved for drinking purposes and watchers employed to look after them. A few wells have parapet walls. Very few tanks are masonry built.	No change. Natural. House sewage flows into backyards and streets where it is absorbed into the soil.	Four villages were conserved. In three of them the rubbish, &c., are carted to a distance and sold. The other villages were kept clean by the people themselves, rubbish, &c., being heaped in backyards or vacant spaces and used as manure. Public latrines exist in two villages; night-soil is buried. Private privies exist in Perambalúr which are daily cleaned.

ABSTRACT OF THE SANITARY ESTIMATES OF VILLAGES IN EACH OF THE REGISTRATION CIRCLES FROM WHICH REPORTS WERE RECEIVED—c

Districts.	Taluks or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domesti
Tiruchinopoly—cont.	Udayarpalaiyam	From tanks, wells and the Coleroon and its branch-channel the Pommêri. Quality good, scarcity of water was felt for 4 months owing to failure of rain. Six tanks and a well in 6 villages are reserved for drinking purposes and watchmen appointed to guard them against pollution.	Natural. In towns side-cuttings exist. Surface drainage flows into tanks, vari and rivers. House refuse is stored in backyards an backyards where it soaks into the soil.	No change. Four villages were conserved. sold. The other villages are kept clean House refuse is stored in backyards an latrines exist in the conserved villages.
Vizianagaram	Vizianagaram Taluk Board.	No change. From wells tanks, rivers, streams and channels. Quality generally good. Most of the important tanks are set apart for drinking and watchmen employed to see that they are not defiled. All wells have parapet walls, platforms and drains.	Natural except in the unions where side channels exist and in some places. V shaped cut stone drains. Drainage water flows into paddy fields and irri gation tanks. Cess-pools exist in Pal konda union which are emptied daily.	No change. In unions and 4 other villa nagris were employed to clean the st Private arrangements are made to clear earred villages the sweepings are burnt In the other villages they are deposited to fields for manure.
	Vizianagaram	From tank and wells chiefly. River and streams and pits dug in them are also resorted to. Quality generally good, but quantity insufficient owing to the failure of the north-east monsoon. Many tanks are set apart for drinking purposes only and some are watched by village servants. One tank in Kotavasala has a watchman paid from Taluk funds. Many wells have parapet walls and some of them have also platforms and drains.	No change. No system. In 5 villages channels exist. Drainage water way into low lands, streets portion channels and nullahs. village masonry drains are It. Refuse water from houses to backyards and streets and to low grounds.	Three villages were conserved. In the oth attend to their cleaning, accumulating t near houses and eventually using them a exist in 2 villages, the night-soil is b Private privies exist in one village and to clean them. People generally resor purposes of nature.
	Narsapatnam Taluk Board.	From rivers, tanks and wells. Owing to failure of rains want of water was much felt for some months. Well water supposed to be better than the other sources. In big villages tanks are set apart for drinking purposes only and notices put up prohibiting the water being polluted. In three big villages on the trunk road to the Godavari district watchmen are employed to guard tanks against pollution. Almost all the chief wells in big villages have parapet walls and platforms.	No change. No system. Side-drains exist in three unions. There are cess-pools in Narsapatnam which are employed once a month.	No change. Four unions and 3 other villages were conserved. An intersing staff is also employed to work in the big villages. Street sweepings are collected by ryots and used as manure. Public latrines exist only in Narsapatnam union.
	Parvatipur Taluk Board.	No change. From rivers, tanks and wells. Generally sufficient and good. In 3 unions tanks (one in each) are set apart for drinking purposes only and notices put up to prevent pollution. Watchers are employed for these tanks. Many wells have parapet walls. Platforms and drains to wells are rare.	Natural. In Tekki Head-quarters and in unions side-channels exist. Drainage water flows into fields and vacant places. Refuse water from houses into street drains, streets backyards. In Tekki to wash in. Two cesspools exist in one place.	No change. Conservancy establishments were employed in unions An intersting staff was employed to see to the cleaning of other villages. Sweepings, rubbish, &c., in unions were deposited outside and elsewhere have been constructed for burning them. In the other villages there are buried in streets and backyards and even- tually carried to fields. Public latrines exist in two places, night- soil is conserved as a fertiliser.

SECTION X.

GENERAL REMARKS AND PERSONAL PROCEEDINGS.

75. I held the appointment of Sanitary Commissioner, and Surgeon-Major Dymott carried on the duties of Deputy Sanitary Commissioner throughout the year.

76. All the 55 municipal towns in the Presidency were visited during the year. I inspected 27 municipalities and the Deputy Sanitary Commissioner 28. In addition to these 42 places were visited by the Deputy Sanitary Commissioner and 75 by me. The time I spent on inspection duty was 5½ months and by the Deputy Sanitary Commissioner 5 months. In the Appendices will be found 2 tables, one showing the names of municipalities inspected during the year, the dates of inspection, &c., and the other the names of the places visited.

77. In my inspection of towns and villages it was my practice to go round with some of the Native gentlemen of the place and discuss with them various matters of sanitary interest, attention being especially drawn to the most prominent defects of the place under investigation at the time. I also took occasion to examine the birth and death registers, and in doing so, to point out errors, to apply tests, to ascertain how far the registers were reliable, and urged especially upon Municipal Chairmen the great importance and value of such records. Although in many places registration of births and deaths is still far from accurate, yet there has been on the whole an improvement in the work during 1891. Whenever the monthly rates registered in a municipality are found to be low, or less than those registered in the neighbouring municipalities or even of the district in which the municipality is situated, attention is called to the subject and explanation requested.

78. Although measures for the removal of sanitary defects in municipal towns are being introduced slowly, yet in some, improvements have been and are being effected. It is certain that much of the large mortality which undoubtedly occurs year after year is due to causes which it is possible to remove, but it is equally certain that the complete removal of the causes must in any circumstances be a work of time and require a large expenditure of money.

79. The general and fundamental sanitary defects of municipal towns are (firstly) the unsatisfactory character of the water-supply and (secondly) the absence of an effective system for the disposal of sewage. The provision of a sufficient supply of pure drinking water is a matter of vital importance not only to the towns themselves, but also to the neighbouring country or area influenced by them. Works for providing a sufficient and wholesome supply of drinking water for some of the towns are now being prepared. An improved system of water-supply will necessitate an improved system of sewerage. When water comes to be used by the people in adequate quantity, effective arrangements will be required for the removal of waste or soiled water, for, if the water be allowed to stagnate and sink into the soil after use, it will at once give rise to all the evils attendant on dampness of the soil and excite putrefaction of the excrements with which the soil of towns is saturated.

80. A practice which is very common in most of our towns is that of digging holes within or adjoining house sites for earth to repair or rebuild the house walls; and as these pits are afterwards filled with rubbish of sorts containing objectionable matter, the practice is fraught with danger to health and should be strictly forbidden. Owing, however, to its cheapness and convenience, the practice is one which commends itself to the people as both rubbish is disposed of and the pits are filled up by one and the same action. It is simply adding to instead of lessening the filth of a town and all excavations or pits which are made should be filled with wholesome material and all rubbish removed out of the town. Until this is done there will always be pollution of the air as well as of the water in wells in the vicinity of pits filled up with filth.

81. During the year some progress has been made in improving sanitary arrangements in villages. Many tanks and wells have been deepened and cleaned

out and put in a much more satisfactory condition. So far as villages are concerned the evils lie mostly on the surface and what is really wanted in villages is chiefly to ensure the maintenance of a pure water-supply, to keep the wells clean and to remove the rubbish to some distance from the village site.

82. The condition of the cow houses in towns is still far from satisfactory and large numbers of cows, buffaloes and goats are kept at night in towns. The custom is a great evil, but it has become so ingrained in native feeling that its abolition must be a work of time. In many cases the cattle are stabled in the public streets at night and this practice might be forbidden. The private yards where cattle are kept are, as a rule, extremely filthy. A remedy for the evils attendant on the keeping of great herds of cattle in towns would be for municipalities to erect cattle pens outside the towns and charge a remunerative fee for the accommodation of cattle at night.

83. With regard to sewage farming in this Presidency, there has been no change since last report and it is carried on in very few places. In most towns there are no proper arrangements made for the termination of the open street drains, and in many cases the sewage either sinks into the ground or finds its way into any depression or nullah. As drainage schemes for towns progress there is no doubt that sewage will be largely utilized for irrigating and manuring purposes.

84. The following statement shows the number of places visited by District Medical and Sanitary officers during the year :—

Districts.	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	..	..	..	
Bellary	19	..	19	5 places twice inspected.
Chingleput	24	..	24	
Coimbatore	26	..	26	3 places twice inspected.
Cuddapah	13	..	13	1 do. do.
Ganjam	8	..	8	2 do. do.
Godávari	24	..	24	
Kistna	1	..	1	
Kurnool	49	..	49	4 places twice inspected.
Madura	33	..	33	
Malabar	27	..	27	9 places twice inspected.
Nellore	27	..	27	7 do. do.
Nílgiris	21	..	21	
North Arcot	11	..	11	
Salem	30	23	53	
South Arcot	18	..	18	6 places twice inspected.
South Canara	43	..	43	4 do. do.
Tanjore	1	..	1	
Tinnevelly	16	..	16	
Trichinopoly	24	..	24	
Vizagapatam	16	..	16	
Total ..	431	23	454	

There were 454 places inspected in 1891 against 292 in 1890. Forty-one places were inspected more than once during the year. Many valuable suggestions were made by the District Medical and Sanitary officers and I trust they will lead to the further improvement of sanitation in towns and villages.

85. I have pleasure in bringing to the notice of Government the ability and tact shown by the Deputy Sanitary Commissioner, Surgeon-Major Dymott, in the discharge of his arduous and important duties.

86. The service registers have been maintained and brought up to date.

MADRAS,
12th May 1892.

J. A. LAING, Surgeon-Lieut.-Col.,
Sanitary Commissioner, Madras.

APPENDICES

TO

GENERAL SANITATION REPORT.

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

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.
Chingleput ...	Conjeeveram ...	24th to 26th Oct. 1891.	23rd Jan. 1892.	No. 340-M., dated 20th Feb. 1892.	Anantapur ...	Anantapur ...	21st Nov. 1891 ...	2nd Jan. 1892.	No. 268-M., dated 9th Feb. 1892.
Coimbatore ...	Karúr	9th to 11th Sept. 1891.	17th Dec. 1891.	No. 291-M., dated 13th Feb. 1892.	Bellary ...	Adóni	17th and 18th Nov. 1891.	18th Jan. 1892.	No. 345-M., dated 20th Feb. 1892.
						Bellary	13th to 16th Nov. 1891.		
Godávari ...	Cocanada ...	27th Feb. to 5th March and 17th March 1891.	13th June 1891.	No. 1292-M., dated 12th Aug. 1891.	Coimbatore ...	Coimbatore ...	1st to 3rd June 1891.	23rd June 1891.	No. 1280-M., dated 11th Aug. 1891.
	Ellore	12th to 14th March 1891.				Erode	5th June 1891.		
	Rajahmundry ...	7th to 10th March 1891.			Cuddapah ...	Cuddapah	26th to 28th Nov. 1891.	2nd Jan. 1892.	No. 279-M., dated 11th Feb. 1892.
Madura ...	Dindigul ...	27th to 29th Aug. 1891.	6th Dec. 1891.	No. 213-M., dated 2nd Feb. 1892.	Ganjam ...	Berhampore ...	16th to 19th Feb. 1891.	17th April 1891.	No. 797-M., dated 26th May 1891.
	Madura	7th to 14th Aug. 1891.				Chicacole ...	2nd and 3rd March 1891.		
	Palni	31st Aug. to 3rd Sep. 1891.				Parlákimedi ...	25th and 26th Feb. 1891.		
	Periyakulum ...	16th to 17th Aug. 1891.			Kistna ...	Bezváda	4th Nov. 1891 ...	2nd Jan. 1892.	No. 266-M., dated 9th Feb. 1892.
						Guntúr	6th and 7th Nov. 1891.		
						Masulipatam ...	30th Oct. to 1st Nov. 1891.		
Malabar ...	Calicut	25th to 28th Nov. 1891.	26th Feb. 1892.	No. 698-M., dated 12th April 1892.	Kurnool ...	Kurnool	10th and 11th Nov. 1891.	2nd Jan. 1892.	No. 232-M., dated 4th Feb. 1892.
	Cannanore ...	2nd to 6th Dec. 1891.			Malabar ...	Cochin	20th to 22nd Jan. 1891.	12th Feb. 1891.	No. 338-M., dated 10th March 1891.
	Pálghat	21st to 24th Nov. 1891.							
	Tellicherry ...	29th Nov. to 1st Dec. 1891.			Nílgiris	Coonoor	26th to 28th May 1891.	25th June 1891.	No. 1132-M., dated 18th July 1891.
Nellore ...	Nellore	27th to 30th Oct. 1891.	29th Jan. 1892.	No. 443-M., dated 7th March 1892.					
	Ongole	1st and 2nd Nov. 1891.							

Tables showing places visited by Sanitary Commissioner and Deputy Sanitary Commissioner—continued.

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.
Nilgiris ...	Ootacamund ...	23rd to 26th June 1891 and 8th and 10th July 1891.	22nd Sept. 1891.	No. 1859-M., dated 26th Oct. 1891.	North Arcot ...	Gudiyatam ...	14th Dec. 1891	18th Jan. 1892.	No. 349-M., dated 24th Feb. 1892.
South Canara ...	Mangalore ...	7th to 11th Dec. 1891.	26th Feb. 1892.	No. 594-M., dated 25th March 1892.		Tirupati ...	30th Nov. and 1st Dec. 1891.		
Tanjore ...	Kumbakonam ...	7th to 9th Nov 1891.	12th Feb. 1892.	No. 676-M., dated 7th April 1892.		Vellore ...	10th and 11th Dec. 1891.		
	Mannárgudi ...	10th and 11th Nov 1891.				Wáliajápet ...	8th and 9th Dec. 1891		
	Máyavaram ...	5th and 6th Nov 1891.			Salem ...	Salem ...	1st, 2nd, 3rd and 5th Oct. 1891.	25th Nov. 1891.	No. 17-M., dated 5th Jan. 1892.
	Negapatam ...	11th to 14th Nov. 1891.			Tirupattúr ...	Tirupattúr ...	6th Oct. 1891	9th Nov. 1891.	No. 2173-M., dated 9th Dec. 1891.
	Tanjore ...	15th to 17th Nov. 1891.				Vaniyambádi ...	9th Oct. 1891		
Tinnevelly ...	Palamcottah ...	31st July to 3rd Aug 1891.	30th Oct. 1891.	No. 2154-M., dated 4th Dec. 1891.	South Arcot ...	Chidambaram ...	17th and 18th July 1891.	29th July 1891.	No. 1437-M., dated 7th Sep 1891.
	Tinnevelly ...	27th to 30th July 1891.				Cuddalore ...	13th to 16th July 1891.		
	Tuticorin ...	4th to 6th Aug. 1891.			Vizagapatam.	Bimlipatam ...	12th March 1891	23rd April 1891.	No. 796-M., dated 25th May 1891.
Trichinopoly ...	Trichinopoly ...	16th to 20th July 1891.	10th Oct. 1891.	No. 2008-M., dated 16th Nov. 1891.		Anakápalle ...	20th March 1891		
	Srirangam ...	22nd and 25th July 1891.				Vizagapatam ...	14th to 17th March 1891.	24th April 1891.	No. 798-M., dated 26th May 1891.
						Vizianagram ...	6th, 7th and 9th March 1891.	23rd April 1891.	No. 796-M., dated 25th May 1891.

Places visited (not Municipalities).

By Sanitary Commissioner.		By Deputy Sanitary Commissioner.	
District.	Names of places.	District.	Names of places.
Coimbatore ...	Mettupálaiyam. Kurchi. Kataumpatti. Polláchi. Gomangalam. Udamalpet. Polliput. Delavaipathnam. Dhárápuram.	Anantapur	Gooty (Union). Kottapettah.
Godávari	Holcottpettah. Nurasingarowpettah. Dowlaishweram. Guntakoli. Bheemadole. Kuralagudem. Poolla. Kykarrum. Hoongatore. Bathumpudy. Thadupallikudam. Pattipadu.	Chingleput ...	Puliyur. Saligramum. Kódambákam. Sembium. Perilur. Chitlapakam.
Madura	Kodaikánal. Butligunta. Nellicotta. Ammayanáyakanúr. Palkanoth. Thumbarapathy. Ayagoody.	Ganjam	Gopálpur. Juggernauthpur. Purshottapur. Casibugga. Munsoorcotta. Ichápur. Mandasa. Nursingapetta (Union).
Malabar	Ellathur. Tirnvangoor. Chamancherry. Quilandi. Pallicura. Malady. Murad. Badagara. Dhurmadum. Kodacadavoo. Kodamboor. Yodaond. Kutturparamba. Canote. Nidambul. Peria. Manantoddy. Saltan's Battery. Kelloor. Ullachari. Pannavaram. Baliapatam.	Kistna	Bodapadoo. Goordooarroo.
Nellore	Pelloor. Vulloor. Tungatoor. Tettoo. Kávali. Moosoonoor. Gowraveram. Wooloovapaud.	Kurnool	Cumbum.
Nílgiris	Nellakóta. Gúdalúr.	Salem	Naranappanchavady. Tiruchengód (Major union). Komáramangalam. Konniar. Moonchavady. Pachal. Muscaliputty. Wallasi. Mallur. Suramangalam. Casinaikenputty. Monavally. Nannary. Molapoddy. Burjur. Aukynoyampally. Eloocalanathan. Nottrampully.
Tanjore	Muthiapillay. Perumpandy. Valiapettah. Pathinovalee. Marathanallur. Veclangoeman. Amrapathee. Alangudi. Pooniakudi. Nidamangalam.	North Arcot	Chittoor (Major union).
South Canara ...	Munjashwar. Coombla. Kásaragód. Bekul. Hosadrug.	Vizagapatam ...	Ranastalum. Chitavalasa. Kasimkót. Agnampody.

APPENDIX II.

VITAL STATISTICS OF THE GENERAL POPULATION.

I.—*Births registered in the Districts of the Madras Presidency during the year* 1891.

1	2			3	4			5			6			7	8	9
	Population (exclusive of Europeans and Eurasians) according to Census of 1881.				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.	Males.	Females.	Total.	Districts.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	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.
1	678,904	657,113	1,336,017	Anantapur ...	678,904	657,113	1,336,017	10,194	9,798	19,992	20·4	19·6	40·0	104·0	9·4	...
2				Bellary ...				17,075	16,381	33,456	19·5	18·9	38·4	104·2	5·6	...
3	491,085	487,439	978,524	Chingleput ...	491,085	487,439	978,524	19,072	18,572	37,644	19·5	18·9	38·4	102·7	5·6	...
4	806,530	850,614	1,657,144	Coimbatore ...	806,530	850,614	1,657,144	30,090	28,701	58,791	18·2	17·3	35·5	104·8	9·5	...
5	569,792	550,922	1,120,714	Cuddapah ...	569,792	550,922	1,120,714	17,212	16,475	33,687	15·3	14·7	30·0	104·5	4·6	...
6	869,257	879,996	* 1,749,253	Ganjam ...	678,524	702,545	1,376,069	18,415	17,123	35,538	13·4	12·4	25·8	106·9	12·3	...
7	888,567	902,283	* 1,790,850	Godávari ...	888,567	902,283	1,790,850	20,370	20,200	40,570	11·4	11·3	22·7	100·8	0·4	...
8	780,510	767,845	1,548,355	Kistna ...	780,510	767,845	1,548,355	28,653	27,851	56,504	18·5	17·9	36·4	102·9	5·8	...
9	359,299	349,919	709,218	Kurnool ...	343,816	334,648	678,464	13,680	13,727	27,407	20·2	20·2	40·4	99·6	7·5	...
10	192,066	197,918	389,984	Madras ...	192,066	197,918	389,984	9,066	8,379	17,445	23·2	21·5	44·7	108·2	...	14·7
11	1,052,383	1,135,774	2,168,127	Madura ...	625,845	667,084	1,292,929	25,325	24,427	49,752	19·6	18·9	38·5	103·6	9·5	...
12	1,172,047	1,189,906	2,361,953	Malabar ...	1,176,917	1,184,235	2,361,152	28,589	26,957	55,536	12·1	11·5	23·6	106·1	2·2	...
13	615,154	604,729	1,219,883	Nellore ...	615,154	604,729	1,219,883	17,811	17,170	34,981	14·6	14·1	28·7	103·7	8·2	...
14	49,322	39,002	88,324	Nilgiris ...	49,322	39,002	88,324	1,263	1,239	2,502	14·3	14·0	28·3	101·9	2·9	...
15	907,959	910,194	1,817,253	North Arcot ...	909,650	912,662	† 1,822,312	32,016	30,862	62,878	17·6	16·9	34·5	103·7	8·2	...
16	778,145	820,825	1,598,970	Salem ...	774,723	817,551	‡ 1,592,274	32,972	31,486	64,458	20·7	19·8	40·5	104·7	15·1	...
17	905,516	908,763	1,814,279	South Arcot ...	906,347	909,569	† 1,815,916	31,992	31,122	63,114	17·6	17·1	34·7	102·8	...	0·6
18	472,088	487,179	959,267	South Canara.	470,383	485,212	955,595	15,760	15,029	30,795	16·5	15·7	32·2	104·9	11·6	...
19	1,026,070	1,103,468	2,129,538	Tanjore ...	1,026,070	1,103,468	2,129,538	33,573	32,259	65,832	15·8	15·1	30·9	104·1	3·5	...
20	825,508	873,548	1,699,056	Tinnevelly ...	825,508	873,548	1,699,056	25,389	23,057	49,446	15·0	14·1	29·1	106·4	2·6	...
21	586,127	628,358	1,214,485	Trichinopoly ..	586,127	628,358	1,214,485	20,661	20,059	40,720	17·0	16·5	33·5	103·0	4·5	...
22	1,254,596	1,230,041	* 2,484,577	Vizagapatam ...	730,385	724,864	1,455,249	21,809	21,330	43,139	15·0	14·6	29·6	102·5	13·3	...
	15,259,935	15,575,836	30,835,771	Total, Madras Presidency ...	14,111,225	14,402,500	28,513,734	421,144	453,094	924,238	16·5	15·9	32·4	106·9	6·2	...

* Including the Hill Tracts.
† These figures include 5,059 and 1,637, the population of the 75 and 23 villages transferred from Salem to North and South Arcot Districts respectively.
‡ Excludes 6,696, the population of 98 villages transferred to the North and South Arcot Districts.

II.—*Deaths registered in the Districts of the Madras Presidency during the year* 1891.

1	2	3	4	5			6	7			8		
Number.	Districts.	Area in square miles.	Average population per square mile.	Number of deaths registered (exclusive of Europeans and Eurasians and born dead).			Number of males died to every 100 deaths of females.	Ratio of deaths per 1,000 of population.			Mean ratio of deaths per 1,000 during previous 5 years.		
				Males.	Females.	Total.		Males.	Females.	Total.	Males.	Females.	Total.
1	Anantapur ...	11,007	121·4	8,979	8,581	17,560	104·6	30·7	30·6	30·6	25·2	25·5	25·4
2	Bellary ...			11,877	11,523	23,400	103·0						
3	Chingleput ...	2,842	345·3	16,342	15,790	32,132	103·5	33·2	32·4	32·8	25·9	25·5	25·7
4	Coimbatore ...	7,842	211·3	22,351	20,801	43,152	107·4	27·7	24·4	26·0	19·7	17·7	18·7
5	Cuddapah ...	8,748	128·1	14,682	13,856	28,538	105·9	25·7	25·1	25·4	23·0	22·7	22·8
6	Ganjam ...	8,311	210·5	9,844	8,822	18,695	111·6	14·6	12·5	13·5	24·5	20·6	22·6
7	Godávari ...	7,345	243·9	20,506	19,416	39,922	105·6	23·1	21·6	22·3	21·8	19·4	20·6
8	Kistna ...	8,471	182·7	24,331	23,066	47,397	105·5	31·2	30·1	30·6	23·1	21·7	22·4
9	Kurnool ...	7,788	91·0	11,626	10,756	22,381	108·1	33·8	32·1	32·9	29·7	28·5	29·1
10	Madras ...	27	15,031·4	11,179	12,002	23,181	93·1	58·2	60·6	59·4	39·9	39·6	39·7
11	Madura ...	8,401	258·1	19,060	18,455	37,515	103·3	30·4	27·6	29·0	22·1	19·7	20·9
12	Malabar ...	5,765	410·2	26,824	23,508	50,332	114·1	22·9	19·8	21·4	18·8	16·0	17·4
13	Nellore ...	8,739	139·6	12,999	12,339	25,038	102·9	20·6	20·4	20·5	16·7	15·9	16·3
14	Nilgiris ...	957	95·1	1,282	968	2,250	132·4	25·9	24·8	25·4	17·5	18·4	17·9
15	North Arcot ...	7,256	250·5	24,535	23,399	47,934	104·8	27·0	25·6	26·3	21·7	20·8	21·2
16	Salem ...	7,653	209·0	20,604	19,866	40,470	103·7	26·5	24·3	25·4	23·3	21·3	22·3
17	South Arcot ...	4,873	372·4	32,813	31,266	64,079	104·8	36·2	34·4	35·3	23·6	21·6	22·6
18	South Canara ...	3,902	245·0	10,359	9,362	19,721	110·6	22·0	19·3	20·6	24·6	21·9	23·2
19	Tanjore ...	3,654	583·0	28,716	29,679	58,395	96.6	27·9	26·9	27·4	24·3	22·4	23·3
20	Tinnevelly ...	5,381	315·8	22,966	22,085	45,050	103·9	27·9	25·2	26·5	23·4	20·9	22·1
21	Trichinopoly ...	3,561	341·2	17,777	17,511	35,288	101·5	30·3	27·8	29·0	24·3	22·3	23·3
22	Vizagapatam ...	17,380	142·9	13,069	12,084	25,153	108·1	17·9	16·7	17·3	19·0	17·6	18·3
	Total, Madras Presidency ...	139,900	220·6	382,419	365,134	747,553	104·7	27·1	25·3	26·2	22·7	20·9	21·8

III.—*Deaths registered in the Districts of the Madras Presidency during each month of the year* 1891.

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 ...	1,307	1,146	1,043	1,054	1,261	1,962	2,838	2,624	1,401	1,104	886	934	17,560
2	Bellary ...	1,638	1,403	1,398	1,604	1,865	2,012	2,846	3,029	2,457	1,885	1,697	1,566	23,400
3	Chingleput ...	2,071	1,739	1,711	1,619	1,661	2,031	2,224	2,844	3,587	3,343	4,247	5,055	32,132
4	Coimbatore ...	3,117	2,835	2,646	3,047	2,899	2,487	3,088	3,702	3,514	3,423	5,578	6,814	43,152
5	Cuddapah ...	2,037	1,733	1,487	1,548	1,663	1,811	3,178	3,788	2,913	2,462	3,211	2,707	28,538
6	Ganjam ...	1,607	1,405	1,246	1,183	1,359	1,575	1,497	1,532	1,808	1,839	1,657	2,057	18,665
7	Godávari ...	3,792	2,966	2,398	2,481	2,434	3,031	3,077	4,289	4,627	3,434	3,043	4,350	39,922
8	Kistna ...	3,420	3,031	2,924	2,958	3,121	3,523	4,255	7,068	5,136	4,295	3,408	4,278	47,397
9	Kurnool ...	1,677	1,295	1,424	1,789	1,919	1,699	2,633	3,359	1,977	1,602	1,554	1,503	22,381
10	Madras ...	1,266	1,042	1,208	1,183	1,397	1,549	1,414	2,788	3,549	2,819	2,485	2,571	23,181
11	Madura ...	2,258	2,136	2,338	2,644	2,474	2,109	2,242	2,330	2,021	2,542	4,836	9,605	37,515
12	Malabar ...	4,518	4,496	4,274	4,377	3,838	3,961	5,114	4,769	3,754	3,332	3,621	4,278	50,332
13	Nellore ...	1,922	1,686	1,596	1,712	1,765	2,175	1,995	2,719	2,446	2,214	2,418	2,360	25,038
14	Nilgiris ...	97	109	103	156	363	295	257	211	159	174	140	186	2,250
15	North Arcot ...	4,518	3,795	2,797	2,675	2,697	2,938	3,979	4,527	3,753	3,863	5,244	7,148	47,934
16	Salem ...	3,592	2,757	2,566	2,672	2,769	2,586	2,967	3,164	2,679	3,587	5,057	6,134	40,470
17	South Arcot ...	4,539	4,282	3,733	3,373	3,869	4,219	5,068	5,210	4,400	6,171	8,444	10,771	64,079
18	South Canara ...	2,581	2,032	1,477	1,356	1,385	1,451	1,731	1,576	1,465	1,543	1,482	1,642	19,721
19	Tanjore ...	4,680	3,807	3,305	3,535	4,013	4,141	5,688	5,487	4,756	5,364	5,688	7,951	58,395
20	Tinnevelly ...	5,847	3,291	3,119	2,407	2,506	2,637	2,933	3,021	3,125	3,296	5,058	7,720	45,050
21	Trichinopoly ...	3,418	2,488	2,208	2,635	2,688	2,262	2,746	3,165	2,431	2,530	3,379	5,343	35,288
22	Vizagapatam ...	2,589	1,840	1,532	1,615	1,556	2,183	2,206	2,131	2,549	2,287	2,083	2,582	25,153
	Total, Madras Presidency ...	62,441	51,314	46,530	47,663	49,302	52,617	63,956	73,333	64,507	63,139	75,216	97,535	747,553
	Ratio of deaths per 1,000 in each month ...	2·2	1·8	1·6	1·7	1·7	1·9	2·2	2·6	2·2	2·2	2·7	3·4	26·2

IV.—*Deaths * registered according to age in the Districts of the Madras Presidency during the year* 1891.

1	2	3		4		5		6		7		8		9		10		11		12	
Number.	Districts.	Under 1 year.		1 year and under 5.		5 years and under 10.		10 years and under 15.		15 years and under 20.		20 years and under 30.		30 years and under 40.		40 years and under 50.		50 years and under 60.		60 years and upwards.	
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1	Anantapur ...	1,643	1,404	923	961	599	502	368	274	448	646	996	1,400	1,165	960	1,022	709	806	693	1,044	1,032
2	Bellary ...	2,653	2,294	2,114	2,031	863	691	363	241	423	617	1,096	1,631	1,277	1,172	1,177	838	951	942	960	1,066
3	Chingleput ...	4,050	3,737	2,757	2,803	1,074	1,044	635	501	510	731	1,160	1,439	1,288	1,137	1,297	922	1,206	1,018	2,365	2,403
4	Coimbatore ...	5,138	4,412	3,674	3,465	1,543	1,402	928	705	898	939	1,973	2,195	2,205	1,905	1,897	1,428	1,705	1,549	2,389	2,801
5	Cuddapah ...	3,360	2,102	1,449	1,397	868	818	472	376	709	903	1,612	1,946	1,849	1,735	1,879	1,338	1,726	1,581	1,758	1,865
6	Ganjam ...	2,209	1,592	971	859	635	665	509	514	669	674	921	833	943	727	920	662	644	658	1,422	1,638
7	Godávari ...	3,238	3,031	3,533	3,478	1,549	1,432	935	779	879	1,096	1,988	2,060	1,915	1,498	1,640	1,212	1,739	1,448	3,084	3,382
8	Kistna ...	5,424	4,798	4,962	4,996	2,061	1,888	941	921	1,109	1,358	1,768	2,221	1,576	1,366	1,509	920	1,400	1,106	3,581	3,492
9	Kurnool ...	2,213	1,979	1,609	1,614	816	729	337	276	544	615	1,329	1,565	1,387	1,079	1,307	818	964	812	1,120	1,268
10	Madras ...	3,500	3,036	1,534	1,669	589	673	297	360	430	712	960	1,384	880	886	752	671	847	842	1,390	1,739
11	Madura ...	4,020	3,717	3,614	3,722	1,443	1,344	884	699	763	853	1,811	1,897	1,980	1,633	1,671	1,299	1,397	1,331	1,477	1,960
12	Malabar ...	3,865	2,517	3,636	3,401	1,602	1,446	1,149	911	1,366	1,383	3,805	3,369	4,003	3,061	3,891	1,936	2,094	1,609	3,413	3,935
13	Nellore ...	2,515	1,993	2,084	1,902	1,236	1,187	891	889	636	714	720	771	782	708	895	779	1,149	1,034	1,791	2,362
14	Nilgiris ...	262	215	256	210	60	48	46	29	58	38	142	124	177	101	121	76	76	54	84	73
15	North Arcot ...	5,317	4,684	4,324	4,241	1,771	1,582	966	890	1,091	1,452	2,034	2,480	2,146	1,990	2,165	1,543	1,858	1,572	2,863	2,965
16	Salem ...	5,490	4,903	3,345	3,339	1,351	1,265	688	590	730	854	1,720	1,992	1,907	1,694	1,845	1,382	1,597	1,499	1,931	2,348
17	South Arcot ...	7,600	6,844	7,625	7,431	2,626	2,508	1,259	1,107	1,082	1,345	2,277	2,850	2,391	2,139	2,353	1,727	2,201	1,825	3,399	3,499
18	South Canara ...	2,445	2,102	1,201	1,209	466	459	255	221	355	399	873	1,031	1,202	872	1,099	659	930	713	1,583	1,697
19	Tanjore ...	7,511	6,364	3,820	3,579	1,543	1,693	955	984	950	1,569	2,041	2,993	2,412	2,578	2,487	2,029	2,505	2,269	4,402	5,621
20	Tinnevelly ...	4,967	4,416	4,550	4,602	1,366	1,239	730	641	743	893	1,712	1,804	1,859	1,624	2,056	1,437	1,914	1,654	3,077	3,775
21	Trichinopoly ...	4,332	3,826	3,125	3,164	1,089	1,056	548	482	534	712	1,160	1,691	1,411	1,240	1,410	1,113	1,498	1,275	2,670	3,042
22	Vizagapatam ...	2,637	2,336	1,551	1,554	794	659	529	404	576	639	1,119	1,390	1,389	1,102	1,430	1,015	1,416	1,300	1,628	1,775
	Total, Madras Presidency ...	82,386	72,302	62,657	61,627	25,944	24,330	14,686	12,884	15,498	19,142	33,187	38,886	36,135	31,147	33,882	24,508	30,623	26,579	47,471	53,729
	Ratio per mille of population † ...	185·3	158·7	44·8	41·4	12·7	11·9	7·5	7·5	11·9	15·8	13·9	13·9	16·5	14·5	23·4	17·0	35·4	28·0	65·6	59·9

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

V.—*Deaths registered according to classes in the Districts of the Madras Presidency during the year* 1891.

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	4,318	110,006	1,220,657	1,036	1,336,017	18	989	16,572	1	17,580	20·6	28·9	30·8	2·8	30·6
2	Bellary						81	2,210	21,107	2	23,400					
3	Chingleput	13,917	25,034	939,314	259	978,524	257	434	31,441	...	32,132	18·5	17·3	33·5	...	32·8
4	Coimbatore	12,780	37,855	1,696,343	166	1,857,144	265	1,054	41,824	12	43,152	20·7	27·8	26·0	72·2	26·0
5	Cuddapah	5,743	97,749	1,017,211	11	1,120,714	97	1,394	26,447	...	28,538	16·9	19·9	25·9	...	25·4
6	Ganjam	1,088	5,416	1,368,813	752	1,376,069	16	71	18,576	2	18,665	14·7	13·1	13·5	2·6	13·5
7	Godávari	3,231	38,798	1,748,734	87	1,790,850	100	737	30,085	...	30,922	30·9	19·0	22·3	...	22·3
8	Kistna	36,069	87,161	1,425,013	112	1,548,355	953	2,159	44,284	1	47,397	26·4	24·7	31·1	8·9	30·6
9	Kurnool	11,298	75,875	591,199	22	678,474	274	2,540	19,567	...	22,381	24·1	33·4	33·1	...	33·0
10	Madras	23,767	50,298	315,527	392	389,984	1,124	3,170	18,880	7	23,181	47·3	63·0	59·8	17·8	59·4
11	Madura	34,174	62,328	1,197,323	4	1,293,829	792	2,364	34,359	...	37,515	23·1	37·9	28·7	...	29·0
12	Malabar	40,114	641,399	1,669,269	370	2,351,152	991	16,038	33,297	6	50,332	24·7	25·0	19·9	16·2	21·4
13	Nellore	20,441	61,344	1,138,031	67	1,219,883	235	935	23,808	...	25,038	11·5	15·2	20·9	...	20·5
14	Nilgiris	5,778	3,531	78,970	45	88,324	193	117	1,940	...	2,250	33·4	33·1	24·5	...	25·4
15	North Arcot	9,458	82,449	1,722,642	7,763	1,822,312	103	1,759	46,072	...	47,934	10·9	21·3	26·7	...	26·3
16	Salem	15,941	51,081	1,725,171	81	1,792,274	286	1,260	38,924	...	40,470	17·9	24·7	25·5	...	25·4
17	South Arcot	39,112	48,289	1,723,251	5,264	1,815,916	1,033	1,273	61,723	50	64,079	26·4	26·3	35·8	9·5	35·3
18	South Canara	57,968	89,983	797,127	10,217	955,595	1,005	1,801	16,639	276	19,721	17·3	20·0	20·8	27·0	20·6
19	Tanjore	77,413	112,058	1,939,421	646	2,129,538	1,730	2,662	54,000	3	58,395	22·3	23·7	27·8	4·5	27·4
20	Tinnevelly	140,255	89,767	1,958,977	57	1,999,056	2,604	2,423	39,936	...	45,050	19·2	26·9	27·2	...	26·5
21	Trichinopoly	60,892	34,104	1,119,434	55	1,214,485	1,458	795	33,035	...	35,288	23·9	23·3	29·5	...	29·0
22	Vizagapatam	2,420	16,870	1,435,234	725	1,455,249	27	151	24,967	8	25,153	11·1	8·9	17·4	11·0	17·3
	Total, Madras Presidency.	616,247	1,821,395	26,047,961	28,131	28,513,734	13,729	46,916	686,540	368	747,553	22·3	25·7	26·3	13·1	26·2

VI.—*Deaths registered from different causes in the districts and towns of the Madras Presidency during the year* 1891.

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. Suicides. Males.	Suicides. Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	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	1,245,669	4,282	254	2,612	240	12	33	153	32	230	9,741	17,359	5·5	0·4	7·0	0·6	0·4	16·4	30·3	25·1
2	Bellary		2,542	246	6,180	544	20	30	144	40	234	10,731	20,477								
3	Chingleput	918,803	4,702	592	7,122	3,894	26	30	245	106	407	13,625	30,342	5·1	0·6	7·7	4·2	0·4	14·8	33·0	25·5
4	Coimbatore	1,599,654	8,063	1,801	13,586	1,260	49	76	398	89	612	15,785	41,047	5·0	1·1	8·5	0·7	0·4	9·9	25·6	18·3
5	Cuddapah	1,102,054	6,231	637	16,548	570	37	88	325	119	569	3,474	28,029	5·6	0·6	15·0	0·5	0·5	3·2	25·4	22·6
6	Ganjam	1,319,184	136	198	13,697	168	24	28	184	98	334	2,968	17,501	0·1	0·2	10·4	0·1	0·3	2·2	13·3	21·9
7	Godávari	1,688,553	1,294	3,939	17,291	608	47	76	244	120	487	13,906	37,525	0·8	2·3	10·2	0·4	0·3	8·2	22·2	20·3
8	Kistna	1,473,608	4,117	7,829	14,196	1,010	65	77	304	142	588	16,361	44,701	2·8	5·3	9·6	0·7	0·4	11·5	30·3	22·8
9	Kurnool	658,222	3,147	214	14,634	513	36	46	185	78	345	8,450	21,703	4·8	0·3	21·3	0·8	0·5	5·2	32·9	29·0
10	Madras	405,848	1,806	65	6,635	4,490	5	2	115	3	125	10,070	23,181	4·4	0·1	16·3	11·0	0·3	24·8	56·9	38·1
11	Madura	1,173,592	6,823	2,783	8,296	740	63	65	295	111	534	13,857	33,042	5·8	2·4	7·1	0·6	0·4	11·8	28·1	20·1
12	Malabar	2,181,724	4,982	5,086	17,110	4,677	81	37	486	161	765	11,954	44,554	2·3	2·3	7·9	2·1	0·3	5·5	20·4	16·5
13	Nellore	1,183,631	1,216	308	11,340	597	6	6	256	14	282	10,042	23,782	1·0	0·3	9·6	0·5	0·2	8·5	20·1	16·1
14	Nilgiris	73,921	79	70	1,396	122	...	...	9	1	10	133	1,810	1·1	0·9	18·9	1·6	0·1	1·8	24·4	15·7
15	North Arcot	1,725,498	6,737	2,940	15,552	1,855	37	52	634	167	890	17,098	45,042	3·9	1·7	9·0	1·1	0·5	9·9	26·1	21·1
16	Salem	1,490,482	5,256	1,105	14,390	1,105	47	56	283	142	528	15,101	37,068	3·5	0·8	9·6	0·8	0·5	10·2	25·2	22·2
17	South Arcot	1,732,821	15,363	4,706	14,463	2,102	37	22	327	211	597	24,385	61,616	8·9	2·7	8·3	1·2	0·3	14·1	35·5	22·7
18	South Canara	923,743	357	147	7,410	1,233	42	33	300	69	453	9,288	18,888	0·4	0·1	8·0	1·3	0·5	10·1	20·4	23·0
19	Tanjore	1,929,311	5,837	1,045	3,750	796	33	32	219	211	495	40,258	52,181	3·0	0·5	1·9	0·4	0·3	20·9	27·0	22·8
20	Tinnevelly	1,525,530	3,519	3,148	5,334	1,551	74	105	314	93	586	26,167	40,305	2·3	2·1	3·5	1·0	0·4	17·1	26·4	21·8
21	Trichinopoly	1,110,811	4,711	206	6,152	571	39	30	231	133	433	19,900	32,633	4·2	0·2	5·5	0·5	0·4	17·9	28·8	22·9
22	Vizagapatam	1,354,216	27	311	19,663	379	38	61	228	98	433	1,753	22,586	0·02	0·2	14·5	0·3	0·3	1·3	16·6	17·3
	Total of districts ...	26,811,737	91,227	37,687	236,786	29,054	812	993	5,888	2,238	9,931	290,687	695,372	3·4	1·4	8·8	1·1	0·4	10·8	25·9	21·8

* Exclusive of Europeans and Eurasians and "born dead," as the Census of 1881 does not show these classes separately for towns under the column of Christians to be omitted.

VI.—*Deaths registered from different causes in the districts and towns of the Madras Presidency during the year* 1891—continued.

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. Suicides. Males.	Suicides. Females.	Wounds and accidents.	Snake-bite and killed by wild beasts.	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.
	B.—Towns.																				
1	Bellary. M. T. Anantapur ...	4,907	91	...	26	4	...	...	1	...	1	79	201	18·5	...	5·3	0·8	0·2	16·1	40·9	32·2
2	M. T. Bellary ...	53,466	153	21	323	104	2	...	12	1	15	1,090	1,706	2·9	0·4	6·0	1·9	0·3	20·4	31·9	31·9
3	M. T. Adoni ...	22,144	419	...	310	4	...	...	4	1	5	262	1,000	18·6	...	13·8	0·2	0·2	11·7	44·5	22·1
4	T. Hospet ...	10,219	1	...	188	4	...	...	4	...	4	20	217	0·1	...	18·4	0·4	0·4	1·9	21·2	24·1
5	Chingleput. M. T. Conjeeveram.	37,275	196	27	209	162	4	2	8	...	14	731	1,399	5·3	0·7	7·2	4·3	0·4	19·6	37·5	34·7
6	T. St. Thomas' Mt.	16,013	10	...	30	15	...	...	1	...	1	65	121	0·6	...	2·0	1·0	0·1	4·3	8·0	9·8
7	T. Saidapet ...	10,290	77	4	32	17	...	...	2	...	2	138	270	7·5	0·4	3·1	1·6	0·2	13·4	26·2	24·3
8	Coimbatore. M. T. Coimbatore.	38,967	146	83	231	154	4	2	12	...	18	789	1,421	3·8	2·1	5·9	3·9	0·5	20·2	36·4	31·7
9	M. T. Erode ...	9,864	96	10	41	31	...	1	6	...	7	147	332	9·7	1·0	4·2	3·1	0·7	14·9	33·6	25·9
10	M. T. Karur ...	9,205	89	...	54	60	...	...	1	2	3	146	352	9·6	...	5·9	6·5	0·3	15·9	38·2	29·8
11	Cuddapah. M. T. Cuddapah ...	18,082	39	7	253	31	...	...	4	...	4	175	509	2·1	0·4	13·3	1·6	0·2	9·2	26·8	34·8
12	Ganjam. M. T. Berhampore.	23,599	...	...	122	56	...	...	7	1	8	270	456	...	...	5·2	2·4	0·3	11·4	19·3	41·3
13	M. T. Chicacole ...	18,392	...	...	118	44	1	...	1	...	2	187	351	...	...	6·4	2·4	0·1	10·2	19·1	26·7
14	M. T. Parlakimedi.	15,365	...	...	228	61	1	...	4	...	5	63	357	...	...	14·8	4·0	0·3	4·1	23·2	28·5
15	Godávari. M. T. Ellore ...	25,492	94	38	157	54	...	2	7	1	10	360	713	3·7	1·5	6·3	2·2	0·4	14·3	28·4	24·5
16	M. T. Rajahmundry	24,355	40	87	184	135	...	1	13	3	17	330	793	1·6	3·5	7·5	5·5	0·7	13·4	32·2	31·4
17	M. T. Cocanada ...	30,441	60	25	60	76	...	...	14	...	14	302	527	1·6	0·8	2·0	2·5	0·5	9·9	17·3	24·9
18	T. Peddapuram ...	11,278	...	8	39	...	...	...	2	...	2	191	240	...	0·7	3·4	...	0·2	16·9	21·2	25·3
19	T. Pithapuram ...	11,593	18	4	22	1	2	1	1	...	4	75	124	1·6	0·3	1·9	0·1	0·3	6·5	10·7	13·4
20	Kistna. M. T. Masulipatam.	35,056	112	189	78	33	...	...	2	2	4	632	1,048	3·2	5·4	2·2	0·9	0·1	18·0	29·8	19·6
21	M. T. Bezvada ...	10,098	52	42	161	120	2	...	9	4	15	260	650	5·1	4·2	15·9	11·9	1·5	25·7	64·3	28·2
22	M. T. Guntur ...	10,646	71	46	214	71	3	1	13	3	20	257	679	3·6	2·3	10·9	3·6	1·0	13·1	34·5	22·9
23	T. Jaggayapet ...	10,072	1	117	6	...	...	3	3	1	7	188	319	0·1	11·6	0·6	...	0·7	18·6	31·6	27·6
24	Kurnool. M. T. Kurnool ...	20,320	139	...	281	37	2	...	10	...	12	209	678	6·8	...	13·8	1·8	0·6	10·3	33·3	31·0
25	Madras. M. T. Madura ...	76,847	462	200	353	358	9	3	38	1	51	2,319	2,743	6·0	2·6	4·6	4·6	0·6	17·2	35·6	29·8
26	M. T. Dindigul ...	24,182	151	15	17	10	...	...	10	4	14	361	568	10·6	1·1	1·2	0·7	1·0	25·4	50·0	27·0
27	M. T. Periyakulam.	16,446	3	143	82	62	...	...	4	2	6	204	500	0·2	8·7	5·0	3·7	0·4	12·4	30·4	27·3
28	M. T. Palni ...	13,815	292	18	22	7	1	...	7	...	8	315	662	21·9	1·4	1·6	0·5	0·6	23·7	49·7	29·5
29	Malabar. M. T. Tellicherry ...	24,581	6	59	82	38	1	...	7	2	10	346	541	0·2	2·4	3·3	1·6	0·4	14·1	22·0	23·5
30	M. T. Calicut ...	57,095	67	1,105	185	162	...	...	3	2	5	1,136	2,720	1·2	20·4	3·2	2·8	0·1	19·9	47·6	36·5
31	M. T. Palghat ...	36,339	169	80	108	63	1	1	11	5	18	625	1,063	4·6	2·2	3·0	·7	0·5	17·2	29·2	25·3
32	M. T. Cochin ...	15,698	98	81	58	82	...	...	4	...	4	367	690	6·2	5·2	3·7	5·2	0·2	23·4	43·9	28·9
33	M. T. Cannanore ...	26,386	20	8	228	62	6	3	8	...	17	260	595	0·8	0·3	8·6	2·3	0·6	9·9	22·5	24·4
34	T. Ponani ...	12,421	43	6	37	19	...	...	1	...	1	63	169	3·5	0·5	2·9	1·5	0·1	5·1	13·6	18·0
35	Nellore. M. T. Nellore ...	27,505	521	4	143	13	...	...	3	...	3	307	991	18·9	0·1	5·2	0·5	0·1	11·2	36·0	23·2
36	M. T. Ongole ...	9,200	17	7	56	50	...	...	10	...	10	125	265	1·8	0·8	6·1	5·4	1·1	13·6	28·8	22·6
37	Nilgiris. M. T. Ootacamund.	12,335	8	1	62	34	...	...	2	...	2	165	272	0·6	0·1	5·0	2·7	0·2	13·4	22·0	25·1
38	M. T. Coonoor ...	4,778	10	4	40	23	...	...	2	...	2	89	168	2·1	0·8	8·4	4·8	0·4	18·6	35·1	25·6
39	North Arcot. M. T. Vellore ...	40,058	288	78	208	137	1	1	22	...	24	469	1,234	7·0	1·9	5·1	3·3	0·6	12·2	30·1	28·8
40	M. T. Walajapet ...	16,387	40	...	97	61	...	...	2	...	2	154	364	3·8	...	9·3	5·9	0·2	15·8	35·0	31·1
41	M. T. Gudiyatam ...	16,630	48	64	81	51	...	...	1	...	1	169	414	2·9	3·8	4·9	3·0	0·05	10·1	24·8	29·7
42	M. T. Tirupati ...	13,252	72	6	123	47	1	...	5	1	7	182	437	5·4	0·5	9·3	3·6	0·5	13·7	33·0	21·2
43	T. Arcot ...	10,718	123	...	6	4	...	...	...	1	1	214	348	11·5	...	0·6	0·4	0·1	19·9	32·5	27·9
44	T. Ambur ...	10,390	47	6	30	5	...	...	4	...	4	3	95	4·5	0·6	2·8	0·5	0·4	0·3	9·1	9·2
45	Salem. M. T. Salem ...	59,831	428	14	385	185	...	...	8	5	13	710	1,685	7·2	0·2	6·5	2·3	0·2	11·9	28·3	26·7
46	M. T. Vaniambadi.	15,083	135	6	141	10	...	...	...	...	...	184	476	7·1	0·4	8·8	0·6	...	11·2	28·4	22·1
47	M. T. Tiruppattur ...	14,278	72	54	186	51	...	1	3	...	4	160	527	5·0	3·8	13·0	3·6	0·3	11·2	36·9	24·2
48	T. Shendamangalam.	12,575	27	1	18	...	...	...	1	1	2	88	136	2·1	0·1	1·4	...	0·2	7·0	10·8	10·6
49	South Arcot. M. T. Cuddalore ...	43,345	349	27	231	159	...	1	7	3	11	449	1,226	8·0	0·6	5·3	3·6	0·3	10·3	28·1	16·8
50	M. T. Chidambaram.	19,837	244	19	175	61	...	1	2	...	3	200	702	12·3	0·9	8·8	3·1	0·2	10·1	35·4	24·1
51	T. Panruti ...	20,172	140	53	57	...	1	...	1	...	2	283	535	6·9	2·6	2·8	...	0·1	14·0	26·5	23·5
52	South Canara. M. T. Mangalore ...	32,099	...	...	208	126	...	...	14	...	14	485	833	...	...	6·5	3·9	0·4	15·1	25·9	30·2
53	Tanjore. M. T. Tanjore ...	54,745	61	70	337	372	...	...	6	3	9	744	1,593	1·1	1·3	6·1	6·8	0·2	13·6	29·1	26·8
54	M. T. Kumbakonam.	50,098	188	27	334	215	...	...	7	...	7	887	1,658	3·8	0·5	6·7	4·3	0·1	17·7	33·1	31·5
55	M. T. Negapatam.	83,776	347	36	296	247	4	5	14	3	26	834	1,786	6·4	0·7	6·5	4·6	0·5	15·5	33·2	26·3
56	M. T. Mayavaram ...	23,044	55	13	104	97	5	...	13	2	20	412	701	2·4	0·6	4·5	4·2	0·8	17·9	30·4	29·6
57	M. T. Mannargudi.	19,409	77	15	64	102	1	...	5	...	6	217	476	3·9	0·5	3·3	5·3	0·3	11·2	24·5	24·1
58	Tinnevelly. M. T. Tinnevelly ...	23,221	183	37	56	80	...	2	7	...	9	359	724	7·9	1·6	2·4	3·4	0·4	15·5	31·2	29·8
59	M. T. Palamcottah.	17,964	82	25	54	40	...	1	2	...	3	294	497	4·5	1·4	3·0	2·2	0·1	16·4	27·6	27·8
60	M. T. Tuticorin ...	16,281	42	195	232	142	...	1	1	...	2	219	772	2·6	8·3	14·2	8·7	0·1	13·4	47·4	34·8
61	T. Kayalpatnam ...	11,806	44	2	1	80	...	...	1	...	1	52	180	3·7	0·2	0·1	6·7	0·1	4·4	15·2	11·1
62	T. Kulasekarapatnam.	14,072	15	79	96	22	...	...	...	...	...	233	445	1·0	5·3	6·4	1·5	...	15·5	29·7	23·9
63	T. Rajahpoliem ...	12,021	...	...	5	...	1	4	1	...	6	141	152	...	...	0·4	...	0·5	11·7	12·6	15·0
64	T. Nachiarcoil ...	18,256	20	12	9	...	2	2	4	3	11	221	273	1·1	0·6	0·5	...	0·6	12·1	14·9	16·2
65	T. Sivagiri ...	13,632	...	...	...	...	...	...	2	...	2	219	221	...	...	...	...	0·1	16·1	16·2	22·3
66	T. Vipanallur ...	12,318	71	6	...	...	1	...	1	...	2	176	255	5·8	0·5	...	...	0·1	14·3	20·7	22·0
67	T. Kadakurchi ...	10,936	72	3	3	...	...	1	...	...	1	198	277	6·5	0·3	0·3	...	0·1	18·1	23·3	23·5
68	T. Sivakasi ...	10,833	3	239	21	1	2	3	...	...	5	310	579	0·3	22·0	1·9	0·1	0·5	28·6	53·4	24·1
69	T. Tenkasi ...	11,987	45	4	57	22	...	...	1	1	2	240	370	3·8	0·3	4·8	1·8	0·2	20·0	30·9	34·3
70	Trichinopoly. M. T. Trichinopoly.	81,440	445	101	530	290	...	...	16	1	17	1,242	2,634	5·3	1·2	6·3	3·5	0·2	14·7	31·2	25·9
71	M. T. Srirangam ...	19,773	41	16	108	37	...	1	6	...	7	422	621	2·1	0·3	5·5	1·9	0·3	21·3	31·4	33·5
72	Vizagapatam. M. T. Vizagapatam.	30,291	3	1	281	144	1	1	7	1	10	343	782	0·1	0·03	9·3	4·7	0·3	11·3	25·8	28·8
73	M. T. Vizianagram.	22,577	...	...	275	41	1	...	2	...	3	305	624	...	...	12·2	1·8	0·1	13·5	27·6	31·1
74	M. T. Bimlipatam ...	8,582	...	...	48	60	...	1	3	1	5	136	249	...	...	5·6	7·0	0·6	15·8	29·0	27·3
75	M. T. Anakapalle ...	13,341	...	2	167	29	...	...	14	...	14	221	433	...	0·1	12·5	2·2	1·0	16·6	32·4	26·6
76	T. Bobbili	14,943	...	...	99	...	2	2	1	3	8	102	209	...	...	6·6	...	0·5	6·8	13·9	18·3
77	T. Salur	11,856	...	...	220	35	1	...	...	2	3	12	270	...	...	18·5	3·0	0·2	1·0	22·7	19·2
	Total, Towns ...	1,734,723	7,546	3,655	10,243	5,169	63	48	434	66	611	24,977	52,181	4·3	2·1	5·9	3·0	0·3	14·4	30·0	26·6
	Total, Rural districts ...	26,811,737	91,227	37,687	236,786	29,054	812	993	5,888	2,238	9,931	290,687	695,372	3·4	1·4	8·8	1·1	0·4	10·8	25·9	21·5
	Total, Madras Presidency.	28,546,460	98,773	41,322	247,029	34,223	875	1,041	6,322	2,304	10,542	315,664	747,553	3·5	1·4	8·6	1·2	0·4	11·1	26·2	21·8

* Average for 3 years.

VII.—*Deaths registered from Cholera in the districts of the Madras Presidency during each month of the year* 1891.

1	2	3		4		5												6			7			8
Number.	Districts.	Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 for previous 5 years.
		Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	
1	Anantapur ...	8	7	920	802	...	...	...	1	116	882	1,599	1,358	341	63	5	8	2,352	2,021	4,373	5·9	5·2	5·6	1·1
2	Bellary ...	11	10	1,583	192	...	1	5	51	111	383	872	938	534	157	54	10	1,676	1,439	3,115				
3	Chingleput ...	7	7	2,000	730	8	19	28	34	8	74	205	735	1,375	757	771	1,018	2,960	2,325	4,085	5·4	4·7	5·0	0·9
4	Coimbatore ...	13	12	1,452	536	65	148	178	69	140	197	211	859	638	537	1,720	2,834	4,552	3,842	8,394	5·6	4·5	5·0	1·1
5	Cuddapah ...	12	12	1,238	574	15	12	...	7	47	182	1,195	1,906	978	464	926	358	3,355	2,915	6,270	5·8	5·2	5·5	1·4
6	Ganjam ...	8	4	7,174	32	8	...	...	...	...	...	2	1	1	...	36	87	66	70	136	0·09	0·09	0·09	3·1
7	Godávari ...	14	13	2,202	101	...	...	...	...	...	...	77	518	731	81	66	23	745	751	1,496	0·8	0·8	0·8	2·6
8	Kistna ...	15	15	1,857	509	...	6	1	1	1	3	547	2,572	931	381	70	40	2,283	2,070	4,353		2·6	2·8	1·6
9	Kurnool ...	9	9	757	210	...	...	...	207	248	195	803	1,456	291	43	51	7	1,828	1,468	3,296	3·4	4·3	4·8	0·5
10	Madras ...	1	1	1	1	18	1	...	3	3	27	90	522	76	274	86	89	860	946	1,806	4·4	4·7	4·6	0·9
11	Madura ...	12	11	1,063	950	29	3	76	46	96	84	56	21	42	123	1,486	5,255	4,075	3,656	7,731	6·5	5·4	5·9	1·5
12	Malabar ...	17	13	440	235	874	728	606	567	195	153	476	486	206	161	270	663	3,383	2,002	5,385	2·3	2·2	2·2	1·0
13	Nellore ...	12	12	1,874	170	5	6	...	...	...	22	205	698	317	170	97	174	1,099	755	1,754	1·6	1·2	1·4	0·7
14	Nilgiris ...	5	5	48	15	...	...	7	71	6	...	...	...	3	...	...	10	88	39	97	1·1	1·0	1·0	0·0
15	North Arcot ...	14	14	3,636	1,018	779	512	120	...	2	210	747	1,277	814	522	787	1,553	3,039	3,416	7,355	4·3	3·7	4·0	1·3
16	Salem ...	12	12	4,479	573	433	175	212	304	211	70	7	288	96	708	1,996	1,886	3,109	2,787	5,896	4·1	3·4	3·7	1·1
17	South Arcot ...	10	10	3,146	1,552	451	290	172	176	692	724	1,234	1,375	1,010	2,014	3,125	4,773	8,316	7,780	16,096	9·1	8·5	8·8	1·2
18	South Canara.	6	4	1,276	32	...	...	...	...	...	...	...	...	27	94	124	112	174	183	357	0·3	0·3	0·3	0·4
19	Tanjore ...	14	14	3,545	966	618	326	40	57	230	187	80	645	402	619	499	2,067	3,230	3,326	6,565	3·1	3·0	3·0	2·3
20	Tinnevelly ...	12	12	1,616	454	1,205	439	466	...	21	...	7	11	16	16	188	1,069	2,189	1,907	4,096	2·6	2·2	2·4	2·1
21	Trichinopoly.	8	8	1,495	555	649	171	118	344	212	104	381	790	210	64	379	1,755	2,738	2,459	5,197	4·6	3·9	4·2	2·1
22	Vizagapatam.	18	6	2,667	12	...	...	...	...	...	...	...	12	4	10	3	1	23	7	30	0·03	0·01	0·02	1·2
	Total, Madras Presidency	238	211	44,449	8,975	5,912	2,837	1,971	2,037	2,702	3,462	9,856	16,258	9,672	7,064	12,280	23,822	52,049	46,724	98,773	3·7	3·2	3·5	1·2

VIII.—*Deaths registered from Small-pox in the districts of the Madras Presidency during each month of the year* 1891.

1	2	3		4		5												6			7		8	9
Number.	Districts.	Circles of registration.		Villages.														Total.			Number of deaths among children.		Ratio of deaths per 1,000 of population.	Mean ratio per 1,000 for previous 5 years.
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Under 1 year.	Under 12 years.	Males. Females. Total.	
1	Anantapur ...	8	7	920	120	59	62	24	30	15	6	19	13	6	11	8	5	138	116	254	81	76	0·4 0·4 0·4	1·4
2	Bellary ...	11	10	1,583	77	14	21	30	39	26	25	22	24	11	6	11	11	143	124	267	53	126		
3	Chingleput ...	7	7	2,000	230	92	79	82	75	64	47	16	31	35	37	20	30	308	315	623	135	270	0·6 0·6 0·6	0·3
4	Coimbatore ...	13	12	1,452	296	130	164	152	177	202	125	124	152	99	145	175	260	848	946	1,894	401	640	1·1 1·1 1·1	0·5
5	Cuddapah ...	12	12	1,238	192	112	101	85	61	40	27	35	22	18	40	45	68	368	276	644	115	221	0·6 0·5 0·6	1·0
6	Ganjam ...	8	5	7,174	86	19	36	20	11	15	19	9	8	10	17	15	14	102	96	198	35	31	0·1 0·1 0·1	1·8
7	Godávari ...	14	14	2,202	397	308	358	435	461	475	413	310	360	290	190	184	380	2,090	2,002	4,101	557	1,546	2·4 2·2 2·3	0·3
8	Kistna ...	15	15	1,857	937	756	955	1,011	958	775	553	594	668	344	419	354	976	4,146	4,077	8,223	1,138	3,504	5·3 5·2 5·3	0·1
9	Kurnool ...	9	8	757	29	33	14	31	17	11	15	17	25	8	11	15	17	111	103	214	66	98	0·3 0·3 0·3	1·7
10	Madras ...	1	1	1	1	12	16	20	4	4	...	1	1	2	4	...	1	29	36	65	22	33	0·2 0·2 0·2	0·1
11	Madura ...	12	11	1,063	257	107	287	257	203	269	158	198	278	241	346	327	504	1,863	1,676	3,150	704	1,390	2·2 2·5 2·4	1·0
12	Malabar ...	17	16	440	350	266	547	686	795	684	575	587	330	430	476	475	671	3,510	2,975	6,485	209	876	3·0 2·5 2·7	0·8
13	Nellore ...	12	12	1,874	85	12	21	30	32	25	21	13	14	14	14	21	98	155	161	316	114	146	0·2 0·2 0·2	0·4
14	Nilgiris ...	5	5	48	21	...	...	...	11	19	3	4	8	9	14	5	2	42	33	75			0·8 0·8 0·8	0·8
15	North Arcot ...	14	13	3,636	780	382	435	312	283	264	183	207	187	198	200	187	259	1,557	1,537	3,094	801	1,525	1·7 1·7 1·7	1·4
16	Salem ...	12	12	4,479	259	172	170	88	135	85	65	108	74	69	76	69	129	588	592	1,180	206	336	0·7 0·7 0·7	0·8
17	South Arcot ...	10	10	3,146	781	759	904	629	493	321	311	284	249	192	219	218	326	2,360	2,445	4,805	1,254	2,499	2·6 2·6 2·6	1·7
18	South Canara.	6	5	1,276	59	12	14	14	31	14	3	4	3	2	12	14	17	77	70	147	9	7	0·1 0·1 0·1	0·5
19	Tanjore ...	14	14	3,545	377	146	148	159	108	114	106	88	80	51	63	78	80	619	582	1,201	178	403	0·6 0·5 0·6	0·5
20	Tinnevelly ...	12	12	1,616	496	155	195	143	172	221	223	313	369	511	487	416	470	1,872	1,818	3,690	580	1,726	2·3 2·1 2·2	0·6
21	Trichinopoly.	8	8	1,495	95	33	50	23	32	26	30	11	16	17	25	19	61	204	169	373	89	137	0·3 0·3 0·3	0·4
22	Vizagapatam.	18	15	2,667	110	25	27	20	13	28	17	29	26	33	16	23	51	158	156	314	59	109	0·2 0·2 0·2	0·5
	Total, Madras Presidency	238	224	44,449	6,028	3,648	4,502	4,336	4,027	3,691	2,930	3,025	2,804	2,570	2,771	2,672	4,352	21,017	20,505	41,522	6,786	15,598	1·5 1·4 1·4	0·8

IX.—*Deaths registered from Fevers in the districts of the Madras Presidency during each month of the year* 1891.

1	2	3		4		5												6			7		8
Number.	Districts.	Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.		Mean ratio per 1,000 for previous 5 years.
		Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	
1	Anantapur ...	8	8	920	1,408	305	276	281	245	242	191	224	222	177	170	134	171	1,288	1,350	2,638	7·0	7·4	7·2	6·2
2	Bellary ...	11	11	1,583	420	617	537	578	624	642	623	583	633	649	542	639	504	3,405	3,506	7,001				
3	Chingleput ...	7	7	2,000	1,419	531	435	432	431	467	580	623	556	573	711	1,063	1,071	3,685	3,768	7,452	7·5	7·7	7·6	6·2
4	Coimbatore ...	13	13	1,452	840	1,810	1,111	977	992	944	940	1,223	1,123	1,147	1,115	1,177	1,553	7,197	6,715	13,912	8·9	7·9	8·4	7·7
5	Cuddapah ...	12	12	1,238	1,034	1,513	1,250	1,080	1,196	1,214	1,233	1,273	1,406	1,467	1,587	1,763	1,843	8,574	8,227	16,801	15·0	14·9	14·9	15·8
6	Ganjam ...	8	8	7,174	2,442	1,270	1,092	976	900	913	1,143	1,124	1,168	1,361	1,490	1,240	1,579	7,460	6,765	14,225	11·0	9·6	10·3	13·6
7	Godávari ...	14	14	2,202	750	2,060	1,427	994	1,018	955	1,228	1,323	1,600	1,721	1,627	1,449	2,402	9,102	8,651	17,753	10·2	9·6	9·9	9·3
8	Kistna ...	15	15	1,857	1,234	1,164	973	761	798	861	1,170	1,140	1,650	1,701	1,403	1,304	1,541	7,145	7,210	14,355	9·5	9·4	9·5	9·1
9	Kurnool ...	9	9	757	722	1,294	1,007	1,131	1,163	1,308	1,118	1,239	1,358	1,217	1,143	1,131	1,571	7,357	6,958	14,315	21·4	20·8	21·1	21·0
10	Madras ...	1	1	1	1	323	252	311	338	377	455	416	602	866	920	923	836	3,031	3,604	6,635	16·8	18·2	17·0	19·1
11	Madura ...	12	12	1,063	619	755	628	671	649	732	639	647	675	549	641	835	1,349	4,469	4,301	8,770	7·1	6·4	6·8	6·4
12	Malabar ...	17	17	440	440	1,558	1,547	1,415	1,515	1,612	1,579	1,770	1,640	1,435	1,234	1,265	1,320	9,742	8,066	17,808	8·3	6·9	7·6	7·7
13	Nellore ...	12	12	1,874	944	1,095	862	814	866	968	1,003	804	968	1,095	1,096	1,065	1,089	5,756	5,783	11,539	9·3	9·5	9·4	7·7
14	Nilgiris ...	5	5	48	48	65	79	96	200	222	202	140	105	107	91	115	848	650	1,498	17·2	16·6	16·9	12·4
15	North Arcot ...	14	14	3,636	2,851	1,517	1,346	1,098	1,082	1,105	1,100	1,317	1,201	1,095	1,226	1,824	2,087	8,142	7,955	16,097	8·9	8·7	8·8	8·6
16	Salem ...	12	12	4,479	2,128	1,397	1,117	1,065	1,080	1,009	1,126	1,279	1,287	1,094	1,244	1,541	1,900	7,566	7,565	15,129	9·8	9·2	9·5	9·8
17	South Arcot ...	10	10	3,146	1,855	1,208	1,131	1,128	1,019	1,051	1,138	1,184	1,240	1,053	1,322	1,625	1,827	7,583	7,343	14,926	8·3	8·1	8·2	7·2
18	South Canara.	6	6	1,276	1,009	1,016	813	664	540	587	577	704	659	542	618	462	557	4,962	3,656	7,618	8·6	7·3	7·9	7·8
19	Tanjore ...	14	14	3,545	1,271	313	290	233	329	405	398	559	524	421	423	504	466	2,427	2,458	4,885	2·4	2·2	2·3	1·6
20	Tinnevelly ...	12	12	1,616	802	523	397	386	369	328	408	446	422	430	450	605	1,024	3,015	2,853	5,868	3·6	3·2	3·4	3·1
21	Trichinopoly.	8	8	1,495	865	672	533	483	548	587	490	[illegible]	548	474	510	616	795	3,310	3,171	6,790	5·7	5·4	5·6	5·2
22	Vizagapatam.	18	18	2,667	1,638	2,278	1,556	1,259	1,325	1,182	1,722	1,796	1,746	2,156	1,890	1,693	2,165	10,779	9,994	20,773	14·8	13·8	14·3	14·2
	Total, Madras Presidency..	238	237	44,449	24,785	22,733	18,685	16,753	17,071	17,679	18,998	20,428	21,317	21,408	21,348	23,298	27,311	126,282	120,747	247,029	8·9	8·4	8·6	8·2

X.—*Deaths registered from Dysentery and Diarrhœa in the districts of the Madras Presidency during each month of the year* 1891.

1	2	3		4		5												6			7		8
Number.	Districts.	Circles of registration.		Villages.														Total.			Ratio of deaths per 1,000 of population.		Mean ratio per 1,000 for previous 5 years.
		Number in each district.	Number from which deaths from Dysentery and Diarrhœa were reported.	Number in each district.	Number from which deaths from Dysentery and Diarrhœa were reported.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Males.	Females.	Total.	
1	Anantapur ...	8	8	920	174	21	14	19	15	14	10	28	42	25	18	17	21	138	106	244	0·7	0·6	0·7	0·7
2	Bellary ...	11	11	1,583	180	38	35	31	29	33	54	73	95	86	61	91	60	335	321	656				
3	Chingleput ...	7	7	2,000	1,082	177	177	188	106	170	224	267	342	392	408	678	907	2,103	1,985	4,088	4·3	4·1	4·2	3·9
4	Coimbatore ...	13	13	1,452	297	95	86	113	94	101	96	99	122	138	102	215	184	712	733	1,445	0·8	0·8	0·8	0·8
5	Cuddapah ...	12	12	1,238	230	36	35	46	20	34	33	50	54	60	76	85	78	298	303	601	0·5	0·5	0·5	0·6
6	Ganjam ...	8	8	7,174	80	22	18	16	16	16	24	31	48	42	35	33	28	204	125	329	0·3	0·2	0·2	0·4
7	Godávari ...	14	14	2,202	73	62	38	47	61	80	48	86	131	147	75	43	60	466	408	874	0·5	0·4	0·5	0·5
8	Kistna ...	15	15	1,857	271	45	46	75	94	52	63	103	328	136	109	95	83	643	591	1,234	0·8	0·8	0·8	0·3
9	Kurnool ...	9	9	757	56	24	20	15	21	22	32	105	137	100	33	17	24	500	250	750	0·9	0·7	0·8	0·5
10	Madras ...	1	1	1	1	163	141	147	170	204	296	224	663	881	553	489	599	2,139	2,341	4,480	11·1	11·8	11·5	6·9
11	Madura ...	12	11	1,063	139	93	49	57	100	73	60	73	59	61	80	200	290	610	576	1,186	0·9	0·9	0·9	0·7
12	Malabar ...	17	17	440	339	378	394	400	393	267	343	652	666	444	306	414	444	2,704	2,369	5,103	2·3	2·0	2·2	1·8
13	Nellore ...	12	12	1,874	190	36	35	50	54	67	61	47	56	64	59	73	58	327	333	660	0·5	0·5	0·5	0·5
14	Nilgiris ...	5	5	48	28	8	8	10	4	38	27	15	18	16	8	13	19	166	73	179	2·2	1·8	2·0	1·1
15	North Arcot ...	14	14	3,636	467	154	144	100	76	77	71	129	175	149	213	358	516	1,160	1,000	2,160	1·3	1·1	1·2	0·7
16	Salem ...	12	12	4,479	395	97	91	80	59	40	57	93	129	99	95	227	315	730	661	1,391	0·9	0·8	0·8	0·5
17	South Arcot ...	10	10	3,146	613	110	126	112	90	102	107	160	151	120	189	448	607	1,294	1,028	2,322	1·4	1·1	1·3	0·5
18	South Canara.	6	6	1,276	436	214	146	84	80	75	107	122	109	161	110	90	121	763	596	1,359	1·6	1·2	1·4	2·1
19	Tanjore ...	14	14	3,545	881	173	101	106	90	90	117	180	175	133	128	238	298	939	890	1,829	0·9	0·8	0·9	0·7
20	Tinnevelly ...	12	12	1,616	555	237	123	102	197	75	129	102	87	65	97	219	515	948	989	1,938	1·1	1·1	1·1	0·8
21	Trichinopoly.	8	8	1,495	228	105	70	63	88	40	41	46	46	46	35	126	208	494	413	907	0·8	0·6	0·7	0·5
22	Vizagapatam.	18	18	2,667	218	42	29	49	55	66	85	66	83	57	63	47	46	385	323	688	0·5	0·5	0·5	0·4
	Total, Madras Presidency..	238	237	44,449	6,266	2,314	1,926	1,910	1,972	1,745	2,065	2,756	3,705	3,312	2,845	4,176	5,477	17,779	16,444	34,223	1·3	1·1	1·2	0·9

XI.—*Births registered according to Months and Classes in the districts of the Madras Presidency during the year* 1891.

1	2	3												4	5					6				
															Births registered according to classes.					Ratio of births per mille of population.				
Number.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Births.	Native Christians.	Muhammadans.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadans.	Hindus.	Other classes.	Total.
1	Anantapur ...	1,177	1,390	1,716	1,596	1,892	1,816	1,956	1,754	1,713	1,825	1,547	1,606	19,992	11	1,233	18,745	3	19,992	20·4	38·9	40·2	9·6	40·0
2	Bellary ...	1,715	2,139	2,465	2,929	3,373	3,090	3,556	2,864	2,856	2,863	2,688	2,368	33,456	79	3,054	30,316	7	33,456					
3	Chingleput ...	2,687	2,140	2,141	2,664	2,899	3,140	3,783	4,568	3,660	3,660	3,520	3,161	37,644	209	530	36,375	...	37,644	15·0	22·3	39·2	...	38·4
4	Coimbatore ...	3,719	3,926	4,147	4,509	5,317	4,719	5,490	5,559	5,775	5,933	5,218	4,515	58,791	220	482	58,088	...	58,791	17·2	12·9	36·1	...	35·5
5	Cuddapah ...	2,077	2,090	2,359	2,669	2,768	2,751	3,218	3,395	3,245	3,268	2,918	2,833	33,687	145	3,060	30,482	...	33,687	29·2	31·3	29·9	...	30·0
6	Ganjam ...	2,487	2,120	1,892	2,328	2,787	2,942	3,659	3,011	3,247	3,663	3,128	3,174	35,538	20	83	35,429	6	35,538	18·4	15·3	25·9	8·0	25·8
7	Godávari ...	3,354	2,280	2,095	2,564	3,067	3,411	3,865	3,960	3,864	3,639	3,814	4,354	40,570	94	606	39,870	...	40,570	29·1	15·6	22·8	...	22·7
8	Kistna ...	3,756	2,541	2,939	3,741	4,870	5,332	6,036	5,955	5,232	5,951	5,975	5,426	56,504	1,326	5,180	51,991	1	56,504	36·9	36·5	36·5	8·9	36·4
9	Kurnool ...	1,482	1,537	2,128	2,481	2,793	2,501	2,826	2,553	2,367	2,519	2,244	2,197	27,407	446	3,120	23,841	...	27,407	39·2	41·1	40·3	...	40·4
10	Madras ...	1,092	987	1,338	1,427	1,473	1,415	1,598	1,811	1,667	1,614	1,548	1,470	17,445	868	2,071	14,506	...	17,445	36·5	41·2	45·9	...	44·7
11	Madura ...	2,345	2,813	3,873	4,066	5,045	4,689	4,894	4,089	4,186	4,385	4,134	4,158	49,752	1,096	2,176	46,480	...	49,752	32·1	34·9	38·9	...	38·5
12	Malabar ...	4,051	4,840	4,533	4,847	5,318	5,258	5,220	4,823	4,185	4,450	4,978	3,389	55,536	1,192	16,550	37,513	1	55,536	29·7	26·2	22·4	2·7	23·6
13	Nellore ...	2,407	2,254	2,370	2,588	2,924	3,262	3,301	3,176	3,195	3,228	3,136	2,802	34,981	464	1,407	33,088	2	34,981	23·6	23·0	29·0	29·8	28·7
14	Nilgiris ...	108	136	166	174	259	279	227	261	228	258	222	184	2,502	240	78	2,175	...	2,502	43·1	22·1	27·5	...	28·3
15	North Arcot ...	4,009	3,548	3,626	4,298	5,180	5,747	6,757	7,377	6,127	5,907	5,092	5,210	62,878	93	1,933	60,850	2	62,878	9·8	23·4	35·3	0·2	34·5
16	Salem ...	3,633	3,700	4,563	5,134	5,646	5,583	6,448	6,223	6,220	6,577	5,622	5,269	64,458	268	1,657	62,533	...	64,458	16·8	32·4	41·0	...	40·5
17	South Arcot ...	4,009	3,305	3,709	4,078	4,867	5,193	7,139	7,401	6,499	6,063	5,450	5,120	63,114	976	1,145	60,955	38	63,114	24·9	23·7	34·8	7·2	34·7
18	South Canara ...	2,412	2,270	2,293	2,926	2,591	3,085	3,314	2,690	2,237	2,225	2,356	2,816	30,795	2,060	2,983	25,515	237	30,795	35·8	33·1	32·0	23·2	32·2
19	Tanjore ...	4,445	4,195	4,284	4,611	5,030	5,280	6,284	7,012	7,267	6,614	5,688	5,174	65,882	1,591	2,634	61,607	...	65,832	20·5	23·4	31·6	...	30·9
20	Tinnevelly ...	3,219	3,260	3,923	3,975	4,305	3,786	4,264	4,831	4,612	4,162	4,471	4,608	49,446	3,115	2,522	43,808	...	49,446	22·1	28·1	29·8	...	29·1
21	Trichinopoly ...	2,570	2,414	2,701	3,250	3,891	3,472	3,996	4,098	3,971	3,570	3,481	3,306	40,720	1,660	865	38,255	...	40,720	27·2	23·6	34·0	...	33·5
22	Vizagapatam ...	2,904	2,690	2,252	2,958	2,997	3,522	4,382	4,902	4,543	4,366	4,134	3,640	43,190	23	168	42,960	9	43,190	9·5	11·7	29·9	12·4	29·6
	Total, Madras Presidency ...	59,608	55,981	61,522	69,401	79,198	81,107	92,522	93,284	87,762	87,118	79,554	77,091	924,238	16,228	51,524	855,880	306	924,238	26·3	28·4	32·8	10·8	32·4
	Ratio per mille of population ...	2·1	1·9	2·1	2·4	2·8	2·9	3·2	3·3	3·1	3·1	2·8	2·7	32·4										

XII.—*Births and Deaths registered among Europeans and Eurasians from different causes in each district of the Madras Presidency and the number born dead among all classes during the year* 1891.

| 1 | 2 | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | | | | | | | | | | | | 9 | | | 10 | | | 11 | | | 12 | | | | | | | | | | | | | | |

Return showing the Births and Deaths registered in the Municipalities of the Madras Presidency during the year 1891.

Districts.	Municipal towns.	Population, Census of 1881.	Births. Class. Christians.	Hindus.	Muhammadans.	Other Classes.	Total Births. M.	F.	Total.	Deaths. Class. Christians.	Hindus.	Muhammadans.	Other Classes.	Total Deaths. M.	F.	Total.	Causes of death. Cholera. M.	F.	Small-pox. M.	F.	Fevers. M.	F.
Ganjam	Chicacole	18,302	1	425	13	...	232	207	439	1	335	16	...	183	169	352	...	...	...	...	58	60
	Berhampore	23,569	19	780	36	...	422	413	835	18	416	26	...	253	227	480	...	...	...	...	60	62
	Parlakimedi	15,365	1	644	13	...	333	325	658	1	344	12	...	193	164	357	...	...	...	...	118	110
Vizagapatam.	Vizagapatam	30,291	17	969	60	...	517	529	1,046	27	732	40	...	392	407	799	3	...	...	1	136	146
	Bimlipatam	8,582	5	311	4	...	159	161	320	11	237	8	...	131	125	256	...	...	...	...	23	26
	Vizianagrum	22,577	2	740	18	...	377	383	760	2	608	16	...	321	305	626	...	...	...	...	150	125
	Anakapalle	13,341	...	567	6	...	297	276	573	...	430	3	...	222	211	433	...	...	...	2	92	75
Godávari	Cocanada	30,441	14	558	12	...	275	309	584	13	492	27	...	291	241	532	26	24	10	15	32	28
	Rajahmundry	24,555	10	676	58	...	367	376	743	3	721	70	...	422	372	794	17	24	46	41	107	77
	Ellore	25,092	17	591	107	...	358	357	715	21	576	123	...	330	390	720	44	52	13	25	64	94
Kistna	Masulipatam	35,056	17	929	125	...	576	495	1,071	15	887	140	...	621	530	1,051	51	62	91	98	37	48
	Guntur	19,646	15	425	191	...	360	332	701	15	481	184	...	379	301	680	37	34	29	17	103	111
	Bezvada	10,098	7	531	77	...	311	304	615	7	551	95	...	344	309	653	29	24	20	22	84	77
Nellore	Nellore	27,505	37	526	108	...	369	302	671	14	778	203	...	545	450	995	277	246	...	4	85	60
	Ongole	9,200	24	295	45	...	186	178	364	10	227	28	...	154	111	265	11	6	6	1	32	24
Madras	Madras	405,848	1,484	14,506	2,071	...	9,377	8,684	18,061	1,751	18,887	3,170	...	11,500	12,308	23,808	918	998	30	38	3,079	3,652
Chingleput	Conjeeveram	37,275	...	1,482	43	...	788	737	1,525	1	1,350	48	...	717	682	1,399	100	96	15	12	133	136
South Arcot.	Cuddalore	43,545	23	1,298	37	...	663	695	1,358	38	1,149	48	...	598	637	1,235	150	190	11	16	108	126
	Chidambaram	19,837	3	489	30	...	253	269	522	2	665	35	...	342	360	702	120	124	8	11	90	85
Trichinopoly.	Trichinopoly	84,440	235	1,703	223	...	1,105	1,060	2,161	350	1,948	364	...	1,365	1,306	2,671	237	219	60	41	275	258
	Srirangam	19,778	1	691	...	...	354	338	692	4	617	...	...	316	305	621	18	23	4	2	60	42
Tanjore	Tanjore	54,745	128	1,354	74	...	795	761	1,556	119	1,398	80	...	808	789	1,597	28	33	46	24	153	185
	Kumbakonam	50,098	28	1,478	34	...	774	766	1,540	35	1,530	43	...	814	844	1,658	100	88	14	13	168	168
	Mayavaram	23,044	13	794	18	...	429	405	825	20	669	15	...	356	349	704	28	23	9	8	49	63
	Negapatam	53,776	144	815	317	...	652	644	1,276	258	1,173	381	...	910	897	1,807	171	177	18	23	153	152
	Mannargudi	19,409	11	466	5	...	245	237	482	7	455	15	...	244	233	477	40	37	6	4	31	34
Madura	Madura	76,847	104	2,565	197	...	1,385	1,431	2,816	79	2,499	257	...	1,351	1,394	2,745	245	217	94	106	181	172
	Periyakulam	16,446	34	490	50	...	293	287	580	23	457	50	...	242	258	500	1	2	57	66	41	41
	Dindigul	14,182	137	652	100	...	458	431	889	100	407	72	...	296	292	588	83	69	11	4	14	4
	Palni	13,315	9	670	68	...	388	359	747	6	618	38	...	346	316	662	156	136	8	10	14	8
Tinnevelly	Tinnevelly	23,221	6	727	38	...	384	387	771	3	685	36	...	373	351	724	94	89	17	20	34	23
	Palamcottah	17,964	83	543	32	...	256	302	558	61	420	20	...	291	240	531	44	30	15	10	25	130
	Tuticorin	16,281	248	331	21	...	288	312	600	229	484	59	...	380	392	772	23	19	65	70	107	125
Kurnool	Kurnool	20,329	9	287	327	...	305	318	623	22	302	352	...	336	344	680	75	65	...	...	137	144
Cuddapah	Cuddapah	18,982	2	176	189	...	196	171	367	6	270	238	...	257	257	514	21	19	4	4	119	135
Bellary	Bellary	53,460	74	1,215	650	...	1,032	907	1,939	82	1,146	500	...	861	867	1,728	71	85	9	13	163	163
	Adoni	22,441	3	464	279	...	393	355	748	2	592	406	...	488	512	1,000	203	216	...	...	158	163
Anantapur	Anantapur	4,907	1	142	63	...	114	92	206	3	139	60	...	101	101	202	46	45	...	...	10	16
North Arcot.	Vellore	40,958	34	1,210	370	...	858	756	1,614	45	804	306	...	605	580	1,185	148	144	44	35	110	98
	Gudiyatam	16,690	1	411	67	...	271	205	476	...	349	65	...	214	200	414	23	20	34	30	39	42
	Walajapet	10,387	...	414	49	...	250	213	463	...	325	89	...	197	167	364	23	17	...	...	55	42
	Tirupati	13,232	3	368	24	...	206	179	385	2	418	17	...	228	209	437	46	28	1	5	54	60
Salem	Salem	59,631	51	2,038	170	...	1,221	1,044	2,265	42	1,500	147	...	866	823	1,689	222	206	4	10	185	200
	Vaniyambadi	15,933	...	319	444	...	397	366	763	...	194	260	...	221	233	454	60	53	4	2	57	34
	Tirupatur	14,278	4	377	222	...	323	280	603	1	352	194	...	271	256	527	29	43	32	22	88	86
Coimbatore.	Coimbatore	38,967	65	1,476	75	...	818	798	1,616	88	1,262	83	...	739	694	1,433	82	64	30	45	117	114
	Erode	9,864	18	245	31	...	158	161	319	9	276	47	...	165	167	332	52	44	7	8	19	23
	Karur	9,205	13	382	31	...	230	196	426	9	305	39	...	160	187	353	31	38	...	...	24	30
Nilgiris	Ootacamund	12,335	208	194	39	...	224	217	441	117	143	38	...	140	149	298	6	2	...	1	35	29
	Coonoor	4,778	75	112	23	...	107	103	210	61	92	25	...	105	73	178	6	4	3	1	39	36
South Canara.	Mangalore	32,099	327	714	216	...	664	593	1,257	204	467	163	...	410	424	834	...	...	...	...	92	117
Malabar	Tellicherry	24,581	76	398	395	...	437	432	869	46	261	244	...	266	285	551	2	4	39	30	46	46
	Calicut	57,085	131	943	903	...	1,009	940	1,979	174	1,268	1,318	...	1,331	1,429	2,760	27	39	625	645	115	73
	Palghat	36,339	27	1,045	191	...	653	610	1,263	16	380	164	...	548	522	1,070	56	53	37	43	56	53
	Cochin	15,698	394	117	61	...	281	291	572	378	165	194	...	364	371	735	55	56	45	37	38	36
	Cannanore	26,386	178	326	353	...	464	393	857	83	211	313	...	340	258	607	10	10	5	3	157	96
	Total	1,862,270	4,571	53,475	9,415	...	34,745	32,716	(a) 67,461	4,851	54,865	11,033	...	35,176	35,373	(b) 70,549	4,409	4,339	1,530	1,641	7,750	8,321
			37·2	36·1	36·0	...	...	...	36·2	37·9	37·1	42·2	...	...	...	37·8						

(a) Inclusive of 221 Europeans and 708 Eurasians.
(b) Do. 216 do. 757 do.

Return showing the Births and Deaths registered in the Municipalities of the Madras Presidency during the year 1891—continued.

Districts.	Municipal towns.	Population, Census of 1881.	Deaths—*continued.* Causes of death—*continued.* 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-births or born dead. M.	F.	Ratio per 1,000 of population. Cholera.	Small-pox.	Fevers.	Dysentery and diarrhœa.	Injuries.	Total Births.	Total Deaths.	Average ratio of previous five years ending 1890. Births.	Deaths.
Ganjam	Chicacole	18,302	24	29	1	...	1	...	...	...	...	...	99	89	2	3	...	...	6·4	2·4	0·1	23·9	19·2	24·7	26·9
	Berhampore	23,569	26	31	...	...	3	4	1	...	...	...	143	130	6	3	...	...	5·2	2·4	0·3	35·3	19·5	30·8	41·7
	Parlakimedi	15,365	57	24	1	...	4	...	...	...	...	...	33	30	7	3	...	...	14·8	4·0	0·3	43·8	28·2	21·9	23·2
Vizagapatam.	Vizagapatam	30,291	71	76	1	1	7	...	...	1	...	...	174	182	...	1	0·1	0·03	9·3	4·8	0·3	34·5	26·3	28·5	29·5
	Bimlipatam	8,582	23	38	...	1	4	...	...	1	...	...	81	59	8	1	...	...	5·7	7·1	0·7	37·2	29·8	33·5	28·7
	Vizianagrum	22,577	26	15	1	...	1	1	...	...	...	...	143	164	...	...	...	...	12·1	1·8	0·1	33·6	27·7	34·5	31·2
	Anakapalle	13,341	12	17	...	...	6	8	...	...	...	...	112	109	8	9	...	0·1	12·5	2·2	1·0	42·2	32·4	35·5	20·7
Godávari	Cocanada	30,441	45	32	1	...	9	6	...	...	...	...	168	136	5	4	1·6	0·8	2·0	2·5	0·5	19·1	17·4	29·5	25·5
	Rajahmundry	24,555	57	78	...	1	6	7	1	1	1	...	187	143	12	12	1·7	3·5	7·5	5·5	0·7	30·2	32·3	28·4	32·0
	Ellore	25,092	25	30	...	2	2	5	1	...	...	...	181	182	13	9	3·8	1·4	6·3	2·2	0·4	28·4	28·6	27·5	24·8
Kistna	Masulipatam	35,056	20	13	...	...	2	...	...	1	1	...	319	314	6	4	3·2	5·4	2·2	0·9	0·1	30·5	29·9	29·8	19·6
	Guntur	19,646	41	30	3	1	8	6	3	...	...	...	156	104	31	15	3·6	2·4	10·9	3·6	1·0	35·9	34·6	26·7	24·1
	Bezvada	10,098	61	59	2	...	6	4	2	1	...	1	139	122	22	10	5·3	4·1	15·9	11·9	1·6	60·9	64·6	...	...
Nellore	Nellore	27,505	9	4	...	...	2	1	...	...	...	...	172	135	1	1	19·0	0·1	5·3	0·5	0·1	24·3	36·1	28·8	23·4
	Ongole	9,200	23	24	...	...	8	2	...	...	...	...	74	54	15	17	1·8	0·8	6·1	5·1	1·1	39·5	28·8	29·5	25·4
Madras	Madras	405,848	2,184	2,389	6	2	70	49	2	1	1	...	5,210	5,181	274	215	4·7	0·1	16·6	11·3	0·3	44·5	55·6	40·7	30·6
Chingleput	Conjeeveram	37,275	90	77	1	...	3	5	...	...	...	...	375	356	60	48	5·3	0·7	7·2	4·5	0·2	40·9	37·5	40·8	35·8
South Arcot.	Cuddalore	43,545	91	69	...	1	5	2	2	1	...	...	222	232	14	11	7·8	0·6	5·4	3·7	0·3	31·1	28·3	21·7	17·1
	Chidambaram	19,837	26	35	...	1	1	1	...	...	...	...	97	103	7	4	12·3	0·9	8·8	3·1	0·...	29·3	35·3	22·6	24·2
Trichinopoly	Trichinopoly	84,440	163	141	...	...	8	8	1	...	...	...	620	640	15	6	5·4	1·2	6·3	3·6	0·2	25·5	31·6	19·9	26·4
	Srirangam	19,778	18	19	...	1	4	2	...	...	...	...	212	210	13	11	2·1	0·3	5·5	1·9	0·3	35·0	31·4	33·3	34·1
Tanjore	Tanjore	54,745	185	187	...	...	1	5	2	1	...	...	393	354	23	28	1·1	1·3	6·2	6·8	0·1	28·4	29·1	27·0	27·3
	Kumbakonam	50,098	100	115	...	...	3	4	...	...	...	...	429	458	74	60	3·8	0·5	6·7	4·3	0·1	30·7	33·1	27·9	32·5
	Mayavaram	23,044	51	49	...	...	8	8	1	1	...	...	218	195	14	17	2·4	0·7	4·5	4·3	0·7	35·8	30·5	29·5	30·1
	Negapatam	53,776	126	124	2	5	7	7	1	3	...	...	437	466	37	33	6·5	0·7	5·7	4·6	0·4	23·7	33·6	21·3	27·0
	Mannargudi	19,409	52	50	1	...	3	2	...	...	...	...	111	106	11	7	4·0	0·5	3·3	5·2	0·3	24·8	24·5	29·0	24·7
Madura	Madura	76,847	165	193	9	3	14	24	1	...	...	...	642	679	46	51	6·0	2·8	4·6	4·6	0·7	37·2	35·7	30·5	31·4
	Periyakulam	16,446	27	35	...	...	4	...	...	2	...	...	112	92	11	12	0·2	8·7	5·0	3·8	0·3	35·2	30·4	35·5	23·6
	Dindigul	14,182	7	3	...	...	4	4	3	1	...	...	174	207	15	15	10·7	1·1	1·3	0·6	0·8	62·6	41·4	49·7	28·6
	Palni	13,315	5	2	2	...	4	2	...	...	...	...	157	158	...	...	21·9	1·3	1·7	0·5	0·6	56·1	49·7	50·9	28·4
Tinnevelly	Tinnevelly	23,221	38	43	...	2	5	2	...	...	...	...	185	174	3	...	7·9	1·6	2·4	3·4	0·4	33·2	31·1	25·8	29·8
	Palamcottah	17,964	20	20	...	1	1	...	...	...	...	...	156	140	5	3	4·6	1·4	3·0	2·2	0·1	36·6	27·8	31·7	28·2
	Tuticorin	16,281	60	82	...	1	1	...	...	...	...	...	124	95	...	...	2·6	8·3	14·2	3·7	0·1	36·8	47·4	36·9	35·0
Kurnool	Kurnool	20,329	23	14	2	...	7	3	...	...	...	...	92	118	11	3	6·9	...	13·8	1·8	0·6	30·6	33·4	33·5	31·4
Cuddapah	Cuddapah	18,982	17	15	...	...	2	2	...	...	...	...	94	82	11	11	2·1	0·4	13·4	1·7	0·2	19·3	27·0	21·9	35·4
Bellary	Bellary	53,460	50	55	2	...	8	4	...	...	1	...	557	547	...	...	2·9	0·4	6·1	1·9	0·3	36·2	32·3	33·2	32·4
	Adoni	22,441	1	3	...	...	1	3	...	1	...	...	125	137	2	1	18·7	...	13·8	0·1	0·2	33·2	44·5	35·8	22·1
Anantapur	Anantapur	4,907	3	1	...	...	...	1	...	...	...	...	42	38	...	...	18·5	...	5·3	0·8	0·2	41·9	41·1	44·7	33·0
North Arcot.	Vellore	40,958	80	58	1	1	7	15	...	...	...	...	275	220	12	18	7·1	1·9	5·1	3·4	0·5	30·4	30·3	32·8	23·4
	Gudiyatam	16,690	31	20	...	...	1	...	...	...	...	...	82	87	10	4	2·9	3·8	4·9	3·1	0·05	28·7	24·8	29·2	29·8
	Walajapet	10,387	35	26	...	...	1	1	...	...	...	...	83	81	15	8	3·8	...	9·3	5·9	0·2	44·5	35·0	39·3	31·8
	Tirupati	13,232	29	18	1	...	3	2	...	1	...	...	94	88	...	2	5·4	0·5	9·3	3·5	0·5	29·0	33·0	14·9	20·4
Salem	Salem	59,631	72	64	...	...	6	3	4	1	...	...	373	339	50	54	7·2	0·2	6·5	2·3	0·2	38·0	28·3	35·2	26·9
	Vaniyambadi	15,933	6	4	...	...	...	...	...	...	...	...	93	91	16	7	7·1	0·4	8·8	0·6	...	47·9	28·4	23·7	21·5
	Tirupatur	14,278	35	16	...	1	3	...	...	...	...	...	85	75	...	...	5·0	3·8	13·0	3·6	0·3	42·2	36·9	25·0	23·4
Coimbatore	Coimbatore	38,967	76	78	4	2	8	5	...	...	...	...	414	385	13	9	3·7	2·2	5·9	3·9	0·5	41·4	36·7	42·9	32·2
	Erode	9,864	18	33	...	1	3	3	...	...	...	...	76	71	...	...	9·7	1·0	4·2	3·1	0·7	31·8	33·6	41·2	25·9
	Karur	9,205	27	34	...	...	1	...	1	1	...	...	62	84	8	5	9·7	...	5·9	6·6	0·3	46·2	38·3	46·1	32·3
Nilgiris	Ootacamund	12,335	18	17	...	...	2	...	...	...	...	...	88	100	3	4	0·6	0·1	5·2	2·8	0·2	35·0	24·1	31·9	24·7
	Coonoor	4,778	12	13	...	...	1	1	...	...	...	...	63	34	1	...	2·1	0·8	8·4	5·2	0·4	43·9	37·2	23·6	25·4
South Canara	Mangalore	32,099	60	66	...	...	6	8	...	...	...	...	252	233	25	20	...	...	6·5	3·9	0·4	39·1	26·0	37·1	31·1
Malabar	Tellicherry	24,581	20	19	1	...	4	5	...	...	1	1	154	196	32	31	0·2	2·4	3·5	1·6	0·5	35·3	22·4	29·3	24·6
	Calicut	57,085	96	70	...	1	3	...	2	...	...	...	583	601	36	27	1·1	20·5	3·3	2·9	0·1	34·6	48·3	35·3	37·9
	Palghat	36,339	58	85	1	1	5	6	2	2	1	...	322	310	5	...	4·6	2·2	3·0	1·7	0·5	34·7	30·4	34·2	26·3
	Cochin	15,698	40	46	...	...	3	1	...	...	...	...	185	208	17	8	7·1	5·2	3·9	5·5	0·2	36·4	46·8	38·9	31·6
	Cannanore	26,386	53	21	1	...	5	3	...	...	...	...	138	128	...	5	0·8	0·3	8·7	2·8	0·3	32·4	23·0	28·9	25·3
Total		1,862,270	4,738	4,829	44	30	204	233	30	20	6	2	16,365	15,998	1,075	830	4·7	1·7	8·6	5·1	0·3	36·2	37·8	33·0	30·9

PART II.

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SANITARY ENGINEERING.

SANITARY ENGINEERING DEPARTMENT.

J. A. JONES, Mem. Inst. C.E., F.R.S.E.,
Sanitary Engineer to Government.

Sanitary Engineering Department.

NOTWITHSTANDING the hopes, as to future progress, expressed in the report for 1890 realization in respect to execution has fallen far short of expectation. And in this, the second report of the department, it is much to be regretted that the record will be one of work in relation to its design rather than to its execution.

2. There is, however, some satisfaction in believing that the reason for so little actual work having been put in hand is due to causes over which the department has no control, for it will be seen that there has been no delay in submitting schemes and not a few have been sanctioned. Delays, where more than one interest is involved and where the financial difficulty is always well to the front, should have been anticipated and perhaps under the circumstances the wonder is not how little but how much has been done.

3. However that may be, it is believed that so far as work relating to this department is concerned, there has been greater activity displayed and greater anxiety evinced by Councils in regard to speedy improvement in water-supply or drainage than at any period since the introduction of Local Self-Government and if only those schemes now under preparation in addition to those already sanctioned are carried out within a reasonable period, few of the provinces of India will be able to show such a stride in sanitary progress.

4. If that be so, the year will not have been altogether barren of results.

5. The department throughout the year has been in a somewhat transition state; it is still growing and its work, as will be seen, grows faster than the staff; the balance of work in hand at the end of the year is considerable.

6. The question of staff occupied the attention of Government several times during the year and in view to increase the efficiency of the department and in order to provide staff and make other arrangements for exercising due control over the execution of sanctioned works Government called for a joint report from the Chief Engineer, Public Works Department, and the Sanitary Engineer. This report was sent to Government on 21st May 1891, and, in G.O., No. 1306 M., dated 14th August 1891, orders were passed which embodied the following arrangements:—that three Assistant Engineers should be transferred from the Public Works Department for duty under the Sanitary Engineer; that each of these Engineers should be in charge of a circle with the executive control of all works under execution or of such surveys as were being made in such circle; that in order to meet the deficiency of staff caused by the withdrawal of these Engineers from the Public Works Department, the Government of India should be requested to depute three Engineers to take their places; that the subordinate officers should also be obtained from the Public Works Department for the supervision of works, &c., as required and that their places should be filled by promotion and by the engagement of men passed out of the Civil Engineering College. Orders were also passed in regard to the manner of the purchase of stores, the manner of obtaining funds, making payments, auditing of accounts, &c. With regard to these latter points, the order was modified by G.O., dated 26th October 1891, No. 1838 M. The Government of India, on being requested to depute three Assistant Engineers, was unable to do so nor could the Public Works Department spare the necessary subordinates. That this is so is a matter for regret. Authority was therefore given to the Sanitary Engineer to make his own arrangements and to engage the required staff after obtaining the sanction of Government for the appointments; a budget was submitted in December for the expenditure in connection with the proposed out-door staff Government, in its order of 18th December 1891, No. 2240 M., Miscellaneous sanctioned the inclusion of Rs. 20,000 in the budget for 1892-93, but required the submission of proposition statements for the establishment required from time to time. The necessary statements will be submitted at the beginning of 1892.

7. The in-door staff was increased during the year by the addition of 2 draftsmen, 1 estimator, 2 accountants and 4 clerks; notwithstanding this increase the demands on the staff have been more than counterbalanced by extra work.

8. To provide for the due execution of surveys and the taking of levels in the various towns calling for aid has been a matter of much difficulty and it has not been possible to meet demands. The large area of the Presidency renders proper supervision almost impossible, and it has been very difficult to get reliable men. As these men have to spend a short time in one place and then in another, their salaries have had to be higher than would be granted under ordinary circumstances. Indeed, when a man has to be left so much to his own resources in determining what information must be obtained to allow of the plans being completed on his return to head-quarters without having to return to the town for additional information, it is evident that men of somewhat superior intelligence are required: hence, in this report, it will be found that it has not been possible to undertake all the surveys required. While the amount of work begun and under execution is not at all satisfactory, the work done, in view to proceed with the execution of works, has been considerable and is that exhibited in the following tables:—

Surveys made and Levels taken.

Town.	For what purpose.	Complete or in progress.	Cost.	Remarks.
			RS.	
Bellary	Water-supply	In progress ...	1,000	
* Berhampore ...	Do.	Complete ...	...	By Executive Engineer.
* Bezváda	Drainage	Do. ...	...	By Public Works Department.
Chidambaram ...	Water-supply	In progress ...	...	Do. do.
Cocanada	Do.	Complete ...	900	
Coimbatore ...	Do. and drainage	Do. ...	600	
Conjeeveram ...	Water-supply	Do. ...	400	
Cuddapah	Drainage	Do. ...	1,000	
Erode	Do.	Do. ...	250	
Guntúr ...	Water-supply	In progress ...	...	By Local Fund Engineer.
	Drainage	Complete ...	..	By Municipality.
Karúr	Do.	Do. ...	250	
* Kurnool	Water-supply	Do. ...	...	By Public Works Department.
* Negapatam ...	Drainage	Do. ...	...	Do. do.
Nellore	Water-supply and drainage	In progress ...	700	
Ongole	Do.	Complete ...	...	By office surveyor.
Salem	Do.	Do. ...	250	
Tanjore	Do.	Do. ...	700	
Tinnevelly	Do. and drainage	In progress ...	1,000	
Tirupati	Drainage	Complete ...	524	
Trichinopoly ...	Water-supply	Do. ...	...	By office surveyor.
Vellore	Do.	Do. ...	...	Do.
Vizagapatam ...	Do. and drainage	In progress ...	2,000	

* Plans received from Public Works Department.

Memo.—The cost in all cases is approximately that allotted by the Town Council for the work.

9. The following schemes were fully elaborated and submitted to Government:—

Number.	Name of Town.	Drainage or water-supply.	Estimated cost.	Date of submission.	Date of sanction for scheme.	Date on which funds were provided.	Portent of orders.	Remarks.
			RS.					
1	Ádóni ...	Water-supply.	1,53,742	15 10 90	...	...	.....	Scheme before Government since October 1890.
2	Dindigul ...	Do. ...	71,700	12 12 90	3 8 91	...	Sanctioned for execution.	Government granted one-half of the cost.
3	Ootacamund South.	Do. ...	43,000	12 12 90	3 8 91	...	Scheme approved ...	Govt. declined to contribute; funds provided for the works by Council.
4	Coonoor ...	Drainage ...	48,000	9 2 91	12 3 91	26 3 91	Sanctioned for execution.	Govt. contributed three-fourths of cost. The work is in progress.

Number.	Name of Town.	Drainage or water-supply.	Estimated cost.	Date of submission.	Date of sanction for scheme.	Date on which funds were provided.	Portent of orders.	Remarks.
			RS.					
5	Coonoor ...	Water-supply.	80,000	25 3 91	11 12 91	...	Scheme approved, and the Council was asked to finance it.	.....
6	Trichinopoly.	Do.	4,56,000	8 4 91	24 7 91	...	Sanctioned for execution.	Government granted Rs. 2,22,000 towards a cost of Rs. 3,66,435 to Municipality.
		Do. revised.	4,44,245	1 10 91	...	...	Approved.	
7	Madura ...	Do. ...	4,19,575	11 7 91	24 9 91	13 11 91	Sanctioned for execution and funds provided.	Government granted Rs. 2,13,525.
8	Tanjore ...	Do. ...	4,29,000	2 9 91	5 11 91	...	Scheme sanctioned and Council was asked to finance the scheme.	Government granted one-half of the cost.
9	Tirupati ...	Drainage ...	96,000	7 9 91	23 11 91	...	Scheme sanctioned and the Council was asked to finance the scheme.	Government granted one-half of the cost.
10	Cuddapah ...	Water-supply (extension).	19,454	9 9 91	4 11 91	...	Revised estimate for extension of water-supply sanctioned.	Government granted one-half of the cost.
11	Vellore ...	Do. ...	3,13,000	9 12 91	...	...	.....	Orders not received.

10. Of the 9 schemes, which have been sanctioned, the following were in progress and the amount of work done during 1891 will be found in appendices:—

1. Kumbakónam ... ... Drainage works.
2. Kandal (Ooty) ... ... Do.
3. Coonoor ... ... Do.

11. As to other schemes sanctioned, on which work has not been begun, the following preliminary work in view to taking in tenders and letting the contracts was in progress:—

1. Trichinopoly ...	Water-supply.	Specification for machinery prepared.
2. Madura	Do.	Revised estimates and specifications under preparation.
3. Tanjore	Do.	*Nil.*
4. Dindigul	Do.	Specifications and schedules for pipes and machinery prepared.
5. Ootacamund (South)	Do.	Schedules prepared and issued and tenders received on 15th December 1891 awaiting disposal.
6. Cuddapah Water-Supply (extension).		Specification for machinery prepared.
7. Tirupati	Drainage.	Nothing done; funds not provided.
8. Coonoor	Water-supply.	*Nil.* Government Order received only on 8th January 1892.

12. The following schemes were still under preparation or awaiting preparation at the end of the year:—

1. Negapatam ... ... Drainage.
2. Bellary ... ... Water-supply.
3. Coimbatore ... ... Do.
4. Cocanada ... ... Do.
5. Kurnool ... ... Do.
6. Ongole ... ... Do.
7. Conjeeveram ... ... Do.
8. Bezváda ... ... Drainage.
9. Berhampore ... ... Water-supply.
10. Salem ... ... Drainage.
11. Karúr ... ... Do.
12. Erode ... ... Do.
13. Cuddapah ... ... Do.
14. Nellore ... ... Water-supply.
15. Guntúr ... ... Do.
16. Tinnevelly ... ... Do.
17. Vizagapatam ... ... Do.

13. Reports were submitted regarding the water-supply and drainage of the following towns. In some cases it was found possible to submit rough estimates of cost; in others, such as Salem, an approximate estimate was submitted and the

scheme given somewhat in detail, and the main outlines shown in a plan accompanying :—

No.	Name of Town.	Nature of report.	Date of report.	Recommendations.	Date of order by Government.	Nature of order.
1	Visagapatam ...	As to water-supply and drainage.	30th Jan. 1891	That surveys and levels for improvement of water-supply should be undertaken and that certain streets should be metalled and intercepting traps erected to prevent drains being chocked up with sand, also that sewage farms should be formed near the swamps.	24th Mar. 1891 15th June 1891	Report on water-supply called for on 24th Mar. 1891 and on 15th June 1891 reservation of funds by the Council for the investigation of drainage and water-supply schemes and preparation of detailed schemes and estimates by Sanitary Engineer ordered.
2	Cocanada ...	Do. ...	31st Jan. 1891 2nd Feb. 1891	That Council should have a proper scheme prepared rather than adopt a scheme which, though it includes filtration, will only give an increased head of 3 feet over that of the existing supply, and that funds should be allotted for levels being taken; further that drainage scheme should be deferred until water-supply is completed.	18th Mar. 1891 9th June 1891	Contribution of a moiety of the cost and grant of the balance by way of loan at 4½ per cent. promised by Government in event of a proper scheme being worked out by the Council and resolution of Council allotting funds for investigation of scheme recorded.
3	Ellore ...	Do. ...	7th Feb. 1891	That drainage works should be executed in preference to water-supply, and that funds should be allotted for taking levels.	10th Mar. 1891 7th Oct. 1891	Report of Council as to drawing up of a scheme and financing the same called for. Allotment of funds for taking levels sanctioned in Oct. 1891.
4	Rajahmundry.	As to Water-supply.	9th Feb. 1891	That the Council should sanction establishment to take surveys and levels for the water-supply of the town on the lines detailed by Sanitary Engineer.	10th Mar. 1891 9th June 1891	Report of Council as to the action it proposes to take in the matter called for and recording letter of Council as regards allotment of funds.
5	Guntúr ...	As to water-supply and drainage.	15th Feb. 1891	That surveys and levels should be taken before any scheme for drainage can be designed, and that as regards water-supply, Black tank should be improved and the conduit from it extended.	17th Mar. 1891	Report of Council called for.
6	Berhampore ...	Do. ...	20th Feb. 1891	That water be pumped from Haradakandy tank and supplied to town in stand pipes through pipes instead of in open tanks as proposed by D.P.W.	29th June 1891	Report communicated to Council, and Mr. Hayes' scheme referred to Sanitary Engineer and the Council called on to obtain analysis of Haradakandy water, question of aid from Provincial Funds being considered on receipt of final proposals from Sanitary Engineer.
7	Masulipatam ..	As to water-supply.	25th Feb. 1891	That tube wells be sunk at two or three places and samples of water sent for chemical examination, and in case of failure an artesian well be sunk, before deciding on the adoption of the Kistna Canal for the town water-supply and that drainage might lie over meantime.	18th Mar. 1891	Government in correspondence with the Secretary of State as to the purchase of boring tools. Experimental artesian boring to be made when toolsare obtained.
8	Ongole ...	Do. ...	7th April 1891	That a filtration gallery be driven near the village of Geddalaguntapolliem, as the lateritic gravels yield abundant supply if wells are sunk sufficiently deep.	24th April 1891	Boring of a proposed artesian well deferred until detailed estimates for gallery system are ready.

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SANITARY ENGINEERING DEPARTMENT.

No.	Name of Town.	Nature of report.	Date of report.	Recommendations.	Date of order by Government.	Nature of order.
9	Kurnool ...	As to water-supply and drainage.	10th April 1891	That water should be drawn from the bed of the Hindri river by driving a filtration gallery instead of from the Kurnool Canal as proposed by Mr. Carless of Public Works Department; and that the distribution of water should be through closed pipes; that a drain to intercept leakage from the canal should be constructed, and that cultivation of so-called dry crops should be prohibited within the town.	12th May 1891	Detailed scheme on the lines indicated by Sanitary Engineer called for, also analysis of Hindri water at the site of filtration gallery. Grant of three-fourths of the cost promised if the scheme proved successful. Remarks as regards drainage referred to Council for consideration.
10	Calicut ...	Do. ...	25th July 1891	That Council should take steps to improve the water-supply and drainage of at least the Moplah quarters and that funds should be provided for taking the necessary surveys and levels.	31st Aug. 1891	Protection of tanks from pollution and allotment of funds for surveys ordered.
11	Cuddalore ...	Do.	30th July 1891	That a survey be taken of the town before anything can be done towards improving the water-supply and drainage of the town.	27th Aug. 1891 26th Oct. 1891	Taking of a special survey of the town by the Council ordered.
12	Palghat ...	Do. ...	6th Aug. 1891	That allotment be made for surveys to be made of the town, preparatory to any scheme for drainage of Big Bazaar and adjacent villages being drawn up.	27th Aug. 1891	Council called upon to report its action and also to arrange for a large scale map. Council has resolved to allot funds in budget for 1892-93.
13	Cochin ...	Do. ...	3rd Sept. 1891	That a well 15 feet diameter be sunk to 100 feet, if necessary, as it was thought that laterite beds might be met with at that depth and fresh water obtained, and as regards drainage that drains should be extended across the Kalvetty swamp and that the existing drains should be made of proper section.	5th Oct. 1891 21st Oct. 1891	Report of Council called for, and further particulars as to the cost of raising of water called for from Sanitary Engineer, which was subsequently forwarded and communicated to the Council.
14	Salem ...	As to water-supply.	30th Sept. 1891	That water-supply should be obtained from Panamarathuputti valley and supplied to the lower portion of the town by gravitation and to Ammapett by pumping at 15 gallons a head at an estimated cost of Rs. 9,93,000.	23rd Oct. 1891	Remarks of Council on Sanitary Engineer's letter called for with an observation that the cost of the scheme appeared to be such as to make it doubtful whether the scheme can be carried out.
15	Trichinopoly ..	Jail water-supply.	1st Oct. 1891	That the Jail Department should become a contributor to the Trichinopoly scheme and that this can be done by somewhat modifying present proposals.	30th Nov. 1891	Inclusion of supply to Jail approved by Government in G.O., 30th November 1891, No. 2143 M.
16	Periyakolum ...	As to water-supply and drainage.	23rd Oct. 1891	That two receiving cisterns be formed at short distance above the town, one on either bank of Naragadhi for reception of pure water, and that stoneware pipes be laid along either bank for carriage of water to other cisterns, the water to be discharged below the town and that drainage to the river should be intercepted and carried to the east end of the town where sewage farm can be formed.	...	Orders not passed at end of year.

No.	Name of Town.	Nature of report.	Date of report.	Recommendations.	Date of order by Government.	Nature of order.
17	Palni ...	As to water-supply and drainage.	27th Oct. 1891	That the water-supply be improved by the formation of two tanks, one at either end of the town and that the Teppacolum be supplied from the Viyapuri tank by pipes; that an intercepting drain be formed between the town and the Viyapuri tank, that the allotment for taking levels for drainage and water-supply be repeated in the budget for 1892-93, as it was found impossible to send a surveyor during 1891.	.....	Orders not passed at end of year.
18	Cuddalore ...	Do. ...	17th Nov. 1891	That the Council should take steps to secure a better system of water-supply to the town than the present one of affording a spasmodic supply in an open channel passing through paddy fields and delivering the water below ground level, and that allotment should be made for taking of levels both for water-supply and drainage of the town.		Do.
19	Tinnevelly ...	As to water-supply.	25th Nov. 1891	That water-supply be obtained from Ottenokolum as proposed by Public Works Department if it is found that the Council cannot afford a direct supply from Tambraparni river, and that Palamcottah Municipality and Tinnevelly District Board might be participators if a joint scheme from the latter source were found financially possible.		Do.
20	Tuticorin ...	Do. ...	30th Nov. 1891	That works should be constructed whereby not less than three months' supply can be stored at the Korampullam tank; that stoneware pipes or a closed masonry channel be substituted for the open supply channel, and that the distribution be by pipes by means of pumping machinery under pressure or in to iron watertight wells with pumps over them and that arrangements be made for a staff for levels being taken for working out a detailed scheme.		Do.

14. A table in appendix No. I includes a list of the towns which were inspected during 1891, and the dates on which they wer einspected, and gives very succinctly information regarding their progress n respect to improvement of water-supply or drainage.

15. It will be observed that the Sanitary Engineer visited 33 towns, viz., Berhampore, Vizagapatam, Cocanada, Rajahmundry, Ellore, Guntúr, Bezwáda, Masulipatam, Kurnool, Bellary, Nellore, Ongole, Kumbakónam, Salem, Coonoor, Ootacamund, Cuddapah, Cochin, Calicut, Cannanore, Tellicherry, Palghat, Coimbatore, Trichinopoly, Tuticorin, Tinnevelly, Palamcottah, Madura, Periyakulam, Dindigul, Palni, Cuddalore and Anantapur, and the Assistant Sanitary Engineer 12 towns, viz., Coimbatore, Coonoor, Trichinopoly, Tanjore, Salem, Karúr,

Conjeeveram, Bellary, Cuddapah, Erode, Tirupatúr and Vániyambádi. The following towns received more than one visit—Bellary, Kumbakónam, Salem, Coonoor, Coimbatore, Karúr, Ootacamund, and Cuddápah. The visiting of a number of towns is no gauge of the amount or value of work done in this department, because once the features of a town are known, the surveys completed, and a knowledge of its necessities obtained, no good object is to be gained by visiting it again until works are in progress or until it is necessary to arrange for works or surveys or with some other particular object in view. The following statement must therefore be considered in the light of showing deductions from the possible time which might have been spent in actual preparation or supervision of new schemes, routine work, &c., rather than as a record of good work :—

—	By Sanitary Engineer.	By Assistant Sanitary Engineer.
Number of towns visited	40 towns.	17 towns.
Number of miles by sea	2,359	...
Number of miles by rail	6,214	4,600
Number of miles by canal	326	...
Number of miles by road	671	295
Total miles travelled ...	9,567	4,895
Number of days on tour	197	66

16. When writing the report for 1890, it was not anticipated that in this report it would be necessary to refer in detail to each town. It is, however, found that with regard to the great majority of the towns something has to be reported and each town is therefore now dealt with in detail as before.

District.	Town.	Population, 1881.	Population, 1891.
(1) ANANTAPUR.	(1) ANANTAPUR.	4,907.	6,981.

17. The Council did not, until the 20th September, take any action as regards the improvement of the drainage, and the Chairman reported only in November that the Council had determined to meet all expenses in preparing a scheme. The Chairman was informed of the probable cost, but that the preparation of a scheme could not be taken up before April next. Opportunity was taken, when on tour with His Excellency the Governor, to go over the town and the main requirement seems to be, as has already been pointed out by the Acting Sanitary Commissioner, an intercepting sewer to prevent the waters of the tank, immediately below which the town is built, passing into the soil under the town and causing excessive dampness of the sub-soil and a high level of sub-soil water when the tank is full or comparatively so.

District.	Town.	Population, 1881.	Population, 1891.
(2) BELLARY.	(2) ADÓNI.	22,441.	26,212.

18. The Sanitary Engineer regrets to report that, in regard to this town, he has merely to repeat the words with which his report for 1890 on this town concluded. "The project is still under consideration by Government."

The scheme was sent to Government on 15th October 1890.

The scheme was referred to Public Works Department on 2nd December 1890.

The scheme was returned by Public Works Department on 10th August 1891.

A reference was made to this department in an order, dated 4th September 1891, No. 1429 M., Miscellaneous, received on 15th September 1891 and replied to on 17th September 1891.

The estimate, it is believed, is now in the Revenue Department as to the probable compensation due to ryots who will be deprived of the use of water from the Nullacheruvu, which is to be taken up for the water supply of the town.

* Including double visit.

19. Government, in its order, dated 1st May 1891, No. 660 M., called on the Council to submit a comprehensive scheme of drainage. The Council has, however, not referred to this department; indeed, had it done so, it would not have been possible during the past year to have undertaken the work.

District.	Town.	Population, 1881.	Population, 1891.
(2) BELLARY.	(3) BELLARY.	53,460.	53,256.

20. This town was first visited in February 1891. It was found that nothing had been done towards the investigations necessary for improving the water-supply for which Rs. 1,000 had been granted. It was found that somewhat extensive surveys and a comprehensive set of levels would be required before any scheme could be proposed and funds were therefore asked for. The question as to whether the scheme of improved supply was to embrace the requirements of the troops also required decision, as well as the question as to what body or department the cost of the surveys should be debited. The papers were referred to the Military Department of the Government of India, which decided that in the scheme provision should be made for Military as well as Civil requirements. It was not until 3rd August 1891 that Government in its order No. 1213 M., Miscellaneous, requested funds to be placed at the disposal of the Sanitary Engineer. These were obtained from the Municipal Council, the question of the proportion debitable to the Military Department being left over for future consideration. A surveyor was appointed on 4th September 1891 and the surveys are almost complete and will be so early in January 1892.

District.	Town.	Population, 1881.	Population, 1891.
(3) CHINGLEPUT.	(4) CONJEEVERAM.	37,725.	42,561.

21. The Council, on 17th March 1891, sanctioned a sum of Rs. 400 for the purpose of investigating the scheme of supplying water to the town from the Vaigavathi river. It was not, however, until 30th July 1891, that a surveyor could be obtained and sent to the work. The levels and sections were completed on the 31st October 1891, but, unfortunately, the limited staff and a large amount of other work have made it impossible to complete the scheme. It is hoped it will be before Government this year.

District.	Town.	Population, 1881.	Population, 1891.
(4) COIMBATORE.	(5) COIMBATORE.	38,967.	46,362.

22. Surveys and the taking of levels were begun in this town on the 24th December 1890 and were completed in June 1891. Notwithstanding the increase of staff, it has been found impossible to make much progress with the design of the water-supply scheme. It is intended to take water from the valley of the Noel by driving a filtration gallery parallel to the river. The water has been analysed; the quality is satisfactory, while the quantity obtainable by the construction of moderately-sized works is sufficient. One reason for delay in designing the scheme was because the question of the future supply to the Jail remained unsettled until the end of November. This has now been disposed of and the scheme will be in hands in 1892 and will, it is hoped, be presented to Government early in the year.

District	Town.	Population, 1881.	Population, 1891.
(4) COIMBATORE.	(6) ERODE.	9,864.	12,331.

23. Following up the remarks made in the report for 1890, it was not until the Council's attention was again in March last called to the matter that the Council gave any reply as to the steps they proposed to take in regard to the improvement of drainage, and the Council then reported that it had no funds to carry out any scheme and that therefore the Council was not prepared to incur any expenditure in preparing one. This did not seem satisfactory and the matter was reported to Government, who called on the Council to provide funds from the year's closing balance. This was done and an allotment sanctioned in G.O., No. 1092 M., Miscellaneous, dated 13th July 1891. A surveyor could not be sent until 6th October 1891, but the surveys and levels are now complete.

District.	Town.	Population, 1881.	Population, 1891.
(4) COIMBATORE.	(7) KARÚR.	9,205.	10,746.

24. An allotment of Rs. 250 for the purpose of taking levels for the preparation of a drainage scheme was provided by the Council in the budget of 1891-92. At the end of June a surveyor was provided. The necessary surveys and levels were completed on the 15th August. More than this, in regard to the scheme, it has not been possible to do.

District.	Town.	Population, 1881.	Population, 1891.
(5) CUDDAPAH.	(8) CUDDAPAH.	18,982.	17,121.

25. The water-supply works of this town have not, it is regretted, given satisfaction in so far that, as to some extent anticipated, the flow of the springs during 1891, which has been exceptionally dry, was much less than the demand, and during a great part of the year, only a limited quantity of water was delivered into the town. The anticipations expressed in the report for 1890 in regard to the Noria were also unfortunately fulfilled, for, in spite of constant repair, the machine, unsuited for constant work, failed entirely in October and steam-pumping machinery had to be sent up. When the machinery did arrive in November, it was found that there was practically no water to pump; the sub-soil water had fallen below the level of the gallery under the river and the springs were almost dry.

26. During the year, estimates were submitted by the Council and revised by the Sanitary Engineer and forwarded to Government, which included proposals for the completion of a second service reservoir, the deepening and covering of the springs and of the channel, which conveys water from the Bugga springs, the repair of the filtration gallery, and the provision of permanent steam-pumping machinery at a total cost of Rs. 19,454. Government, in pursuance of its promise given in G.O., dated 17th July 1891, No. 1125 M., Miscellaneous, allotted one-half of the cost and lent money for the remainder at 4½ per cent. interest repayable in thirty years. As the deepening of the springs was a portion of the work included in the estimates, this work was at once started in advance of the provision of funds and it is satisfactory to report that a limited supply of water was immediately available in the town where cholera had broken out, but which, it is reported, subsided when water became available. The permanent works will shortly be in progress and specifications for the machinery have been prepared and tenders will shortly be invited from various manufacturers.

District.	Town.	Population, 1881.	Population, 1891.
(6) GANJAM.	(9) BERHAMPORE.	23,559.	24,559.

27. This town was inspected in January 1891. The Executive Engineer of Ganjam had under preparation a project, whereby water was to be obtained from the Ambugada tank, distant about two miles from the town and conducted into two tanks adjacent to the town, whence it was proposed to distribute it to various other tanks within the town. The plans were submitted to the Council by the Executive Engineer and sent to Government in May 1891. It appeared to the Sanitary Engineer that it would be advisable to distribute the water in pipes throughout the town in the ordinary manner as, when the drinking supply is drawn from tanks, it is always open to suspicion. The Council is desirous of adopting distribution by pipes if funds can be provided and the papers were accordingly received in this department for report at the end of June. It is regretted that press of other work has not permitted any advance to be made in preparing a complete estimate for the scheme. Another cause of delay has been the want of the census figures showing the population in each portion of the town; without these, it is difficult to allocate the fountains and fix the sizes of the supply mains.

District.	Town.	Population, 1881.	Population, 1891.
(6) GANJAM.	(10) CHICACOLE.	18,302.	17,904.

28. The Council of Chicacole sanctioned Rs. 500 for the necessary surveys and levels in this town in view to a drainage scheme, but, owing to various causes, one

being the inability of the Sanitary Engineer or his Assistant to visit the town, another the difficulty of getting a surveyor, the preliminary operations have been postponed until after April next, when, it is hoped, it will be possible to put the surveys in hand.

District.	Town.	Population, 1881.	Population, 1891.
(6) GANJAM.	(11) PARLÁKIMEDI.	15,365.	16,425.

29. The water-supply of this town, as reported by the Sanitary Commissioner, is far from satisfactory. Water, it appears, is plentiful; but much of it is contaminated by the drainage from filthy areas. The town has not yet been inspected in view to submitting proposals for improvement in the supply, and, indeed, there is considerable hesitation in taking up schemes with so many already on hand, and especially for those towns which are so far distant. It may be possible to visit the town during 1892.

District.	Town.	Population, 1881.	Population, 1891.
(7) GODÁVARI.	(12) COCANADA.	30,441.	40,685.

30. The town was inspected in January 1891. The town has a partial water-supply by a conduit from the Samalkóttah Canal, which feeds several tanks. Jaganaikapuram, a portion of the Municipality, is similarly supplied from the Rajahmundry canal. The supply is unfiltered and is not available during two or three months each year, when considerable inconvenience, if not distress, occurs. On receiving the Sanitary Engineer's report, Government promised to contribute one-half of the cost of a scheme and the Council thereupon provided the necessary establishment for taking levels, &c. These have all been taken, but are still in course of being plotted.

31. The drainage of Cocanada is also in need of improvement, but this must be deferred, pending the execution of the water-supply scheme.

District.	Town.	Population, 1881.	Population, 1891.
(7) GODÁVARI.	(13) ELLORE.	25,092.	29,363.

32. This town is situated on the Ellore-Bezváda Canal near the junction between the systems emanating from the Godávari and Kistna, respectively.

33. The town was inspected in February 1891, and, while found to be somewhat badly off for water during the two months of the canal closures, it was thought that drainage was its more urgent requirement. Government, in G.O., dated 10th March 1891, No. 833 M., Miscellaneous, called on the Council to report what action it proposed to take in view to having a drainage scheme prepared and to financing the same (the cost was expected to be about 1¼ lakhs). The Council allotted a sum for the taking of surveys and levels, but this was insufficient, and the sum finally obtained was Rs. 655. On the 2nd of July 1891, the Council applied to Government for an allotment of funds, and this was sanctioned on 7th October 1891 (G.O., No. 1671 M., Miscellaneous, dated 7th October 1891). No surveyor had been deputed for the work at the end of the year, as a suitable man could not be obtained.

District.	Town.	Population, 1881.	Population, 1891.
(7) GODÁVARI.	(14) RAJAHMUNDRY.	24,555.	28,406.

34. This town was inspected in February 1891. It is a town of growing importance and will be on the line of the East Coast Railway which will here cross the Godávari river. The most immediate necessity of the town is a proper water-supply, and, as the town stands on the banks of the Godávari, a supply can be easily secured. Funds were sanctioned in June 1891 for making surveys and taking levels. It has not been possible to send a surveyor; men of the class required are not easily obtained. The delay is regrettable but unavoidable; it is hoped, however, that the levels may be taken before the end of the financial year (1891-92).

District.	Town.	Population, 1881.	Population, 1891.
(8) KISTNA.	(15) BEZVÁDA.	9,336.	17,652.

35. This town is becoming of greater importance daily, and its population is increasing at a rapid rate; the present population is no doubt abnormal owing to the construction of the Kistna bridge; the town, however, none the less, demands some improvement in its water-supply and drainage.

36. Plans in view to the latter have been prepared by the Public Works Department and were handed over to the Sanitary Engineer on his visit to the town in February 1891. The drainage of the town does not present many difficulties; but press of other work has not allowed the scheme to be taken up.

37. As to the water-supply, the works will, even with the proximity of the river taken into account, be expensive owing to the character of the Kistna water, which is loaded with silt. It is believed, from information obtained from the Collector, that it may be possible to arrange a joint scheme with the East Coast Railway Company, who require water for their Bezváda station and works. The Consulting Engineer for Railways forwarded in November a memorandum by Mr. Spring, regarding a proposal for a joint supply, the plan proposed being the erection of a pumping-station under the abutment of the new Kistna bridge, the wells being made hollow and used as filter and pump wells. The memorandum was returned recommending that a 15 gallons supply should be arranged for instead of a 5 gallons supply as proposed. Government has approved generally of Mr. Spring's proposals; it is hoped, therefore, that arrangements will soon be completed for a supply for Bezváda.

District.	Town.	Population, 1881.	Population, 1891.
(8) KISTNA.	(16) GUNTÚR.	19,646.	23,486.

38. This town is supplied with water in a manner similar to that described as obtaining in Masulipatam, except that the source of supply is a tank, the Black tank; this, unless supplemented by the breaching of the Nullapad tank, some four or five miles distant, does not afford a sufficient supply. A scheme, the general lines of which were considered on the ground and reported on, is being worked out by the Assistant Local Fund Engineer, whereby the surplus of the Nullapad tank will always flow to the Black tank; this and some minor improvements will probably give an adequate annual supply. The scheme has, however, not reached this department, but it is understood that the plans and estimates will shortly be submitted.

39. The drainage of the town is also very defective, but, as no proper survey of the town was available, no scheme of drainage could be worked out. A survey was therefore begun and completed during last year, but the levels still remain to be taken.

District.	Town.	Population, 1881.	Population, 1891.
(8) KISTNA.	(17) MASULIPATAM.	35,056.	38,851.

40. This town was inspected in February 1891. The town has a very inefficient water-supply. The source is the Bezváda-Masulipatam canal, whence a branch is taken towards the town; from a cistern at the end of the branch the water is carried to portions of the town in brick conduits on which there are dipping wells; the water drawn by the consumer is therefore open to much pollution and, during the period of three or four months during which the canals are closed, the inhabitants have to depend entirely on ordinary wells; these, as reported last year, are all brackish. At the request of the Sanitary Engineer experiments were made last year with tube wells, but without any favorable result. In a report sent to Government on 25th February 1891, it was advised that, in event of the tube wells being unsuccessful, an artesian boring should be tried, and Government, in its Proceedings No. 398 M., Miscellaneous, dated 18th March 1891, said it was in correspondence with the Secretary of State for India on the subject of the purchase of a set of suitable boring tools, and that the experiment could be tried in Masulipatam. How the matter stands is not known in this department, though a reference was made, on the 28th September 1891, to which, however, no reply has been received.

41. If an artesian boring is not successful, there remains alone the method of storing sufficient water for the supply of the town during the three or four months' closure of the canal. Pumping works and distribution by pipes are recommended.

District.	Town.	Population, 1881.	Population 1891.
(9) KURNOOL.	(18) KURNOOL.	20,329.	24,523.

42. The most important question, with reference to this town, is the improvement of the water-supply. The people suffer very greatly from fever and the mortality from that cause is marked. After an inspection of the town in February 1891 a report was submitted to Government in which it was stated that the geological conditions prevailing, together with a too copious supply of water through very defective and leaky conduits, *plus* the leakage from the canal which runs past the town on a higher level, seemed to cause conditions which were favorable to fever development. The remedies proposed were the distribution of the water-supply by pipes and the construction of a drain to intercept leakage from the canal and the discontinuance of large supplies of water to certain classes of crop. An improvement in the source or a change of source of supply seemed very desirable, and, after a consideration of the various schemes proposed, it was recommended to Government that the water should be drawn from the bed of the Hindri river. A less costly scheme could no doubt be obtained by the use of canal water, but storage room for two months would be necessary, and filtration and working charges would be expensive, as the canal water derived from the Tungabhadra river is heavily loaded with silt. A rough estimate was made of the cost which it was anticipated would amount to about Rs. 82,000; this may be an under-estimate. Pending experiments as to the supply in the Hindri river in the driest season it has not been possible to proceed further with the details of the scheme. It has not been possible to arrange for the experiments. No steam-pump is available at Kurnool and no one is at present available to undertake the experiments; it is hoped, however, that it will be possible to get them undertaken in the beginning of 1892.

District.	Town.	Population, 1881.	Population, 1891.
(10) MADURA.	(19) DINDIGUL.	14,182.	20,215.

43. The scheme for the water-supply of this town, which was reported last year as having been sent to Government, was referred to the Chief Engineer for criticism, on the 17th January 1891. It was not, however, until 3rd August 1891 that Government was able to approve of the scheme and ordered it to be put in hand as soon as the Council had made the necessary arrangements for financing the scheme. Government further promised to contribute a moiety of the cost, namely, Rs. 35,850 from Provincial Funds. The Council has not yet, so far as is known to this department, made arrangements to finance the scheme.

District.	Town.	Population, 1881.	Population, 1891.
(10) MADURA.	(20) MADURA.	76,847.	87,426.

44. The water-supply scheme, referred to in the report for 1890, was submitted to Government in July 1891. The scheme worked out in detail was for a supply of 80,000 people with 15 gallons per head, this having been the quantity allowed for in former schemes. The rapid increase in population, however, rendered it necessary to consider whether that supply was sufficient, even though some of the outlying portions of the town were omitted, and in this view a comparative estimate for a supply of 15 gallons per head to 100,000 people was also submitted. The former scheme was estimated to cost Rs. 3,70,320 after allowing Rs. 16,587 as value of pipes in ground, and otherwise available, and the latter scheme with the same deduction, Rs. 4,19,575. Government accepted the latter scheme and requested the estimates for it to be worked out in detail; this has been done, showing a small increase of Rs. 4,785 over the original estimate for the larger scheme. The pumping charges of the former scheme were estimated at Rs. 16,782 per annum and of the latter at Rs. 19,885. Government, in accepting the latter scheme, 24th September 1891, No. 1561 M. (but the order was not received until 10th November 1891),

grant of a moiety of the cost, viz., Rs. 2,13,525. The scheme was forwarded date of above order to the Chief Engineer, Public Works Department, for criticism. The plans and estimates had not been returned at the end of the year, and thus, though more than three months have elapsed since the date of the order sanctioning the scheme, no preparations could be made in view to calling for tenders [illegible]: much work cannot be done until the pipes arrive and the plans of [illegible] are received, and to procure them will take, at the very least, six or eight [illegible]

District.	Town.	Population, 1881.	Population, 1891.
(10) MADURA.	(21) PALNI.	13,[illegible]15.	16,941.

[illegible] Council of this town provided in its estimates for 1891-92 a sum of Rs. [illegible] for the purpose of appointing a surveyor in view to taking levels for a drainage scheme. The main water-supply of the town is the Vaiyapurikolum, which lies just below, and adjacent to, the town, and into which the majority of [illegible] flows. The town was visited by the Sanitary Engineer in [illegible] lines of drainage works necessary decided upon; a report was [illegible] Government. But in view of work on hand, the Council was re[illegible] allot the Rs. 300 in 1892-93, as it was not possible to send a [illegible] the current official year. Moreover, it was desirable to have some [illegible] than what could be given from Madras and this, it is thought, can be done [illegible] the construction of the water works at Dindigul, from which [illegible] is some 36 miles distant.

District.	Town.	Population, 1881.	Population, 1891.
(10) MADURA.	(22) PERIYAKULAM.	16,446.	16,338.

[illegible] An [illegible]n of the town in October did not bear out the impression which the Council's description of the state of matter in the town naturally conveyed. [illegible] for the river, from which the drinking water is obtained, is very seriously [illegible] through the town by being used for all kinds of purposes, [illegible] the town, situated on both banks of the Varaganathy, runs [illegible] hence the drinking supplies are obtained. Drainage is an [illegible] all over the town, and, in a report to Government, it was [illegible] water should be led into tanks on the river banks by convey[illegible] a some short distance above the town where the water was [illegible]uted. [illegible]rt was sent to Government on 23rd October 1891. Report of [illegible] 8th January 1892, No. 43 M., Miscellaneous, received only in [illegible]

District.	Town.	Population, 1881.	Population, 1891.
(11) MALABAR.	(23) CALICUT.	57,085.	65,592.

[illegible] urge the Council to take some steps to improve its sanitary con[illegible], the Sanitary Engineer visited the town in July 1891. Government had [illegible] 5th March 1891, No. 312 M., drawn the attention of the Sanitary [illegible]er to [illegible]tes made by the Sanitary Commissioner on his inspection. [illegible] the town the Council was recommended to take steps to improve [illegible] drainage of at least the Moplah quarters, where very insanitary [illegible]tions pre[illegible], and desired the Council to provide funds for taking the [illegible]ssary [illegible] and levels. The Council, however, did not consider itself in a po[illegible] to [illegible]ake the work required and resolved not to make the grant asked [illegible], however, on receiving this resolution, requested, in its order, [illegible] 1891, No. 1396 M., Miscellaneous, that provision for the necessary surv[illegible] might be made in the budget for 1892-93. Until funds are [illegible]posal. [illegible]thing can be done.

District.	Town.	Population, 1881.	Population, 1891.
(11) MALABAR.	(24) CANNANORE.	26,386.	25,088.

[illegible] removal of most of the troops, which were formerly stationed [illegible] in a particularly flourishing state, and the Municipality is [illegible] The town was inspected in July last and a report submitted

to Government in which it was pointed out that the portion of the town, known as Old Cannanore and adjacent to the sea, was most in need of urgent improvement. The water-supply is bad, foul tanks exist, and drainage, except for the escape of storm water, is non-existent. This is the portion of the town which the Moplahs inhabit.

49. No proper survey of this portion of the town exists, and the Revenue Survey will not be undertaken for some time. In view of these facts, Government ordered (*vide* G.O., dated 26th October 1891, No. 1835 M., Miscellaneous) that, in the circumstances therein stated, the Municipal Council should arrange for a special survey of the town in communication with the Sanitary Engineer. So far as known, the Municipality has taken no steps in the matter.

District.	Town.	Population, 1881.	Population, 1891.
(11) MALABAR.	(25) COCHIN.	15,698.	17,473.

50. Government desired an inspection of this town in view to the Council taking measures for the improvement of the drainage and water-supply and the town was accordingly inspected in July last.

51. The question of water-supply is a difficult one; all the water in the ordinary wells is brackish. Tube well borings had not given satisfactory results and a reference to the Director of the Geological Survey showed that there was little, if any, chance of artesian wells being a success. It was therefore recommended to Government to sink a well 100 feet deep, if necessary, as it was thought that laterite beds might be met with at this depth and fresh water obtained. The improvement of the water-supply is very necessary as there is a large amount of disease such as elephantiasis, &c., due to the use of the only available water. Persons who can afford it send for their water some 15 miles, whence it is brought by backwater and boat. The improvement of the drainage of the town was also considered, but, in view of the somewhat heavy expenses connected with the water-supply, it was not recommended that any very large works should be entered upon. The report was sent to the Council—(*vide* G.O., dated 21st October 1891, No. 1810 M., Miscellaneous).

District.	Town.	Population, 1881.	Population, 1891.
(11) MALABAR.	(26) PALGHAT.	36,339.	39,501.

52. This town was inspected in August. The town covers a large area and is very widely scattered; the water-supply is fairly pure. The drainage of the Main Bazaar and adjacent villages was found, however, to be defective and to require improvement, and to this the Council's attention was directed. The Council considered the matter, and has promised to provide funds in its budget of 1892-93 for preparing the necessary surveys and taking levels required for the preparation of a drainage scheme.

District.	Town.	Population, 1881.	Population, 1891.
(11) MALABAR.	(27) TELLICHERRY.	24,581.	27,146.

53. This town was also visited in July 1891. There does not seem to be any urgent call for an extensive scheme of drainage, and the Council seems to be expending its funds judiciously in improving its present drains and providing others in the more crowded portion of the town; the lines of drains, proposed for more immediate construction, were inspected and approved when the town was visited. The town had not been inspected when the report for 1890 was written, and hence some modification of the views therein expressed. The water-supply is from wells and is fairly good.

District.	Town.	Population, 1881.	Population, 1891.
(12) NELLORE.	(28) NELLORE.	27,505.	29,341.

54. The town was inspected in March 1891 and it was then reported that it seemed desirable to improve both the drainage and water-supply, the improvements under the former being meantime confined to the more crowded portions of the town, viz., the East and West Bazaar and Nellore East proper. For the purpose

of preparing a scheme an establishment, anticipated to cost Rs. 700, was asked for; sanction was obtained in June and a surveyor appointed in September 1891. The surveys and levels are still under preparation, but the scheme cannot be submitted to Government until 1893 or 1894.

District.	Town.	Population, 1881.	Population, 1891.
(12) NELLORE.	(29) ONGOLE.	9,200.	10,863.

55. The town was inspected in March 1891. The result of the inspection showed that the water-supply from the wells in the gneissic rocks, which form the hills to the south of the town, was not satisfactory, and that the best water was obtained from wells sunk in the lateritic gravels which overlie the gneiss; samples of water from certain wells were analysed and from this and other investigations it was decided that a gallery should be built in the lateritic gravels to the west of the town, whence the water-supply would be derived. Certain levels were available, but these were insufficient, and, as the town was small, the surveyor, attached to the Sanitary Engineer's office, was sent to complete the necessary levels. Some delay was occasioned by the want of figures showing the population in each area, but these have now been obtained and it is hoped that it will be possible to send forward a scheme at an early date.

District.	Town.	Population, 1881.	Population, 1891.
(13) NÍLGIRIS.	(30) COONOOR.	4,778.	6,049.

56. *Water-supply.*—The scheme, alluded to in the report for 1890, was presented to Government on 25th March 1891. It included (1) the collection of the supply from the existing open channel, which now supplies the great portion of Coonoor, the water of which is considered usable by the Chemical Examiner, (2) the provision of settling tanks containing a three days' supply, and (3) the distribution by pipes for a population of 7,500 people at 20 gallons per head. The total cost of the scheme was estimated at Rs. 80,000. It was not until 10th October 1891 that a reference was made to the Sanitary Engineer in regard to certain works in the scheme. The scheme was approved and was sent to the Council for financing on 11th December 1891.

57. *Drainage.*—Government, in its Proceedings, dated 12th March 1891, No. 352 M., Miscellaneous, sanctioned the proposed scheme of drainage estimated at Rs. 48,000. Specifications and schedules were prepared and tenders called for on 29th April 1891. The lowest tender showed that the scheme, as originally designed, would cost Rs. 86,017-5-6 without the materials and contingencies, which were estimated to cost Rs. 11,688-5-5 and Rs. 5,453, respectively. Some modifications were made and, taking the rates in the tender which was accepted, it was found that the work would cost Rs. 48,000 as follows:—

	RS.	A.	P.
By contract	30,907	1	2
Pipes, &c.	11,688	5	5
Contingencies	5,404	9	5
Total ...	48,000	0	0

The work was begun on the 31st August 1891. Heavy rains during October destroyed some of the works in progress and the continued rains and the destruction of the ghaut road, by which stores had to be obtained, prevented the works being resumed until late in December. A table in appendix No. II shows the details of the work executed.

District.	Town.	Population, 1881.	Population, 1891.
(13) NÍLGIRIS.	(31) OOTACAMUND.	12,335.	15,052.

58. *Water-supply.*—The plans and estimates, referred to in the report for 1890, were submitted to Government by the Council on 11th January 1891, who returned them to the Council on 28th April 1891, in its Proceedings, No. 634 M., for further information, regarding the Dodabetta reservoir, and as to the possibility of its failing in dry years to give a supply equal to the demand. Government, at the

same time, called upon the Council to report why the whole expense should not be met from the Municipal funds. A report, as to the capacity of the reservoir, was furnished to Government, through the Chairman, in June 1891, and, in G.O., dated 3rd August 1891, No. 1209 M., Miscellaneous, the plans and estimates were approved, and the work ordered to be carried out under the Sanitary Engineer's supervision. It was also decided (*vide* G.O., No. 1209 M., Miscellaneous, dated 3rd August 1891) that no grant from Provincial Funds could be given.

59. Specifications and schedules for the work were completed and tenders called for during November. These were received on the 15th December 1891 and the lowest tenders for the works were—

	RS.	A.	P.
Materials	29,437	11	8
Labour in laying and fixing	* 8,723	14	0
Total ...	38,161	9	8

The lowest tender for labour and laying pipes was considered too high and the Council was recommended to do the work departmentally. The materials have to be delivered within three months after acceptance of tender and the works ought to be begun in April or May next.

60. *Intercepting Sewer.*—A report and estimates for the improvement of this sewer were submitted by the Council in November 1891. The proposals were incomplete and were returned to the Council in view to the inclusion of several works which were considered necessary. The revised plans and estimates were received just before the end of the year.

61. *Kandal Drainage.*—This work is in the hands of the Municipal Engineer; the work was sanctioned by Government on 12th September 1889, No. 1163 M., Miscellaneous, at an estimated cost of Rs. 35,000, to which Government made a grant from Provincial funds of Rs. 17,500 (G.O., dated 21st April 1891, No. 262, F.D.). In appendix No. III will be found details of the work executed.

62. *Ootacamund Lake.*—Government having had, under consideration for some time, the question as to the advisability of filling up the upper and more shallow portion of the lake, after receiving reports on the matter from the Sanitary Commissioner and Sanitary Engineer Government decided to grant Rs. 40,000 for the work. The Sanitary Engineer was therefore directed (G.O., dated 6th July 1891, No. 1018 M.) to prepare a detailed report. After an inspection of the lake and a consultation with the Chairman, Mr. MacCartie, and the Municipal Engineer a detailed survey was made and three schemes were thereafter (30th September 1891) submitted. The first was for the complete filling in of the lake and was estimated at Rs. 88,600. The two other schemes were for partial filling, Rs. 53,400 and Rs. 57,000, respectively. The latter of the schemes proposed the removal of the Willow Bund, the former to leave an ornamental lake to be fed by a pure hill stream. No orders had been received at the end of December.

District.	Town.	Population, 1881.	Population, 1891.
(14) NORTH ARCOT.	(32) GUDIYÁTAM.	16,690.	18,745.

63. No progress has been made in this town with either drainage or water-supply. The Council, through the Chairman, on 27th October 1891, informed the Sanitary Engineer that, as a complete scheme of drainage would involve a heavy outlay, which the Municipality was not in a position to afford, and so far there has been an end of the matter which has not been pressed, as it was a more profitable use of time to attend to those who wanted assistance than in endeavouring to get unwilling Municipalities to execute works they would rather not undertake.

District.	Town.	Population, 1881.	Population, 1891.
(14) NORTH ARCOT.	(33) TIRUPATI.	13,232.	14,085.

64. An establishment for taking levels in view to draw up a drainage scheme was sanctioned on 5th January 1891. The scheme was prepared, completed and

* Reduced tender of Rs. 7,723-14-0 afterwards accepted.

sent to Government on 7th September 1891. The town has an area of one-fifth of a square mile. It is proposed to drain the whole town, 3,529 houses, by a series of open semi-oval shaped drains, which will be kept flushed from automatic flushing tanks. The sewage it is proposed to utilize on a farm to be formed adjacent to the town. The scheme is entirely a gravitation one. There will be 79,114 feet of drains. The cost of the scheme is estimated at Rs. 96,000 or Rs. 14,000 less than anticipated in the approximate estimate. Government, in its order, dated 23rd November 1891, No. 2070 M., Miscellaneous, sanctioned the scheme making a grant of Rs. 48,000 or one-half the cost and called on the Council to submit at once its financial arrangements for a loan for the other moiety.

District.	Town.	Population, 1881.	Population, 1891.
(14) NORTH ARCOT.	(34) VELLORE.	40,958.	44,950.

65. The plan, which had been prepared for the scheme of drainage of this town, which scheme is meantime delayed, afforded a great part of the information required for the preparation of a water-supply scheme. Other information regarding the Pálár river-bed and flood-levels, &c., were obtained by the surveyor attached to this office; and information as to the strata passed through was obtained from the Railway authorities, who are constructing a viaduct just above where the offtake will be. It is proposed to draw the water from the river by means of three wells, each 15 feet in diameter, sunk 24·25 feet below the bed of the river and 21·14 feet below low water level. The pipes, through which the water will be drawn to the engines, rest on small wells sunk 15·70 feet below lowest water level. It is proposed to place the wells 50 feet from the river bank. The engine-house is close to the river bank above flood-level. The necessary lift at the river to deliver water to the various levels in the town at a reasonable pressure will be 100 feet. There will be 60,760 feet of pipes, 55 fountains, 134 valves and 23 hydrants. The cost of the scheme is estimated at Rs. 3,13,000. The plans and estimates were forwarded to Government on 9th December 1891, but no orders had been passed at the end of the calendar year.

District.	Town.	Population, 1881.	Population, 1891.
(14) NORTH ARCOT.	(35) WALLÁJAPET.	10,387.	10,487.

66. This town has not made any progress during the year, nor has its administration been such as would permit of any advice in reference to drainage or water-supply being regarded. No communication was therefore made on the subject, but it is possible that the action of Government, in having withdrawn the privilege of election, may place the finances in a position to allow of money being available for sanitary works.

District.	Town.	Population, 1881.	Population, 1891.
(15) SALEM.	(36) SALEM.	59,631.	67,750.

67. Levels of this town, in view of water-supply and drainage schemes, were taken during the months of May, June and July 1890. It was thought that when these were completed, it would be possible to consider the various schemes of water-supply and design some scheme of drainage, but it was found that the plans already furnished by Mr. Target were incomplete and it was necessary to take levels of the whole line of works and lay out the proposed line of piping from the site of the proposed dam at Panamarathuputti to Salem.

68. It was soon recognised that no recommendation could be made to construct works which were to cost about 5 lakhs of rupees and which would yield only 5 gallons of water per head for a population of 70,000.

69. In April and June 1891, therefore, other visits were made to the town by the Sanitary Engineer and his Assistant and other schemes were considered and levels for some of these were taken. None of these, however, recommended themselves, and there can be little doubt that if Salem is to have a water-supply it must be obtained from the Panamarathuputti valley; this scheme was therefore considered in some detail, and plans and an approximate estimate were submitted to Government.

70. In the scheme it is proposed to supply 15 gallons per head of population by gravitation. The lower parts of Salem will be supplied wholly by that means, while a similar allowance to Ammapett is raised by pumping.

71. The works consist of—

(1) A small low dam across the Panamarathuputti river with a head sluice of a new supply-channel to the Panamarathuputti tank.

(2) The formation of a new and enlarged tank, which will include the present Panamarathuputti tank.

(3) Filter beds, &c., near the tank.

(4) A service reservoir at Gogni.

(5) Either a reservoir and pumps, &c., between Salem and Ammapett, or a reservoir above Ammapett (in the latter case the whole scheme would be a gravitation one, but more expensive than that described above).

72. Unfortunately, the source of supply being 11 miles distant from Salem and a main of 20 inches diameter being required, the scheme is an expensive one and the anticipated cost is about Rs. 9,98,000; even if Government contributed half the cost, the Municipality would have to expend about Rs. 37,140 yearly. The scheme was sent to Government on 30th September 1891, and a copy communicated to the Chairman on the 7th October 1891. On the 23rd October 1891 the Government, while referring the scheme to the Council for remarks, observed that the cost of the scheme appeared to be such as to make it doubtful whether the scheme could be carried out. It has not been found possible to do anything as regards working out a drainage scheme; the staff has been very fully occupied otherwise.

District.	Town.	Population, 1881.	Population, 1891.
(15) SALEM.	(37) TIRUPATÚR.	14,278.	16,499.

73. This town, as also the following, was inspected towards the end of December. This town is of small area, measuring little less than half a mile from north to south, and a little more than the same distance east to west.

74. The town site has good, natural drainage, as the streets have sharp gradients. There are few pucca drains, but the streets are provided with side channels in which there is little sewage to be found, showing that it soaks into the ground around and remains in the vicinity of the houses. The main drainage channel passes through the heart of the town; this channel is only partly revetted and there are houses on either side; during heavy rainfall the channel extends from the houses on one side to those on the other; during the dry weather the channel is a street. The channel, it is thought, can be done away with, and the drainage otherwise arranged for; all drainage can pass by gravitation to the fields below the town. The drainage can be most simply effected by means of open side drains for which the town is suited. There are about 15 miles of streets and the cost of the drainage is likely to be about Rs. 75,000.

75. *Water-supply.*—This is derived, to a large extent, from the Settikolum, a tank situated to the north of, and a little above, the town. The supply to this tank is dependent in the surplusing of Reid's tank. The surplus of this latter tank falls into the Varathavaray, an anicut on which diverts the water through a channel to the Settikolum. This tank, therefore, in years of short rainfall, fails to get a supply. The main improvement suggested is that a supply should be obtained from the sandy bed of the Varathavaray. The stream is only 50 to 70 feet wide, but its deep, sandy bed is saturated with water, and, even in this dry year, hundreds of acres are being irrigated by the channels cut from ponds in the bed; by extending the channel to the Settikolum to a point higher up the Varathavaray than the anicut above referred to it is likely a perennial supply can be obtained for the Settikolum. Other improvements suggested themselves in regard to the channel, &c. A town map must be prepared and levels taken before the cost of the improvements suggested can be arrived at. Financial considerations have hitherto been the cause of the Council's unwillingness to investigate schemes, which they see little chance of being able to carry out without considerable aid from Government. It is hoped that the Council will provide funds for the necessary investigation in the budget for 1892-93.

District.	Town.	Population, 1881.	Population, 1891.
(15) SALEM.	(38) VÁNIYAMBÁDI.	15,933.	15,939.

76. This town covers nearly three square miles. The town is in three portions, two of which lie between various branches of the river Pálár, the third between that river and the Madras Railway. The drainage, in all cases, flows towards the river. There are very few masonry drains. The streets and side ditches are badly graded, and there are many complaints as to very slow speed at which storm water flows away from the town. The streets are narrow and ill-arranged; before much improvement can be effected new streets ought to be opened, existing ones widened and numerous encroachments removed; this will be necessary if surface drains are to be provided. Each portion of the town will require its special scheme and, what the cost will be, it is at present not possible to estimate without a detailed survey and levels.

77. *Water-supply.*—The chief source of supply is the sandy bed of the Pálár, where pits or wells are dug in convenient places. These are provided by the Municipality who also guard the pits from pollution. The water in the pits is not stagnant as an overflow is provided on the down stream side. It is not likely that the majority of the population resorts to these wells, as two-thirds of the population are Muhammadan Lubbays. As there is little drainage from the town in the dry weather it is likely that the water-supply from the river is comparatively pure, but the reverse must be the case with wells in the town. The suggested improvement, as regards water-supply, is to pump the water from the river above the town and distribute it to cisterns or fountains.

78. A town map is required before any scheme can be worked out.

District.	Town.	Population, 1881.	Population, 1891.
(16) SOUTH ARCOT.	(39) CHIDAMBARAM.	19,837.	18,658.

79. In the beginning of the year 1891, the Council submitted an application for an allotment of Rs. 200 to aid the Executive Engineer of the South Arcot Division in devising a scheme for water-supply to this town. This was sanctioned in G.O., dated 13th March 1891, No. 358 M., Miscellaneous. There are three possible schemes (1) to pump water from the Coleroon or from wells sunk in the bed of the Khan Saib's canal, (2) to lead a channel from the Rajahvoikal, an irrigation channel from the Coleroon, and to have a service reservoir or storage tank near the town, and (3) to take water from the Vellar river above the Shatiatope anicut. The Sanitary Engineer met the Executive Engineer at Cuddalore in October 1891 and discussed the schemes which are still under investigation.

District.	Town.	Population, 1881.	Population, 1891.
(16) SOUTH ARCOT.	(40) CUDDALORE.	43,545.	47,337.

80. This town was inspected in October 1891. The present water-supply is inefficient consisting merely of an open channel 1½ miles long, which leads water from Lake Capper to a reservoir and filter close to the Railway Station on the outskirts of old town. From this an adjacent fountain is supplied. The distribution of the supply is therefore practically *nil* and the supply itself is very limited. It is usually possible, however, to keep water in the lake during the year. The lower portion of the lake is fed by a channel from the river Guddelum, the upper (divided from the lower a few years ago by a bund) is fed chiefly by rainfall from the adjoining lateritic plateau. A scheme for the improvement of the supply whereby other portion of the town besides old town will benefit is under design by Major Smart, R.E., who was lately Executive Engineer of the division, and who had begun the scheme before he left the station. This scheme it will probably not be possible to carry out for financial reasons, but its receipt is awaited before further action is taken.

81. The drainage of old town is in need of considerable improvement, and, as this portion of the town is of small area, it may conveniently be taken up at the same time as the water-supply. For distribution of water-supply and drainage purposes, levels of the town in detail are required and the Municipality has been advised to make an allotment for staff during the coming year 1892-93.

District.	Town.	Population, 1881.	Population, 1891.
(17) South Canara.	(41) Mangalore.	32,099.	38,607.

82. This is one of the few towns which the Sanitary Engineer himself has been unable to visit, though it was visited by his Assistant in 1890, and he has therefore nothing to remark in regard to it, nor has the Municipality expressed any desire to make any improvements in regard to either its drainage or its water-supply.

District.	Town.	Population, 1881.	Population, 1891.
(18) Tanjore.	(42) Kumbakónam.	50,098.	54,004.

83. Revised estimates, in connection with the drainage of this town, were forwarded to Government in March 1891 and sanctioned during the same month. The estimates (*vide* para. 84 *seq.*) were in detail for the main channel and approximate as regards the branch channels. It will be observed that only a very small portion of the cost will be for street drainage, viz., Rs. 31,493, the remainder being for channels to carry off the storm waters and floods caused by the rise of the Cauvery and Arasillar, between which rivers the town is situated. The tenders, which have been obtained for the work, show a slight advance over the estimates, but it has not been thought advisable to submit further estimates until the cost of land has been ascertained, that is, the only item which is likely to alter the estimated amounts with marked effect.

84. Tenders were called for for the main channel on 27th April 1891 and for the branch channels, &c., on 27th July 1891. The accepted tenders compare with the sanctioned estimates as follows :—

—	Sanctioned estimates less land.	Accepted tenders.		
		Tender amount.	Contingencies.	Total.
	Rs.	Rs.	Rs.	Rs.
Main Channel	37,229	30,487	3,856	34,343
Railway Bridge	3,606	3,606	...	3,606
North, Centre and South branch channels, road, &c.	14,980	17,892	1,747	19,639
Total ...	55,815	51,985	5,603	57,588
Street drainage	31,493	*Nil.*	*Nil.*	31,493
Land for channels, &c.	22,692	Compensation under settlement.		
Grand Total ...	1,10,000			

85. The excess to be met would thus be Rs. 1,773, but no estimates have as yet been framed for street drainage, and the excess may be met from the sum of Rs. 31,493. The question of street drainage is a very difficult one, because a scheme for the whole town has to be considered, and only a very small portion can be taken up at present. Levels of the town are nearly complete and portions of the town are now under survey in view to deciding what portion of the town can be more immediately started upon.

86. Work was begun on the main channel on 19th June 1891 and on the branch channels on 12th October 1891, but the progress made is comparatively small as, immediately after the contracts were settled, the rivers came down in flood and have practically remained so ever since rendering excavation below 3 feet deep almost impossible. The rainfall in Kumbakónam has also been abnormal; no less than 7·13 inches of rain fell in one week in December. It is hoped that good progress with the work may be made between January and May 1892 and that the work will be complete before the next north-east monsoon sends down the rivers in flood. The amount of work which has been done, and a statement of expenditure up to the end of the year as far as known, will be found in appendix No. IV.

District.	Town.	Population, 1881.	Population, 1891.
(18) Tanjore.	(43) Mannárgudi.	19,409.	20,420.

87. It has not been found possible to visit this town; it is one of the few towns not yet visited by either the Sanitary Engineer or his Assistant.

District.	Town.	Population, 1881.	Population, 1891.
(18) Tanjore.	(44) Mayavaram.	23,044.	23,742.

88. The same remarks apply to this town as have been written in reference to Mannárgudi.

District.	Town.	Population, 1881.	Population, 1891.
(18) Tanjore.	(45) Negapatam.	53,776.	58,848.

89. Government, in its order, dated 16th February 1891, No. 192 M., on the report made by the Sanitary Engineer in 1890, ordered the discontinuance of the Artesian boring (as not offering a chance of success) and, at the same time, ordered the preparation of a drainage scheme. It was not found possible to put this scheme in hand until 23rd July 1891, and its design, owing to the very small gradients in the town and the narrowness of the streets, has been a matter of some difficulty. Underground-pipe drainage was finally decided on, but the arrangements do not proceed within the houses, it being proposed to receive the house-sewage in traps placed under the exit of the existing house drains. The sewage will be carried to a pumping station, in which about 18 horse-power of machinery will be located. Here the sewage will be raised, passed over the river and on to the municipal garden called Hathaway's Park, where rubbish is now shot, and here it will be used for irrigation. The cost of the scheme is expected to amount to about Rs. 4,00,000. The scheme had not been sent to Government at the end of the year.

90. As the design proposed has not been adopted in this Presidency, it is probable some discussion may arise before it is finally approved of.

91. Pending the completion of this scheme, the Sanitary Engineer has not further considered what steps should be taken in regard to the water-supply of the town.

District.	Town.	Population, 1881.	Population, 1891.
(18) Tanjore.	(46) Tanjore.	54,745.	54,055.

92. It was not until February 1890 that it was found possible to depute a surveyor to take the levels necessary to allow of the preparation of a complete scheme for the water-supply of this town. This work was completed at the end of March. As under the proposed scheme it was intended to draw water from the Vennár river bed, several wells were sunk at the point of offtake and samples of the water having been forwarded to the Chemical Examiner, the source of supply was found to be satisfactory. The scheme itself was designed and was submitted to Government on 2nd September 1891. It comprised the construction (1) of a large filter bed placed on the kankur rock, which lies some 6 or 7 feet below the sandy bed of the Vennár, (2) of a pumping station with the necessary machinery for direct pumping, and (3) of the usual distribution works. The scheme was estimated to cost Rs. 4,29,000. The Vennár lies so far (1½ miles) from the town and so far below it that the lift has to be 107 feet; and pumping charges are necessarily very heavy and the scheme is therefore an expensive one to work. The annual expenditure, for a full supply of 15 gallons per head including interest and sinking fund on half the capital cost, will amount to Rs. 33,552. The scheme was, on 8th September 1891, forwarded by Government to the Chief Engineer, Public Works Department, for remarks. The Chief Engineer approved of the scheme which was sanctioned by Government in its order, dated 5th November 1891, No. 1938 M. Government also in its order, dated 28th September 1891, No. 1600 M., granted a moiety of the cost, viz., Rs. 2,14,500. The Municipal Council has not yet made arrangements to finance the scheme.

District.	Town.	Population, 1881.	Population, 1891.
(19) TINNEVELLY.	(47) PALAMCOTTAH.	17,964.	18,683.

93. This town was visited in October 1891. Its water-supply is anything but satisfactory. Its chief supply is a channel from the Támbraparni which, after passing through the outskirts of one-half the town, supplies a tank, whence the people draw their drinking water. The water must be very impure, as the channel is used for bathing, drinking and other purposes. Time has not allowed of more than an inspection, and no scheme has yet been under consideration for the improvement of the supply which is, however, urgent. It may be possible to undertake a scheme in 1891-92, but the amount of work in hand renders that very doubtful.

District.	Town.	Population, 1881.	Population, 1891.
(19) TINNEVELLY.	(48) TINNEVELLY.	23,221.	24,780.

94. This town was visited in October 1891, and a surveyor was, at the same time, deputed to take levels in regard to Mr. Russel's proposed scheme of water-supply from the Ottenkolám and for distribution and for drainage purposes. The results of the investigation so far have not been favourable to Mr. Russel's proposed scheme, but it may probably have to be recommended in place of a better but more expensive one which the Municipality cannot afford. To supply direct from the Támbraparni river is undoubtedly the proper plan; it is only three-fourths of a mile distant, but cost of raising the water is probably more than the town can afford. A preliminary report on the subject was submitted in November 1891.

District.	Town.	Population, 1881.	Population, 1891.
(19) TINNEVELLY.	(49) TUTICORIN.	16,281.	25,221.

95. This town, one of the most important ports in the Presidency, has a very inefficient water-supply. The town was visited in October 1891. The source of supply is the Korampallam tank, which is fed by the Uppaur Oddai and Támbraparni. From this tank a supply channel four miles long carries the water, during six months and of late it is believed nine months of the year, to a very small reservoir on the outskirts of the town. The channel is so defective (it is an earthen one) that only 16 per cent. of the water let out of the tank is delivered at the town, but as the water is gauged at the town, the Municipality does not suffer loss on this account. For the other six or three months of the year, the water in the tank is below the channel level and the town has to depend on wells in which the water is brackish, salt and otherwise impure. When water is flowing to the town after it leaves the reservoir, it is conducted by underground conduits to wells in the town from which wells the water has to be drawn by buckets or chatties and rope. As only one of these wells is floored, it is only from this well that good water can at any time be had, the other wells containing a mixture of salt and fresh water, the crowd at the former well is usually very great and people struggle for places.

96. The remedies suggested are (1) storage of a three months' supply, (2) substitution of stoneware pipes for the supply channel, and (3) distribution by pipes either by means of machinery and under pressure or into iron water-tight wells with pumps over them by which latter plan the supply would be delivered pure, but without pressure and at much less expense.

97. A detail scheme requires levels to be taken and it was suggested that the Municipality should arrange for a staff for the work in 1892.

District.	Town.	Population, 1881.	Population, 1891.
(20) TRICHINOPOLY.	(50) SRÍRANGAM.	19,773.	21,658.

98. The Chairman of the Council of Srírangam reported under date the 9th April 1891 that, for certain reasons, many of which are not valid, and on account of objections raised in regard to engineering difficulties with which the Council need not have concerned itself, it thought that, "it may not be possible to realise the scheme," if pipe drainage were proposed. There is no reason urged such as

the non-necessity for the drainage, and, so long as that reason cannot be urged, in the opinion of the Sanitary Engineer, the drainage ought to be ordered to be carried out.

99. As to the water-supply the reasons given against the adoption of a scheme are more valid, as it is said that the very close proximity of the river Cauvery and Coleroon renders any improvement not one of urgent necessity.

100. Government has, in G.O., dated 30th April 1891, No. 651 M., Miscellaneous, simply recorded the reports pending a further report promised as to analyses of samples of well waters. Since that date, nothing has been heard on the subject; it is presumed Government will shortly deal with the question.

District.	Town.	Population, 1881.	Population, 1891.
(20) TRICHINOPOLY.	(51) TRICHINOPOLY.	84,449.	88,715.

101. In April 1891 a full report was made and submitted to Government regarding Mr. Oldham's scheme for Trichinopoly. It was pointed out that while the scheme was very much under-estimated, it was designed to supply only 10 gallons per head; this was held to be insufficient as, when a supply is not ample for all purposes, people are wont to resort to other and probably polluted sources; and hence there is very little immunity gained from the adoption of a limited supply. It was further pointed out that the proportion payable by the three parties interested, viz., the Town, the Railway Company and the Military Department had been calculated on an incorrect basis.

102. A new scheme was submitted, a direct pumping scheme, in which the supply was to be 15 gallons per head; this was estimated to cost Rs. 4,56,000 against Mr. Oldham's estimate (revised) of Rs. 4,43,000. This scheme was sanctioned by Government who promised a contribution of one-half of the amount, viz., Rs. 1,79,000 payable by the Municipality and directed the papers to be forwarded to the Railway and Military authorities requesting that their shares might be paid. The papers were also forwarded to the Municipality in order that the Council might consider how an extra annual expenditure of Rs. 3,000 could be met. This, it is understood, the Municipality has as yet been unable at present to do.

103. Meantime, however, a reference was made by the Judicial Department as to whether a supply to the Jail could be included in the scheme. Levels were taken in view of a report on this subject and it was found that the Jail could be supplied. A revised estimate was forwarded showing how the various contributions payable were affected; an abstract of this new estimate is shown below, No. 2, as also the original abstract No. 1. At the beginning of November, a reference was made by the Consulting Engineer for Railways, who pointed out that, as the original scheme stood, the cost was greater than that at which the Railway could obtain a separate supply and that, as the object of co-operation was to curtail expenditure, he could not recommend the Railway to remain partner in the scheme. The chief cause of the high anticipated expenditure to the Railway Company under the original scheme was the fact of its being required to pay for lifting all the town's water an additional 40 feet in order that water might be delivered to the Company 23 feet above rail level at the junction station. The Consulting Engineer suggested that water might be delivered to the Company at the level at which the town required its own supply.

104. But the fact that both the Military lines and the Jail would thus lose their supply unless the Railway Company supplied them from their new secondary pumping station, rendered it advisable to submit fresh proposals, which were to the effect that the Municipality should have a second or subsidiary pumping station, and that the three above mentioned bodies should have the extra pressure required applied there, and the water would then still be delivered to the Railway Company at the originally proposed level of 23 feet above their rails. The cost of the scheme then stood as in abstract No. 3 and the pumping charges under the three schemes are as shown in the following table:—

Annual pumping charges.

Number of scheme.	Town.	Railway.	Sepoy lines.	Jail.	Total.
	RS.	RS.	RS.	RS.	RS.
No. 1	21,500	9,000	4,000	*Nil.*	34,500
No. 2	21,500	8,542	3,587	1,281	34,910
No. 3	23,491	3,893	1,327	584	29,295

Abstract No. 1 (*Original scheme*).

—	Town.	Railway.	Sepoy lines.
	RS.	RS.	RS.
Infiltration works	23,253	2,583	1,084
Engine and boiler house	11,046	4,622	1,942
Engines, boilers and pumps	67,256	28,692	12,052
Pipes	1,79,327	20,900	8,778
Valves and fountains	15,337	1,787	750
Laying pipes	21,944	2,557	1,073
	3,18,163	61,141	25,679
Contingencies including establishment at 12½ per cent.	39,837	7,859	3,321
	3,58,000	69,000	29,000
Total ...		4,56,000	

Abstract No. 2 (*Original scheme but with jail included*).

—	Town.	Railway.	Sepoy lines.	Jail.
	RS.	RS.	RS.	RS.
Infiltration works	22,922	2,547	1,069	352
Engine and boiler house ...	10,927	4,334	1,817	582
Engines, boilers and pumps ...	67,031	26,550	11,150	3,569
Pipes	1,77,585	20,720	8,700	3,000
Valves and fountains	15,185	1,769	740	180
Laying pipes	21,724	2,532	1,063	255
	3,15,374	58,452	24,539	6,618
Contingencies including establishment at 12½ per cent. ...	39,626	7,368	3,091	832
	3,55,000	65,820	27,630	7,550
Total		4,56,000		

Abstract No. 3 (*Scheme finally proposed*).

—	Town.	Railway.	Sepoy lines.	Jail.
	RS.	RS.	RS.	RS.
Infiltration works	22,922	2,547	1,069	352
Engine and boiler house ... M	10,927	4,334	1,817	582
Do. ... S	2,675	2,445	513	987
Engines and pumps ... ... M	64,970	7,150	3,000	4,060
Do. ... S	2,830	4,390	930	650
Pipes	1,77,585	20,720	8,700	3,000
Additional cost	5,078	...	...	...
Valves and fountains	15,185	1,769	740	180
Laying pipes	21,724	2,532	1,063	255
Additional cost	424	...	...	...
	3,25,720	45,887	17,832	5,446
Contingencies including establishment at 12½ per cent.* ...	40,715	5,736	2,229	680
	3,66,435	51,623	20,061	6,126
Total ..		4,44,245		

* This is without the piping which will be solely for the use of the jail.

105. It is not yet known whether the Consulting Engineer will now recommend the Railway Company to still co-operate in the scheme as amended, but Government, in its order, dated 30th November 1891, No 2113 M., considered the arrangements proposed as satisfactory and increased the original grant to the Municipality to Rs. 2,22,000; the replies of the Miltary and Railway Departments are now awaited. The municipal finances can be arranged to meet the cost of the municipal share if 10 gallons per head of water only is at first provided (*vide* this office letter to Government, dated 17th December 1891, No. 1997).

District.	Town.	Population, 1881.	Population, 1891.
(21) VIZAGAPATAM.	(52) ANAKÁPALLE.	13,341.	17,016.

106. In June 1891 a copy of resolution of the Council, dated 20th October 1890, was received. This was to the following effect, viz., that no action was necessary in respect to its water-supply, as the Municipality is well provided with good water from some wells and a tank and that as regards drainage efforts would be made to have a proper system of drainage when funds are available, small improvements being made year by year. Government, however, in its order, dated 21st September 1891, No. 1534 M., on the annual administration report, considered that an improvement in the drainage and water-supply was a necessity and that the Sanitary Engineer should take necessary action. It is regretted that press of work has not allowed this order to be acted upon as yet.

District.	Town.	Population, 1881.	Population, 1891.
(21) VIZAGAPATAM.	(53) BIMLIPATAM.	8,582.	9,827.

107. It has not been found possible to arrange for an inspection of this town, and there is therefore nothing to add to the remarks made in the report for 1890.

District.	Town.	Population, 1881.	Population, 1891.
(21) VIZAGAPATAM.	(54) VIZAGAPATAM.	30,291.	33,723.

108. The town was visited in January 1891, and the sites of the proposed water-supply works were inspected. The most feasible scheme seemed to be either the construction of a dam in the Moodasalavoo Valley, whence a pipe would be taken to the town and the water supplied by gravitation or the construction of dams at "The Gorge," where a certain amount of water might be stored and thence pumped into the town whereby some three miles of pipes required under the former scheme would be saved and smaller pipes might possibly be sufficient.

109. A report was submitted to Government on 30th January 1891, and it was suggested that certain money, which was to be obtained as compensation for land sold to the East Coast Railway Company, might be applied towards investigating the schemes and preparing designs. Government, in its order, dated 15th June 1891, No. 912 M., Miscellaneous, directed the Council to reserve the money referred to for the purpose and the Sanitary Engineer requested that an allotment of Rs. 2,000 might be made in the current year (1891-1892). This was done. It was not until 15th September 1891 that Mr. Morrel, a surveyor, was obtained who was sufficiently qualified to undertake the investigation and surveys; the Moodasalavoo Valley being Zamindari land had not been surveyed by the Revenue Survey Department and no plans were available except some rough inaccurate sketches. The investigations will take a considerable time and are still in progress.

110. The drainage of the town was also inspected and certain suggestions were made as to improvements which might be undertaken at small expense, especially as regards the drains which flow into or towards the swamp; it is not known whether the Municipality intends taking any steps in this matter or not.

District.	Town.	Population, 1881.	Population, 1891.
(21) VIZAGAPATAM.	(55) VIZIANAGRUM.	22,577.	29,364.

111. This town has not yet been visited, but the Maharajah of Vizianagrum has provided funds for the preparation of a scheme for an improved water-supply, and it is proposed to use the grant, Rs. 20,000, or a large portion of it in getting out an

Engineer from England and having a Consulting Engineer in England. The work could have been done in the usual manner, and the Rs. 20,000 spent to much better advantage if the Maharajah wished to spend that amount for the benefit of the town. The cost of getting up a scheme for a town of this size does not ordinarily exceed Rs. 1,000.

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112. A very large proportion of the time of the staff has been taken up in examining and correcting and revising plans and estimates sent to the Sanitary Board for scrutiny and approval; this work is growing to rather an alarming extent compared with the possibilities of the amount of work which can be extracted from the office staff in addition to that required for the design and preparation of plans and estimates for new schemes of water-supply and drainage, and, yet from 13 Municipalities and 70 Taluk Boards, no reference whatever was received.

113. The following table shows, in detail, the number of plans and estimates and their amount scrutinized and the number of plans furnished to Municipal and Local Boards:—

Municipalities and Taluk and District Boards.	Number of estimates received.	Amount.	Number of plans received for scrutiny.	Number of new plans furnished.
Municipalities.		RS.		
Ádóni	9	24,074	...	...
Anakápalle ...	2	720	2	1
Anantapur ...	1	5,548	1	1
Bellary	13	89,266	3	1
Bezváda ...	7	5,436	7	3
Conjeeveram ...	3	8,101	3	1
Cocanada	3	1,772	3	...
Calicut	1	500	1	1
Cannanore	2	1,070	2	1
Cochin	2	1,081	2	1
Coonoor	3	964	3	1
Chidambaram ...	1	270	1	3
Cuddalore	4	3,523	4	1
Dindigul	1	500	1	...
Erode	1	310	1	...
Guntúr	1	6,200	1	1
Madura	3	2,275	2	2
Mannárgudi ...	1	400	1	...
Máyavaram ...	1	2,900	1	...
Nellore	5	7,890	5	3
Negapatam ...	1	230	1	...
Ongole	3	2,500	3	1
Ootacamund ...	3	2,320	3	1
Palni	1	232	1	...
Palamcottah ...	1	520	1	...
Rajahmúndry ...	1	...	1	...
Salem	5	2,176	5	2
Srírangam	1	365	1	1
Tellicherry	1	2,720	1	1
Tirupatúr	2	1,433	2	2
Tanjore	11	4,070	9	4
Trichinopoly ...	2	1,270	1	3

Municipalities and Taluk and District Boards.	Number of estimates received.	Amount.	Number of plans received for scrutiny.	Number of new plans furnished.
Taluk Boards.				
Cocanada	1	250	...	...
Chittoor	1	275	1	...
Calicut	1	251	1	1
Madura	3	1,404	3	...
Madanapalle and Kadiri.	3	6,300	3	1
Námakal	2	4,900	2	...
Pyápali	1	415	...	...
Pálghat	4	1,853	4	2
Rápallo	3	960	...	...
Tirupatúr	3	1,120	...	...
Trivellore	1	378	1	...
Tinnevelly	3	2,645	3	1
Trichinopoly ...	1	420	...	...
Tindivanam ...	10	6,205	...	1
Vellore ...	2	435	2	3
Vriddháchallam ...	4	1,276	4	...
District Boards.				
Cuddapah	1	6,700	1	1
Kistna	1	800	...	...
Malabar	1	250	1	...
Nellore	8	5,095	3	1
North Arcot ...	2	725	1	1
Nílgiris	1	10,000	3	2
South Arcot ...	1	2,000	1	...
Salem	2	4,000	2	...

114. In some cases it was found possible to effect reduction by alteration or improvement in design, notably in the case of a market for Nellore, where a

reduction of Rs. 1,598 in cost was effected without reducing the size of the buildings. In the majority of the cases, however, the estimates had to be increased either on account of faulty designs or omissions from the estimate, mostly for the latter reason.

115. The new designs furnished were as follows *:—

Municipalities or Boards.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous plans.
Municipalities.					
Anakápalle	...	...	...	...	1
Anantapur	1	...	1	...	...
Bellary	...	...	1	...	...
Bezváda	...	...	1	1	1
Calicut	...	...	1	...	...
Cannanore	...	...	1	...	...
Chidambaram ...	...	...	3	...	...
Cochin	...	...	...	1	1
Conjeeveram ...	...	...	...	1	...
Coonoor	...	...	2	...	...
Cuddalore	...	1	...	...	...
Guntúr	...	...	...	1	...
Madura	...	...	2	...	...
Mangalore	...	...	1	...	...
Nellore	...	1	1	1	...
Ongole	...	1	...	...	...
Ootacamund ...	...	...	1	...	...
Salem	...	1	1	...	...
Srírangam	...	...	1	...	...
Tanjore	...	1	...	...	4
Tellicherry	1	...	...	...	1
Tirupatúr	...	1	1	...	...
Trichinopoly ...	...	...	3	...	...

Municipalities or Boards.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous plans.
Taluk Boards.					
Calicut	...	...	1	...	...
Madanapalle and Kadiri.	...	...	...	...	1
Pálghat	...	...	2	...	...
Tinnevelly	...	...	...	...	1
Tindivanam	...	...	...	...	1
Vellore	...	...	3	...	...
District Boards.					
Cuddapah	...	...	...	...	1
Nellore	...	...	...	1	...
North Arcot ...	...	...	...	...	1
Nílgiris	...	...	...	...	2

116. In addition to the work already detailed, the following special work was executed:—

REPORT ON THE EFFECT THE EXISTENCE OF THE DONGALCHERUVU HAS ON THE HEALTH OF CUDDAPAH.

117. This question was very carefully argued in a report submitted to Government in the Revenue Department on 17th July 1891. It had been thought that the presence of this tank, which lies slightly above the town, was a factor in increasing the number of fever cases in the town and that the presence of the resulting wet cultivation was also a factor tending to the same result. The arguments adduced in the report tended to show that wet cultivation *per se* was not prejudicious to health and that the Dongalcheruvu did not tend appreciably to raise the level of the sub-soil water, but that the town of Cuddapah was situated in a geological basin to which flowed the rainfall of an area immensely larger in extent than the area of the town itself and that this fact caused sudden and great increase in the level of the sub-soil water; while other circumstances such as the anicut across the river Booga adjoining the town and the filling up of the river bed, all tended to present a free outflow at the time when such was most required. A deep drainage channel to the east of the town was recommended which would tend to reduce the sub-soil water level and keep the manured irrigation water away from inhabited houses, the removal of the anicut and deepening of the bed of Booga were works also thought necessary; but it did not seem that even these or similar works would ever make Cuddapah a healthy town or free it from the fever for which it is notorious. Government agreed in the report so far that it ordered the resumption of irrigation under the tank and the preparation of estimates for the works noted above as recommended.

* This table includes the number of plans furnished with the proceedings of the Sanitary Board and also plans sent separately; the previous table shows only the number of plans sent with the proceedings.

COIMBATORE JAIL WATER-SUPPLY.

118. The water-supply of this jail is derived from wells which pass through the kunkur and gneissic rocks which underlie Coimbatore. The water is of the following composition and has a tendency to create bowel-complaints :—

Coimbatore Jail Water Analysis.

—		(A.) District jail well.	(B.) Main gate well.	(C.) Jail garden well.
Total solids	Grms. per litre	1·610	1·790	1·580
Volatile solids	Do. do.	0·320	0·390	0·320
Chlorine	Do. do.	0·398	0·390	0·355
Total hardness	Clark's scale.	49°.000	49°.000	49°.000
Permanent hardness	Do. ...	15°.750	26°.250	23°.750
Free ammonia	Mlgrms. per litre	0·160	0·080	0·160
Albumenoid ammonia	Do. do.	0·120	0·040	0·080
Nitric acid	Do. do. (as ammonia)	11·250	11·250	15·000
Apparent quality of the water as inferred from the results obtained on examination.		Bad.	Bad.	Bad.
Lime (Cao)	Grms. per litre	0·320	0·400	0·320
Sulphuric anhydride (So_3)	Do. do.	0·144	0·165	0·192
Magnesia (Mgo.)	Do. do.	0·158	0·137	0·144
Hardness due to lime		38°.500	43°.750	38°.500
Hardness probably due to magnesia		10°.500	5°.250	10°.500

119. It was thought that probably some of the water was derived from the upper kunkur strata, but a test, during the dry weather, showed that at any rate at that time it was coming from the lower gneissic rocks. The wells, however, do not penetrate far into the rock, and thus it may be presumed that the composition of the water must be greatly due to its passage, through the upper strata. Were water drawn from some 50 feet lower down in the gneissic rock and the upper water excluded, some improvement in the supply might be expected. After a visit to, and experiments at, the jail and regarding the results of the water analysed, this is what was recommended to be done. Government, in its order, dated 16th November 1891, No. 2355, Judicial Department, approved of the Sanitary Engineer's proposals to deepen the "Main gate well" by 50 feet and requested an estimate to be submitted and that pending the completion of this work the scheme for forming a collecting area should be deferred. Estimates were submitted in December.

TRICHINOPOLY JAIL WATER-SUPPLY.

120. This report has already been referred to in describing the action taken in regard to the Trichinopoly supply generally.

NÍLGIRI DISTRICT, GÚDALÚR WATER-SUPPLY.

121. A scheme, estimated to cost Rs. 10,000, was in October 1891, submitted for approval. The scheme embraced proposals for supplying upper Gúdalúr with 15 gallons per head and lower Gúdalúr with 10 gallons per head. The scheme appeared deficient in several particulars and required amendment in others. Certain new designs alterations and estimates were furnished. The lower of these estimates amounted to Rs. 13,915 and the higher to Rs. 15,112.

PROPOSED IMPROVEMENT OF THE RIVER COOUM.

122. In the report for 1890 it was stated that a scheme for the above was sent to Government just before the close of the year 1890. Government, after consideration of the scheme, referred it to the Chief Engineer, Public Works Department, for remarks, who, in his memoranda, dated the 11th March and 2nd April 1891,

respectively, returned the papers with his views which were briefly, that the proposed canal was preferable to the proposed sea groin, but that the water should pass into the Cooum by the canal and out by the bar. This was referred to the undersigned, who pointed out that he was of opinion that while the influx of sea water by the canal would be much less than by the bar with a groin, it was very doubtful if the water would pass out by the bar at all, but that if the volume of water admitted did keep the bar open by its passage out, then there was no use for the canal for the water would pass in by the bar without the construction of a groin. Certain other alterations were suggested by Colonel Pennycuick, R.E., some of which the undersigned was able to accept as improvements on his scheme, while as to others he found himself unable to do so. A further reference was made to the Chief Engineer and his final reply was received by Government in August 1891. Government, however, having arranged for an expert to visit Madras for six months to advise as to the drainage and water-supply of the City deferred settling the question and referred the scheme to Mr. Cousins (the expert nominated by the Secretary of State) for opinion, and here the matter rests at present.

123. The above is a very brief account of what has passed in reference to the scheme, but the work done in connection therewith in revising plans and estimates and preparing reports took up no small part of the time of the office staff during the year.

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124. This department is becoming a department of advice and assistance to Councils and Boards in regard to many matters which are somewhat out of its province, but every effort has been made to assist those who have asked for information or aid which could be given. Thus the department has been made the medium for enquiries as to the cost of machinery, tube wells, fire engines, &c., and for the purchase of some of these articles. It has been several times asked to advise as to the pay of overseers and, in some cases, to appoint them, when the best available men were secured and sent; this is perhaps a system which might be usefully extended and were the majority of Municipalities and Boards to entrust the selection of their men to this department, it might, by keeping a register of the names of qualified men and strictly examining their certificates, be possible to improve the *materiel* of the municipal and local service to some extent; that such improvement is required admits of little doubt.

125. In February last a scheme was submitted to Government whereby a check, it was hoped, would be secured over the estimation of minor works and a check in the execution of all works within Municipalities who, except in one instance, have no Engineer of their own. The collecting of the opinion of the various officials concerned has no doubt delayed any decision in the matter.

126. The adoption of the scheme would be but a small beginning to what is much wanted, an altogether improved service for Local and Municipal works. What at present exists is a series of separate and disjointed staffs all over the country, the men in one district having nothing to do with those in another, the officials of a Municipality nothing to do with the officials (professional officers are referred to) of the district in which they are. This result is no doubt due to the policy adopted, after due consideration, by Government, but one cannot help looking forward to the day when there will be a staff for Local and Municipal service professionally under one head similar to the Public Works Department, and when the Engineer of a district will be the Engineer of all the Local and Municipal works in his district and he himself part and parcel of a large body in which he may look forward to some promotion instead of working as at present without hope of either promotion or reward. It cannot be said that the present condition of things is such as will ensure men giving their best energies to the work.

127. The foregoing report has given, in somewhat complete detail, the work done by the department and Government will perhaps agree with the Sanitary

Engineer in thinking that it is not due to a want of material to work on that so few positive results have followed and that the regrets expressed at the beginning of this report are not other than may be naturally felt after the expenditure of time, thought and labour on what, unfortunately yet, in all but few instances, are still paper schemes.

128. The time between the date of the order of Government after receiving the scheme, and the date on which the scheme is sanctioned, or at which the completion of financial arrangements is communicated, extends over many months, and hence one reason for want of progress. During this year it is believed that there will be no reduction in the number of new schemes proposed, and there is every reason to believe that some tangible results will have followed in regard to those schemes already sent forward. The work of the staff cannot but be brought to notice, the staff has worked well and assiduously and much credit is due and especially to Mr. Hormusji Nowroji, B.C.E., the Assistant Engineer, for the amount of work turned out. The Sanitary Engineer, however, is afraid further additions will soon have to be asked for.

129. Work now comes in from all sides and this year few complaints can be made, except in the instances already quoted as to want of apathy or interest of Municipal Councils in endeavouring to push on the preparation of schemes of drainage and water-supply. Recent orders of Government will give a further impetus to the work as allowing allotments for surveys, &c., to be more easily made and obtained.

130. The greatest barrier to progress is the financial one with which it is presumed that the Legislature will deal at an early date as well as make those further necessary amendments in the Municipal Act, which were referred to in the report for 1890.

J. A. JONES,
Sanitary Engineer to Government.

OFFICE OF SANITARY ENGINEER TO GOVT.,
Fort St. George, 8th January 1892.

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APPENDIX.

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APPENDIX I.

Statement showing progress made in respect of water-supply and drainage of District Municipalities during 1891.

District.	Serial number of Municipality.	Town.	Date of inspection of town.	Date of preliminary report. (1) Water-supply (2) Drainage.	Whether Council has sanctioned funds for survey and levels.	Water-supply. Under survey or not.	Water-supply. Estimate under preparation or not.	Water-supply. Date on which scheme was forwarded.	Water-supply. Amount of estimate sent in or anticipated cost.	Drainage. Under survey or not.	Drainage. Estimate under preparation or not.	Drainage. Date on which scheme was forwarded.	Drainage. Amount of estimate sent in or anticipated cost.	Remarks.
									rs.				rs.	
1. Anantapur ...	1	Anantapur	21-12-91, S.E.	.....	...	...	...	...	...	...	...	...	...	
2. Bellary ...	2	Ádóni	1890	(1) 9-8-90 ...	...	...	Completed	15-10-90	1,53,742	...	...	...	...	Water-supply scheme under consideration of Government since October 1890, Government called on Council for a drainage scheme.
	3	Bellary	28-2-91, 1 and 2-3-91, 10 to 13-12-91 and 19-12-91, S.E. 30-9-91 to 4-10-91 and 28-11-91 to 1-12-91, Asst. S.E.	(1) 15-10-90 ...	Yes ...	Yes ...	Not ...	...	...	...	...	...	...	Scheme will be submitted in 1892.
3. Chingleput ...	4	Conjeeveram ...	28 to 30-8-91, Asst. S.E.	(1) 19-12-90 ...	Yes ...	Completed	Not ...	...	Approximate. 2,00,000	...	...	...	...	Scheme under preparation.
4. Coimbatore ...	5	Coimbatore ..	31-12-90 and 1 and 2-1-91 and 17 and 18-12-91, Asst. S.E.	(1) and (2) 20-11-90.	Yes ...	Completed	Not ...	...	...	Completed.	...	...	...	Plans under preparation.
	6	Erode	16 to 18-8-91, S.E. 16 and 19-12-91, Asst. S.E.	.....	Yes ...	Not ..	Not ...	...	...	Completed.	...	...	...	
	7	Karúr	21 to 25-6-91 and 6 to 10-8-91, Asst. S.E.	.....	Yes ...	Not ...	Not ...	...	...	Completed.	...	...	...	
5. Cuddapah ...	8	Cuddapah	5 to 9-7-91 and 14 and 15-11-91, S.E. 26 and 27-11-91 and 2-12-91, Asst. S.E.	(1) 3-9-90 and (2) 17-9-91.	Yes ...	Completed	Completed	9-9-91	19,454	Completed.	...	...	...	Estimate for extension of water-supply sanctioned on 4-11-91.
6. Ganjam ...	9	Berhampore ...	17 and 18-1-91, S.E ...	(1) and (2) 20-2-91	...	Completed	Prepared by Executive Engineer	...	* 33,480	...	...	...	...	* Inclusive of Rs. 23,430 for stoneware pipes for distribution purposes.
	10	Chicacole	.....	.....	Yes ...	...	Not ...	...	...	Will be in 1892.	...	...	...	Appointment of surveyor deferred until inspection of the town. Council was asked to repeat the allotment in the budget for 1892-93.
	11	Párlakimedi ...	.....	.....	...	...	...	...	...	...	...	...	...	This town not yet visited.
7. Godávari ...	12	Cocanada	28 to 30-1-91, S.E. ...	(1) and (2) 31-1-91 (1) 2-2-91.	Yes ...	Completed	...	...	...	...	...	...	...	Sections partly plotted.
	13	Ellore	6-2-91, S.E.	(1) and (2) 7-2-91.	Yes ...	...	...	...	...	...	...	...	...	Surveyor for drainage not yet obtainable.
	14	Rajahmundry ...	2 and 3-2-91, S.E. ...	(1) 9-2-91 ...	Yes ...	Will be in 1892.	...	...	...	...	...	...	...	Do. for water-supply not yet obtainable.
8. Kistna ...	15	Bezváda	13 to 15-2-91, S.E. ...	.....	Yes ...	...	...	...	...	Completed.	...	...	...	Joint water-supply scheme with Railway under consideration.
	16	Guntúr	10 and 11-2-91, S.E. ...	(1) and (2) 15-2-91.	Yes ...	Yes, by Local Fund Engineer	...	...	...	Yes, by Council.	...	...	...	Report of S.E. referred to Council by Government for a detailed report on water-supply and drainage (17-3-91).
	17	Masulipatam	18 and 19-2-91, S.E. ...	(1) 25-2-91 ...	...	...	...	...	...	...	...	...	...	Water-supply scheme under consideration. Delay is caused here owing to non-supply of artesian well apparatus.
9. Kurnool ...	18	Kurnool	24 to 26-2-91, S.E. ...	(1) 10-4-91 ...	...	Completed by P.W.D.	...	...	Approximate.. 81,900	...	...	...	...	
10. Madura ...	19	Dindigul	22, 25 and 26-10-91, S.E.	(1) 15-9-90 ...	...	Completed	Prepared.	12-12-90	71,700	...	...	...	...	Water-supply scheme sanctioned on 3-8-91. Council's proposals for financing it are awaited.
	20	Madura	18 and 19-10-91, S.E.	(1) 28-4-90 ...	...	Completed	Prepared.	11-7-91	4,19,575	...	...	...	...	Scheme sanctioned and funds provided; revised estimate under a reference to P.W.D.
	21	Palni	23 and 24-10-91, S.E.	(1) and (2) 27-10-91	Yes ...	Will be in 1892.	...	...	...	Will be in 1892.	...	...	...	No orders received from Government on preliminary report.
	22	Periyakolum ...	20 and 21-10-91, S.E.	(1) and (2) 23-10-91	...	...	...	...	...	...	...	...	...	Do. do. do.
11. Malabar ...	23	Calicut	22 to 25-7-91 and 1 to 3-8-91, S.E.	(1) and (2) 2-8-91.	...	...	...	...	...	...	...	...	...	Council was ordered in G.O., dated 31-8-91, No. 1396 M., Miscellaneous, to allot Rs. 700 for survey and levels for water-supply.
	24	Cannanore	26 to 28-7-91, S.E. ...	(1) and (2) 30-7-91.	...	...	...	...	...	...	...	...	...	Council was requested in G.O. of 26-10-91, No. 1835 M., Miscellaneous, to arrange for survey of portion of town. Schemes for water-supply are in contemplation.
	25	Cochin	17 to 21-7-91, S.E. ...	(1) and (2) 3-9-91.	...	...	...	...	...	...	...	...	...	
	26	Pálghat	4-8-91, S.E.	(1) and (2) 6-8-91.	...	...	...	...	...	...	...	...	...	Council has agreed to make provision in its budget for 1892-93 for drainage survey.
	27	Tellicherry ...	29 to 31-7-91, S.E.	No special reports sent. See page 14 of foregoing report.	...	...	...	...	...	...	...	...	...	

APPENDIX I—*continued.*

Statement showing progress made in respect of water-supply and drainage of District Municipalities during 1891—continued.

District.	Serial number of Municipality.	Town.	Date of inspection of town.	Date of preliminary report. (1) Water-supply. (2) Drainage.	Whether Council has sanctioned funds for survey and levels.	Water-supply. Under survey or not.	Water-supply. Estimate under preparation or not.	Drainage. Date on which scheme was forwarded.	Drainage. Amount of estimate sent in or anticipated cost.	Drainage. Under survey or not.	Drainage. Estimate under preparation or not.	Drainage. Date on which scheme was forwarded.	Drainage. Amount of estimate sent in or anticipated cost.	Remarks.
									RS.				RS.	
12. Nellore ...	28	Nellore	15, 16, 21 & 22-3-91, S.E.	.....	Yes ...	Yes ...	...	...	...	Yes ...	...	...	...	Allotment of funds for levels sanctioned as designed by S.E. on inspection.
	29	Ongole	17 to 20-3-91, S.E. ...	(1) 7-4-91... ..	...	Completed	Yes ...	...	...	...	...	...	...	Levels have been taken by office surveyor.
13. Nilgiris ...	30	Coonoor	3 to 8-1-91, Asst. S.E. 6 to 13 & 23 to 26-5-91 & 14 to 16-8-91, S.E.	.....	Yes ...	Completed	Prepared.	25-3-91	60,000	...	...	9-2-91	48,000	Water-supply scheme referred to P.W.D., and drainage scheme under execution.
	31	Ootacamund ..	14 to 21-5-91 & 6 to 13-8-91, S.E.	(1) 3-9-90 ...	...	Completed	Prepared.	12-12-90	43,000	...	...	...	35,000	Water-supply sanctioned on 3rd August 1891. Tenders await disposal by Council.
14. North Arcot ...	32	Gudiyátam	.....	.....	...	...	...	...	...	...	...	...	...	
	33	Tirupati	1890	(2) 1-7-90 ...	Yes ...	...	...	...	...	Completed.	Prepared.	7-9-91	96,000	Scheme sanctioned. Government granted Rs. 48,000.
	34	Vellore	1890	(1) & (2) 12-5-90...	Yes ...	Completed	...	9-12-91	3,13,000	...	...	...	2,63,000	
	35	Wálájapet	.....	.....	...	...	...	...	...	...	...	...	...	Unsuccessful attempts have been made to introduce water-supply. V-shaped drains exist.
15. Salem	36	Salem	20 to 24-4-91 both S.E. and his Asst. 17 to 23-6-91, Asst. S.E.	(1) 30-9-91 ...	Yes ...	Completed	...	30-9-91	9,98,000	Completed.	...	1890	...	
	37	Tirupatúr	20 and 21-12-91, Asst. S.E.	.....	...	...	...	...	...	...	...	...	...	
	38	Vániyambádi ...	21 and 22-12-91, Asst. S.E.	.....	...	...	...	...	...	...	...	...	...	
16. South Arcot ...	39	Chidambaram ...	1890	.....	Yes ...	Yes, by P.W.D.	Yes ...	...	...	...	...	...	...	
	40	Cuddalore	27 & 28-10-91, S.E. ...	(1) & (2) 17-11-91.	...	...	...	...	...	...	...	...	...	Vellar scheme and Rajahvoíkal channel scheme under examination.
17. South Canara ...	41	Mangalore	1890	(1) & (2) 3-10-90...	...	...	...	...	...	...	...	...	...	No orders passed by Government on preliminary report.
18. Tanjore ...	42	Kumbakónum ...	14 to 16-4-91 & 22 & 23-8-91, S.E.	.....	Yes ...	...	...	...	...	...	...	...	...	
	43	Mannargudi ...	.....	.....	...	...	...	...	...	Completed.	Prepared.	...	1,10,000	Drainage works under execution.
	44	Máyavaram ...	.....	.....	...	...	...	...	...	...	...	...	...	Not inspected.
	45	Negapatam ...	1890	16-12-90	...	...	...	...	...	...	...	...	...	Council not in urgent need of water-supply and drainage funds not available.
	46	Tanjore	6 to 8-3-91, Asst. S.E.	(1) 2-6-90 ...	Yes ...	Completed	Prepared.	*	...	Completed.	Yes * ...	...	...	* Will be submitted in January 1892.
19. Tinnevelly ...	47	Palamcottah ...	13 to 17-10-91, S.E. ...	(1) 25-11-91 ...	...	...	...	2-9-91	4,29,000	...	...	...	...	Scheme sanctioned. Government graht Rs. 2,14,500.
	48	Tinnevelly	13 to 17-10-91, S.E. ...	(1) 25-11-91 ...	Yes ...	Yes ...	...	...	...	...	...	...	...	Orders not received on preliminary report.
	49	Tuticorin	9 to 12-10-91, S.E. ...	(1) 30-11-91 ...	...	...	...	...	...	Yes ...	...	...	...	Do. do. do.
20. Trichinopoly ...	50	Srirangam ..	1890	.....	...	...	...	...	...	...	...	...	...	
	51	Trichinopoly ...	2 to 5-3-91, Asst. S.E. 21-8-91, S.E.	(1) 21-4-90 ...	...	Completed	Prepared.	...	...	...	...	...	...	Council not anxious to improve water-supply or undertake drainage.
21. Vizagapatam ...	52	Anakápalle ...	.....	.....	...	...	...	8-4-91	* 4,56,000	...	...	...	...	* This is the estimate sanctioned. A revised estimate amounting to Rs. 4,44,245 submitted on 19-11-91.
	53	Bimlipatam ...	.....	.....	...	...	...	...	...	...	...	...	...	Not inspected yet.
	54	Vizagapatam ...	22 to 25-1-91, S.E. ...	(1) & (2) 30-1-91...	Yes ...	Yes ...	...	...	...	...	...	...	...	Do. do.
	55	Vizianagram ...	.....	.....	...	...	...	...	...	Yes ...	...	...	...	Surveys still incomplete.
								...	...	...	...	...	...	Not inspected yet.

APPENDIX II.

COONOOR DRAINAGE SCHEME.

Statement of work done during 1891.

No.	Main-head.	Sub-head.	Work done. Percentage.	Work done. Value.	Work to be done. Percentage.	Work to be done. Value.	Total. Percentage.	Total. Value.
				RS. A. P.		RS. A. P.		RS. A. P.
A.	Main bazaar drains ...	(1) Surface drains ...	11	1,605 9 1	89	12,430 15 2	100	14,036 8 3
		(2) Covered drains and cess-pools ...	...	...	100	1,421 12 0	100	1,421 12 0
		(3) Street crossings and steps to houses ...	...	...	100	4,706 7 0	100	4,706 7 0
		(4) Drops	55	650 1 2	45	538 7 3	100	1,188 8 5
B.	Mission hill	(1) Surface drains ...	...	...	100	3,676 3 0	100	3,676 3 0
		(2) Covered drains and cess-pools	...	...	100	1,502 9 8	100	1,502 9 8
		(3) Street crossings and steps to houses ...	...	...	100	682 15 0	100	682 15 0
		(4) Drops	...	...	100	176 1 6	100	176 1 6
C.	Main bazaar sewer ...	(1) Pipes	47	1,409 7 10	53	1,568 9 11	100	2,978 1 9
		(2) Manholes, silt-traps, &c.	8	127 0 1	92	1,440 2 3	100	1,567 2 4
D.	Main branch sewer ...	(1) Pipes	...	...	100	924 2 4	100	924 2 4
		(2) Manholes, silt-traps, &c.	...	...	100	490 3 10	100	490 3 10
E.	Mission hill sewer ...	(1) Pipes	33	701 5 1	67	1,414 9 5	100	2,115 14 6
		(2) Manholes, silt-traps, &c.	...	...	100	1,183 0 0	100	1,183 0 0
F.	Outfall pipe	(1) Pipes	...	...	100	2,571 0 0	100	2,571 0 0
		(2) Manholes, silt-traps, &c.	...	...	100	124 13 0	100	124 13 0
G.	Widening lanes and revetting slopes.	.....	3	99 12 4	97	3,150 3 8	100	3,250 0 0
H.	Contingencies and cost of Establishment.	.....	39	2,103 11 0	61	3,300 14 5	100	5,404 9 5
			...	6,696 14 7	...	41,303 1 5	...	48,000 0 0

Besides the work done above, the following materials have been collected :—

Particulars.	Received.	Used on work.	Available.
Departmental Stores.	NO.	NO.	NO.
Stoneware 4-inch drains, straight pieces	2,102	7 (broken).	2,095
Do. do. bends	94	...	94
Do. 6-inch diameter pipes	739	206	533
Do. 9-inch do. do.	616	256	360
Cast-iron 6-inch do. socket pipes	12	...	12
Do. 9-inch do. do.	12	...	12
Do. 12-inch do. do. ...	31	...	31
Do. 12-inch do. bends with manholes	2	...	2
	3,608	469	3,139
Contractors' Stores.			
Portland cement ... ... Casks	...	...	24
Broken stone ... ... C. ft.	...	...	3,105

Statement of amounts passed for payment at Coonoor.

No.	Main-head.	Sub-head	Amount. RS.	A.	P.
1	Works	.....	9,552	9	5
2	Contingencies and cost of establishment	.....	2,043	10	2
		Total ...	11,596	3	7

APPENDIX III.

KANDAL (OOTACAMUND) DRAINAGE SCHEME.

Progress report of work done during 1891.

Items of work. Main-head.	Sub-head.	Quantity of work done. Percentage on estimated quantity.	Actual work done.	Cost including materials used. RS.	A.	P.	Remarks.
Oval surface concrete in cement sewers.	4"	37½	1,700 R. ft.	871	0	2	
	6"	42	5,900 „	4,235	15	0	
	9"	32	210 „	298	6	3	
	12"	43	500 „	1,112	7	6	
Sub-soil sewers, stoneware pipes.	6"	41	878.	917	6	0	
	9	2	36	90	11	0	
	12	30	138	317	14	10	
Silt-traps with manholes...	.....	45	No. 7	1,141	5	1	These are incomplete; cement plastering and fixing shutters, &c., in progress.
Manhole	.....	4	„ 1	57	6	4	
Gully pits	.....	5	„ 5	155	1	4	
Gravelling lanes	.....	50	407 Rg. yd. or 24,663 Sqr. ft.	1,118	13	0	
Check channel	.....	50	.....	128	10	0	
Flushing surface sewers.	.....	In progress.	.....	*55	1	6	* This work is not specifically provided for in estimate but under approval of Chairman is being done under provision of sundries and expected saving.
Sundries	.....	...	.....	290	14	10	For erecting working sheds and constructing templates for surface sewers, &c.
			Carried over...	10,791	0	10	

		RS.	A.	P.
Total work done brought forward	.....	10,791	0	10
MATERIALS AT SITE—				
Departmentally collected—				
Blue metal at mill house ... ... C. yds.	65	186	14	2
Granite blocks for metal ... ... „	42	40	9	2
		227	7	4
Supplied by contractors—				
Blue metal at site ... ... C. yds.	67½	209	6	0
Portland cement barrels ... ... No.	159	2,434	12	0
Chunam ... ... paras.	17	12	12	0
Sand ... ... „	314	48	5	0
6" stoneware pipes ... ... R. ft.	24	19	12	0
9" „ ... ... „	938	1,436	5	0
12" „ ... ... „	304	674	8	0
		4,825	12	0
Total cost of material collected for the work and remaining unused on the 24th December 1891.	.....	5,053	3	4
Total expenditure incurred on Kandal Drainage works up to the 24th December 1891.	.....	15,844	4	2

Total estimated cost, Rs. 35,000.

Percentage of expenditure on estimated cost, 45.

In consequence of late interruption of traffic on the ghaut, active progress of work was impeded for about three weeks, but is since being vigorously pushed on.

NOTE.—The above statement is not in the same form as the statement for Kumbakonam and Coonoor, the information having been supplied by the Municipal Engineer, Ootacamund, in whose immediate charge the work is.

APPENDIX IV.

KUMBAKÓNUM DRAINAGE SCHEME.

Statement of work done during 1891.

No.	Main-head.	Sub-head.	Work done.		Work to be done.		Total.	
			Percentage.	Value.	Percentage.	Value.	Percentage.	Value.
				RS. A. P.		RS. A. P.		RS. A. P.
1	Main outfall channel.	Earthwork ...	8·94	1,081 1 10	91·06	12,523 14 2	100	13,605 0 0
		Turfing ...	...	...	100	3,790 0 0	100	3,790 0 0
		Masonry ...	7·68	1,241 8 8	92·32	14,736 7 4	100	15,978 0 0
		Compensation (not paid) ...	...	...	100	18,800 0 0	100	18,800 0 0
		Railway bridge ...	.	...	100	3,606 0 0	100	3,606 0 0
2	Branch channels.	Earthwork ...	10·52	391 5 3	89·48	2,537 10 9	100	2,929 0 0
		Turfing ...	...	...	100	187 0 0	100	187 0 0
		Masonry ...	...	...	100	10,494 0 0	100	10,494 0 0
		Compensation (not paid) ...	...	...	100	3,892 0 0	100	3,892 0 0
3	Street drainage.	.....	...	...	100	31,493 0 0	100	31,493 0 0
4	Contingencies and cost of Establishment.	.....	94·18	4,922 9 8	5·82	303 6 4	100	5,226 0 0
		Total ...	...	7,636 9 5	...	1,02,363 6 7	...	1,10,000 0 0

Besides the work done above, the following materials have been collected :—

Description of Materials.	Quantity.	Remarks.
Contractors' Stores. *For Main Outfall Channel.*		
Table-moulded bricks (burnt) ... No.	100,000	
Ground-moulded bricks (burnt) ... ,,	200,000	
Concrete blocks (made) ... ... ,,	2,300	
Cut stones ... ... Cft.	100	
Firewood ... ... Cart load	200	
Sand ... ... ,,	870	
For Branch Channels.		
Table-moulded bricks (burnt) ... No.	30,000	
Broken bricks for concrete ... paras.	400	
Lime stone ... ... ,,	100	
Cut stone ... ... Cft.	200	
Departmental stores.		
Nothing in hand.		

60·725 acres of land has been taken over for the channels out of a total of 63·77 acres as detailed below :—

Names of channels.	Amount of land taken over.		Amount of land to be landed over.		Total.	
	ACS.	CENTS.	ACS.	CENTS.	ACS.	CENTS.
Main outfall channel	54	78	...	...	54	78
South branch channel	4	36	2	29	6	65
North branch channel	..	96½	..	11½	6	08
Centre branch channel	...	62	...	10	...	72
Channel for disposal of drainage at the west end of town.	...	...	...	54	...	54
Total ...	60	72½	3	4½	63	77

The above refers to puttah land only; 3·06 acres of poramboke, which is all that will be required, has also been taken over.

Statement of actual expenditure at Kumbakónum.

No.	Main-head.	Sub-head.	Amount.
			RS. A. P.
	Expenditure up to 31st March 1891	.....	3,166 12 0
1	Main outfall channel	Earthwork	911 12 2
		Masonry	1,241 7 6
2	Branch channels	Earthwork	250 4 7
3	Contingencies and cost of establishment	.....	4,597 10 11
	Amount passed for payment up to 31st December 1891 ...		10,167 15 2

J. A. JONES,

Sanitary Engineer to Government.

GOVERNMENT OF MADRAS.

LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following papers:—

From J. A. JONES, Esq., MEM. INST. C.E., F.R.S.E., Sanitary Engineer to Government, to the Chief Secretary to Government, dated Fort St. George, 8th February 1892, No. 267.

With reference to the last sentence in paragraph No. 2 of G.O., dated the 22nd August 1891, No. 2004 L., Local and Municipal, I have the honour to forward the Administration Report of this department for the year 1891.

2. It has been possible this year to complete the report even rather earlier than the date named by Government, but this has been so because I was not away on any long tour during the months of December or January. Were the beginning of the year taken up exclusively in touring, I fear that I should not be able to submit the report before the end of February, though, of course, every endeavour would be made to do so.

3. I meantime send three copies of the report; my report when the Sanitary Commissioner's is ready will be bound therewith and form one report as laid down in G.O., dated 22nd August 1891, No. 2004 L., Local and Municipal.

From Surgeon Lieutenant-Colonel J. A. LAING, Sanitary Commissioner for Madras, to the Chief Secretary to Government, dated Fort St. George, 1st June 1892, No. 1564-S.

I have the honour to forward four stitched copies of my Sanitary Report for 1891.

2. Two copies have, as usual, been forwarded to the Sanitary Commissioner with the Government of India.

3. The title page, table of contents, cholera map and the diagrams will be inserted in the bound copies.

ORDER—dated 9th July 1892, No. 1596 L., Local and Municipal.

With the letters read above the Sanitary Commissioner and the Sanitary Engineer submit the reports on the administration of their departments during the year 1891. The instructions issued in paragraph 1 of G.O., dated 22nd August 1891, No. 2004 L., regarding the submission of these have since been modified by G.O., dated 5th December 1891, No. 3044 L., in which it was considered sufficient to have the report of the Sanitary Board submitted in two parts, each part signed by the member responsible for it. The Government is glad to observe that the Sanitary Commissioner has submitted his report on the prescribed date, and that the Sanitary Engineer was able to send in his report 20 days before time.

2. The rules framed for the guidance of the Sanitary Board which were printed as Appendix II to the General Sanitary Report for 1890 continued in force during the year, and in accordance with these the Sanitary Commissioner dealt with all

questions of general sanitation, and the Sanitary Engineer with schemes for improving the water-supply and drainage of Municipal towns and the conservancy of rivers within their limits and such other works as he was deputed to carry out or investigate.

GENERAL SANITATION.

3. *Rainfall and Prices of Food-grains.*—In the year under review the mean quantity of rain registered was 38·26 inches, which was less than that of any of the previous nine years and was 7·54 inches below the average of the 10 years ending with 1888. The rainfall was below the above average in every district except Anantapur, Salem and Tinnevelly (where the excess ranged from 8 to 11 inches). The deficiency was, as in the previous year, most marked in the three central districts on the East Coast—Madras, Nellore and Chingleput—as well as in all the Ceded districts except Anantapur. Both the West Coast districts—Malabar and South Canara—received less than the average fall.

	Inches.
1882	49·21
1883	47·42
1884	47·08
1885	45·08
1886	47·70
1887	51·04
1888	43·92
1889	48·38
1890	39·49

In consequence of the failure of the rains above referred to, the prices of the three principal food-grains, which had been steadily rising since 1887, rose still higher in the year under review. The following table shows the prices of the year as compared with those of the preceding two years and the average for the last five years :—

—	Number of seers per rupee.			Average for the last five years.
	1891.	1890.	1889.	
Rice	11·8	12·7	13·6	14·3
Ragi	22·4	26·2	27·8	28·3
Cholum	21·1	21·6	24·6	25·6

The prices of the principal grains were above the average of the 10 years ending with 1888 in every district except in Vizagapatam, where they were below the average, and in Ganjam and Malabar, in each of which districts the price of one of the three sorts was slightly below it. Omitting the Nílgiri district, the circumstances of which are peculiar, prices continued, as in the previous year, to be exceedingly high in the districts of Nellore, Madras, Chingleput, North Arcot, South Arcot, Tanjore, Trichinopoly, Madura, Tinnevelly and Coimbatore, and to rise steadily during the year. The rise was still more marked in the Ceded districts.

4. *Vital Statistics.*—The total population for which returns of births and deaths were received shows a slight falling off as compared with 1890. No explanation has been offered for the decrease which occurs in Vizagapatam—an omission which should be supplied at an early date. In paragraph 10 of the Memorandum by the Army Sanitary Commission on the Provincial Sanitary reports for 1889, it was suggested that, with a view to improve the registration of births and deaths, more use should be made of the vaccination staff for the purpose of testing the accuracy of the returns, and in commending this suggestion for adoption, the Government of India, in paragraph 2 of its letter, dated 24th February 1892, No. 2—Sanitary-35, requested that the details of the arrangements made in this connection might be furnished in the report for the current year. The Sanitary Commissioner, however, states that this plan has been in operation in this Presidency since 1879, Deputy Inspectors of Vaccination being required to examine the returns of the villages or towns they visit and to note in their weekly diaries the condition, &c., of registration as found on personal inspection.

5. *Births.*—Notwithstanding the large variations still noticeable in the birth-rates reported from the several districts, there has been some general improvement in the

accuracy of these returns in the year under review. The average birth-rate for the Presidency was 32·4 per mille, which is the highest yet recorded. In Madras, Salem, Kurnool and Bellary–Anantapur, the birth-rate was 40 per mille or above. There appears to be no reason why similar results should not be obtained in other districts. The worst results are reported from Godávari (22·7), Malabar (23·6), Ganjam (25·8) and Nilgiris (28·3); in the last two districts, however, there was a marked increase as compared with 1890. The figures for Godávari and Malabar show clearly that the measures reported to have been adopted by the Collectors of these districts to ensure greater accuracy in registration have not as yet been attended with any appreciable success. The special attention of the Collectors concerned is again drawn to the matter. In Vizagapatam and Nellore there was some, though not a satisfactory advance as compared with the preceding year. As the special report called for from the Collector of Vizagapatam in paragraphs 4 and 6 of G.Os., dated 26th August 1890 and 22nd August 1891, Nos. 2135 L. and 2004 L., respectively, regarding the low birth-rate in that district in 1889, has not yet been received, it should be submitted without further loss of time and the delay which has already occurred in the matter should be explained. In Chingleput, Kurnool, Malabar, Tinnevelly and Trichinopoly, the birth-rates were lower than those for 1890. The birth-rate exceeded the death-rate in all districts, except Madras and South Arcot, the total increase for the Presidency being 6·2 per mille. In the Madras town alone the latter exceeded the former by 14·7 per mille owing to the large number of deaths which were caused by cholera, fevers, dysentery and diarrhœa.

The average birth-rate for all District Municipalities was 33·6 per mille against 31·5 per mille in 1890. This result, though better than that of the previous year, cannot be regarded as satisfactory, in view of the fact that registration is compulsory under the District Municipalities Act and that the actual birth-rate for the Presidency may be taken as not less than 40 per mille. It is, however, satisfactory to note that in 12 towns, against 9 in 1890, the birth-rate exceeded 40 per mille. In 31 towns it was between 30 and 40 per mille, and in the remaining 12 towns it was less than 30 per mille, being very low in Cocanada, Cuddapah, Negapatam, Chicacole, Nellore and Mannárgudi. The poor results achieved by the Councils of the first four of these towns in 1890, were prominently brought to their notice in paragraph 6 of G.O., dated 22nd August 1891, No. 2004 L., and it is to be hoped that this will during the current year have a beneficial effect. The advance made in Cuddalore, Cannanore, Trichinopoly and Chidambaram, though slight in the last two cases named, is noted with satisfaction. The facts that the death-rate exceeded the birth-rate in 17 towns, and that the birth-rates in Parlákimedi and Cannanore rose suddenly from 24·3 and 20·4 per mille in 1890 to 42·8 and 31·5 per mille, respectively, in the year under review, indicate how carelessly registration had been attended to and how easily it can be improved by local effort. The rural exceeded the urban birth-rate in many instances, the excess being more than 10 per mille in Chingleput, Cuddapah and Kurnool, while the urban exceeded the rural birth-rate by more than 7 per mille in Ganjam, Malabar, Nílgiris and South Canara. The special attention of the Collectors concerned is again drawn to this matter as furnishing further evidence of the untrustworthiness of the returns.

6. *Deaths.*—The following statement shows the total number of deaths per mille caused by the principal diseases as compared with the previous five years :—

—	1886.	1887.	1888.	1889.	1890.	1891.
Cholera	0·4	1·0	2·1	2·7	1·2	3·5
Small-pox	0·6	0·7	0·8	1·0	1·0	1·4
Fevers	7·9	8·6	7·2	8·2	9·2	8·6
Bowel-complaints	0·9	0·9	1·0	1·0	0·9	1·2*
Injuries	0·4	0·6	0·4	0·4	0·4	0·4
Other causes	9·5	9·8	9·8	10·2	10·1	11·1
Total	19·7	21·6	21·4	23·5	22·8	26·2

* Dysentery and diarrhœa only.

From the above it will be seen that the mortality in 1891 was higher than in any of the preceding five years and that the increase as compared with 1890 occurs under all the heads except fevers. In fact, the mortality in 1891 was higher than that recorded in any year of the last twenty, excluding, of course, the figures of 1877 and 1878. The high figure is due in the main, to the ravages of cholera which carried off 98,773 persons as against 41,368, the average for the preceding ten years. Improved registration had, however, doubtless something to do with the increase.

Cholera apart, the year was, as the statistics show, an unhealthy one. To its unhealthiness the meagre rainfall, resulting in scantiness and deterioration of the supply of drinking-water, contributed.

The mortality among infants under one year of age was higher than in 1890, being no less than 172·0 per mille of the infantile population against 160·5 per mille in the previous year. The Sanitary Commissioner, however, states that, applying the principle (adopted in England) of calculating the death-rate of children under one year of age on the number of children born during the year, the death-rate in this Presidency was 167·4 per mille against a rate ranging from 137 to 227 per mille in the 28 principal towns in England.

Taking the districts individually, the highest death-rate (59·4 per mille) occurred, as usual, in Madras. As observed in paragraph 7 of G.O., dated 22nd August 1891, No. 2004 L., this is due, not only to more efficient registration, but also to the extremely insanitary condition of the town. It is, however, hoped that when the contemplated improvements in the drainage and water-supply of the town and in the sanitation of the river Cooum, which have recently formed the subject of investigation by an expert from England, are carried out, and when the proposed scavenging cess is introduced, there will be an appreciable reduction in the death-rate of the town. The Sanitary Commissioner has failed to submit a brief report on this town as required in clause 3, paragraph 7, of G.O., dated 22nd August 1891, No. 2004 L. This omission should be supplied at an early date. Excluding Madras, in every district (with the exception of South Canara and Ganjam), the death-rate was higher than the average rate of the previous ten years. The death-rate was higher than in 1890 in all districts except Salem and South Canara. The highest death-rates are reported from South Arcot (35·3), which suffered severely from cholera, Kurnool (32·9) and Chingleput (32·8), and the lowest from Ganjam (13·5), Vizagapatam (17·3), Nellore (20·5) and South Canara (20·6). These figures clearly show that registration is very defective in the last four districts, in all of which, except South Canara, the birth-rates returned were also very low. The Collectors concerned are therefore requested to report the steps which they propose to take with a view to improving the present state of affairs. It is to be remarked that the attention of the Collector of Nellore was called to this matter in the last two Sanitary reports, while in the last report the Collectors of Ganjam and Vizagapatam were requested to institute enquiries into the causes of the low death-rates returned from their districts.

The average death-rate for all the District Municipalities taken together, was 31·8 per mille against 29·1 per mille in 1890. In 32 towns in which registration appears to have been well conducted, the death-rate ranged from 30·1 per mille in Vellore to 64·3 per mille in Bezváda. In this latter town, the death-rates for the two preceding years were excessive, being 50·4 and 57·8 per mille respectively. Palni and Calicut come next with rates of 49·7 and 47·6, respectively, per mille, caused mainly by cholera and small-pox as in the preceding year. It is observed that the death-rates in the towns noted in the margin were much higher than the figures of 1890. Mortality from cholera was mainly the cause of this in Adóni, Anantapur, Nellore and Dindigul. In Cocanada, Chicacole, Berhampore, Ootacamund, Tellicherry, Cannanore, Parlákimedi, Mannárgudi and Gudiyátam, the death-rate was very low, being less than 25 per mille. There is no doubt that in these towns registration has been very much neglected, particularly so in the two towns first named, for which the recorded birth-rates were very small. The Government has again to impress on Municipal Councils the importance of the duty of properly supervising the registration of vital statistics.

	1890.	1891.
Adóni	19·2	44·5
Cochin	27·4	43·9
Anantapur	28·7	40·9
Dindigul	30·2	40·0
Nellore	20·9	36·0
Guntúr	20·4	34·5

7. *Principal Diseases—Cholera.*—The mortality from this cause, which nearly trebled that reported in 1890, was the highest recorded since 1877. All the districts were affected by this scourge and it was prevalent all the year round, the greatest mortality occurring in the months of July, August, November and December, in the last of which it attained its maximum intensity. The disease was most prevalent in the districts of South Arcot, Madura, Anantapur–Bellary, Cuddapah, Chingleput and Coimbatore. It is noticeable that the Northern Circars were, for the second year in succession, practically free from cholera. Of the 55 Municipalities only 7, against 23 in 1890, were free from this epidemic. As in the previous year, the death-rate was high in Palni (21·9 per mille); Nellore, Adóni, Anantapur, Chidambaram and Dindigul come next with rates ranging from 18·9 to 10·6 per mille.

The cholera death-rate in Municipal towns was 5·1 and that in the districts 3·4 per mille. It is highly probable, as pointed out by the Sanitary Commissioner, that the spread of cholera depends largely on the sanitary conditions present and inferior water-supply. The short rainfall of 1891 resulted in a reduced supply of drinking-water which necessarily contained a larger percentage of dissolved and suspended impurities. The measures reported to have been adopted to check the progress of the disease are noted with satisfaction.

8. *Small-pox.*—The number of deaths recorded under this head (41,322) exceeded that of any of the preceding six years. The figure for 1890 was 28,092. The mortality among children under 12 years of age was 54·1 per cent. of the total number of deaths against 65·8 per cent. in 1890. This is an improvement and shows how much local bodies can yet effect, if they pay due attention to infantile vaccination. It is satisfactory to note that in 1891 the mortality from small-pox among infants was small. The disease was most severe in Kistna (5·3 per mille) and slightly less so in Malabar and South Arcot, the death-rates of which districts were 2·7 and 2·6, respectively, per mille. Among Municipalities, Calicut heads the list with the abnormally high rate of 20·4 per mille, which is ascribed by the Sanitary Commissioner to the unsatisfactory manner in which vaccination work is carried on in this town. The special attention of the Municipal Council is drawn to the matter. Periyakulam and Tuticorin also suffered much from this disease, while 11 other Municipal towns were entirely free from it and in 11 others the number of deaths throughout the year was below 10 each. The improvement noticeable under this head in Bezváda, Cocanada, Kumbakónam, Tirupatúr, Vániyambádi and Wálajápet is satisfactory. It is noticeable that, as pointed out by the Sanitary Commissioner, the severe outbreaks of small-pox occur every seventh year. The subject will be more fully dealt with in reviewing the vaccination report for 1891–92.

9. *Fevers.*—The mortality from this cause was 247,029 against 262,855 in 1890, the decrease being due mainly to the absence of influenza, which was so prevalent in 1890. The districts of Kurnool, Madras, Nílgiris, Cuddapah and Vizagapatam suffered most severely, their death-rates varying from 21·1 to 14·3 per mille: the least affected district was, as in the preceding years, Tanjore, in which the rate was only 2·3 per mille. The rural death-rate again exceeded the urban, but the latter was more than 10 per mille in 10 towns, the most affected from this cause being Bezváda (15·9), Parlákimedi (14·8) and Tuticorin (14·2). It is noted that Cuddapah, which in 1890 suffered a good deal more severely than any other Municipality (21·5), is now sixth on the list with a rate of 13·3. The improvement may fairly be ascribed to the improved water-supply. The decrease of mortality from fever in Coonoor is even more marked.

10. *Dysentery and Diarrhœa.*—The deaths from these causes numbered 34,223 against 26,608 recorded under the head of "Bowel complaints" in 1890. In accordance with the recent orders of the Government of India, all diseases other than dysentery and diarrhœa that used to come under the head of "Bowel complaints" are now registered under "All other causes." The death-rate for the Presidency for

1891 was higher than in any year since 1882. The Sanitary Commissioner offers no explanation of this. The average death-rate for districts was only 1·2 per mille and this would have been considerably lower but for the inclusion of the Madras town. The average rate for the District Municipalities was 3·4 per mille. As in 1890, the highest death-rate was that returned from Madras (11·5 per mille), and this is followed by Chingleput with a rate of 4·2 per mille. Among Municipalities, Bezváda returned the highest death-rate (11·9 per mille); next come Tuticorin, Bimlipatam, Tanjore and Karúr, with rates ranging from 8·7 to 6·5 per mille. The least affected town was Adóni with a death-rate of ·2 per mille.

11. *Injuries, &c.*—There was no considerable variation in the number of deaths reported under this head, but the deaths from unspecified causes rose from 287,149 in 1890 to 315,664 in the year under review, being the highest recorded in any of the last 20 years except 1877. A portion of the increase may, however, be attributed to bowel complaints other than dysentery and diarrhœa, which now come under this head.

12. *Sanitary Improvements carried out by Municipal Councils and District Boards.*—The subjects dealt with by the Sanitary Commissioner under these heads will be fully noticed in reviewing the administration reports of the local bodies and in the General Municipal and Local Fund Reviews for 1891-92. It will here be sufficient to make the following remarks:—

(*a*) The number of latrines available for public use in Municipalities rose from 958 in 1890 to 1,191 in the year under review, the increase occurring chiefly in Ootacamund, where it is satisfactory to note that the Council erected 159 new latrines. The Municipal Councils of Mannárgudi, Kumbakónam, Cannanore and Ellore have also provided 15, 12, 11 and 10 additional latrines, respectively, during the year. On the other hand, 22 latrines were dispensed with. Nellore, Madura, Cochin and Tellicherry Municipalities are responsible for this retrograde step. The Chairmen of the Municipal Councils concerned are requested to explain the matter. As observed in paragraph 13 (*a*) of G.O., dated 22nd August 1891, No. 2004 L., there should be not less than 1 latrine to every 1,000 of the population. Fifty out of 55 District Municipalities paid little or no attention to this important matter. The Government has again to call attention to it.

(*b*) The private scavenging system, which in 1890 had been in operation in 43 towns, was, during the year under review, adopted in 5 more towns, and the number of private latrines dealt with was 22,918 against 17,310 in that year. There is still a great deal to be done in this direction. Excluding the five towns in which the system was newly introduced, there was, during the year under review, improvement in 31 towns and falling off in 8 others. The system was not introduced in Tirupati, Anakápalle, Tirupatúr, Vaniyambadi, Mannárgudi, Ellore and Madura. The Councils concerned will report what steps, if any, they have taken or intend to take in the matter. In Karúr, Bezváda, Parlákimedi, Periyakulam and Cuddalore this system should be extended, as already directed in paragraph 13 (*b*) of G.O., dated 22nd August 1891, No. 2004 L. The large decrease noticeable in the number of private latrines dealt with by Municipal agency in Bellary (171) and Ootacamund (95) requires explanation from the Councils concerned.

(*c*) The Government notes with pleasure that either the Sanitary Commissioner or his Deputy visited all the 55 Municipal towns during the year under review. There was, however, a delay of more than two months in each case, in reporting the results of the inspection by the Sanitary Commissioner of 27 towns, and this should be guarded against in future. The reports submitted showed that there was improvement since the last inspection in the sanitary condition of Parlákimedi, Cochin, Ootacamund, Tirupati, Gudiyátam and Salem. This reflects credit on the Chairmen and the Councillors concerned; but in most of the remaining towns, the defects pointed out on previous occasions had been permitted to continue unremedied in spite of the suggestions and remarks of the Sanitary Commissioner, his deputy and Government. This indifference of a large majority of the Councils to the orders of Government in matters affecting the welfare of the townspeople is much to be regretted.

(*d*) The proportion of the expenditure on sanitation to allotment in Municipalities during the first nine months of the year was only 56 per cent. against 59 per cent. in 1890. This is very unsatisfactory. In Kurnool alone the expenditure exceeded the allotment (by 10 per cent.) owing to the entertainment of a temporary sanitary inspector on cholera duty, and in Anantapur, Coimbatore, Cocanada, Periyakulam, Calicut and Vizianagrum the expenditure was more than 75 per cent. of the allotment. Expenditure was discreditably small in Tuticorin (49·1), Vizagapatam (48·8), Vellore (47·3), Parlákimedi (44·5), Palamcottah (37·9), Coonoor (29·8) and Kumbakónam (17·1). In Coonoor and Kumbakónam the execution of the drainage works under the direct supervision of the Sanitary Engineer could not be pushed forward, owing to the damage caused by heavy rains in the former case and to the presence of water in the rivers in the latter. No special reasons have been assigned for the inadequate expenditure in the other towns, as required in paragraph 13 (*d*) of G.O., dated 22nd August 1891, No. 2004 L.; the Councils concerned are requested to supply the omission. The attention of all Municipal Councils is again drawn to the remarks of Government in paragraph 13 (*d*) of the last Sanitary Review. In only 6 out of 55 Municipalities did the expenditure exceed 75 per cent. of the allotment—the minimum prescribed. The following statement shows the expenditure and the allotments under the several heads:—

—	Allotment.	Expenditure.	Percentage.
	RS.	RS.	
Conservancy	4,46,415	3,16,565	70·9
Improvement of town sites	1,89,240	1,22,925	64·9
Do. of water-supply, &c.	66,375	41,964	63·2
Sanitary arrangements at fairs and festivals ..	12,595	8,994	71·4
Markets and slaughter-houses	35,927	12,266	33·9
Other sanitary outlay	2,46,828	54,486	22·1
Total ..	9,97,380	5,57,140	55·8

(*e*) The sanitary improvements undertaken in the areas under the control of the Local Boards and Union Panchayats were, as usual, of a petty nature. It is satisfactory to note that during the year under review, the drinking-water sources are reported to have been more effectually guarded from pollution and a fair number of tanks and wells cleaned and deepened. Out of a total of 42,862 minor towns and villages in the Presidency, 272 unions and 590 other villages were provided with scavenging establishments against 254 and 561 respectively, in the previous year. The small progress that has been effected is disappointing. Conservancy operations should be extended wherever funds permit. The Presidents of the District Boards of South Canara, Godávari, Nílgiris and Tanjore will explain why there was in their respective districts, a reduction, as compared with the previous year, in the number of non-union villages conserved.

(*f*) The proportion of the expenditure to allotments in Local Fund areas during the first nine months of the year was only 55 per cent. as in 1890. This short expenditure is discreditable to the Presidents of the District Boards concerned. No Local Board, except those of Chingleput, Ganjam and Nellore, has utilized as much as 70 per cent. of the allotments; the worst offenders in this respect are the District Boards of Malabar (33·6), Coimbatore (41·1), Trichinopoly (41·2) and Tinnevelly (43·3). The Presidents of the Boards concerned are requested to explain the cause of the short outlay.

SANITARY ENGINEERING.

13. The first report of the Sanitary Engineer (for 1890) was, as remarked by Government, purely of an introductory nature, dealing, as it did, with only the first nine months of that officer's work. His second report now under review shows that, although he and his department were during 1891 actively engaged, it was mainly

with designs for, rather than the execution of, works. However, that such was the case was due to causes beyond the Sanitary Engineer's control. In the course of the year, the Sanitary Engineer visited 33 towns, of which 8 were visited twice, and the Assistant Sanitary Engineer 17 towns. Appendix I submitted with the report shows in one view the progress made towards the improvement of the water-supply or drainage of the towns inspected by the staff. In order to increase the efficiency of the department, the Government sanctioned the entertainment of three Assistant Engineers, each to be in charge of a circle, with the executive control of all works under execution and all surveys in progress within that circle.

14. Of the nine water-supply and two drainage schemes submitted to Government by the Sanitary Engineer, as stated in paragraph 9 of his report, all but the project to improve the water-supply of Adóni, which is still under consideration in the Revenue Department, have been sanctioned, and the Government has consented in seven cases to contribute from a moiety to three-fourths of the cost and to lend the remainder on easy terms. The drainage schemes for Kumbakónam and Ootacamund (Kandal bazaar), which were finally sanctioned in previous years, and that for Coonoor, sanctioned in 1891, were the only works which were started during the year under review, the first and the third being under the direct supervision of the Sanitary Engineer and the second under that of the local Municipal Engineer. Appendices II to IV show the details of the works executed up to the end of the year. As regards the other schemes sanctioned on which work was not actually begun during the year, it is observed that immediate action was taken in the majority of cases to prepare specifications for the required machinery, &c., and to invite tenders from contractors.

15. The Sanitary Engineer has promised to submit to Government the Negapatam drainage, and the Bellary, Coimbatore, Cocanada, Kurnool and Ongole water-supply, schemes in 1892; the Bezváda and Karúr drainage, and the Conjeeveram, Berhampore and Salem water-supply, schemes in 1893; and the Erode drainage, and the Nellore and Guntúr water-supply, schemes in 1894. The Government agrees with the Sanitary Engineer in considering that if these schemes, as well as those which have already been sanctioned, are carried out within a reasonable period, a great advance in sanitary progress will have been made in this Presidency.

16. In addition to the work mentioned above, this department scrutinized 108 plans and 165 estimates for sanitary works amounting to Rs. 2,39,413 submitted to the Sanitary Board under No. 7 of the Rules issued in G.O., dated 8th August 1890, No. 1971 L. The department also furnished new plans and designs wherever necessary. The Sanitary Engineer was also specially deputed to report upon the effect of the Dongalcheruvu tank on the health of the town of Cuddapah and upon the water-supply of the Coimbatore and Trichinopoly jails. Final orders will be passed by Government on the detailed scheme prepared by the same officer for the improvement of the river Cooum within the Municipal limits of Madras, referred to in paragraph 14 of G.O., dated 12th August 1891, No. 2004 L., on receipt of the report of Mr. Cousins, the specialist from England, by whom it has been examined.

17. *General Remarks.*—The Sanitary Commissioner has not reported upon the condition of the rural towns and villages visited by him and his deputy, of which a list has been given in Appendix I to his report. This omission should be supplied in future. The inspection work performed by the District Medical and Sanitary Officers, though better than that of the previous year, cannot be regarded as by any means satisfactory, the average number of places visited by each being 22 against 40 prescribed in paragraph 15 of G.O., dated 22nd August 1891, No. 2004 L. The medical officer of Anantapur did no work whatever in this direction, while those of Kistna and Tanjore inspected only one place each. It is not stated how far this poor result is due to there having been no Assistant Surgeons in the districts named, during the whole or a portion of the year. It is hoped that the scrutiny now exercised by the Surgeon-General on the half-yearly returns of these officers will result in a substantial improvement in the current year. The Sanitary Commissioner states that no progress has been made since the last report in the matter of sewage farming. The attention of Municipal Councils is again drawn to the remarks of Government on this subject in paragraph 15 of G.O.,

dated 22nd August 1891, No. 2004 L., and also to the remarks and suggestions of the Sanitary Commissioner in paragraphs 80, 81 and 82 of his report. The Government notes with pleasure the testimony borne by the Sanitary Commissioner and the Sanitary Engineer, respectively, to the good services of Surgeon-Major Dymott, the Inspector of Vaccination, and of Mr. Hormusji Nowroji, the Assistant Sanitary Engineer.

(True Extract.)

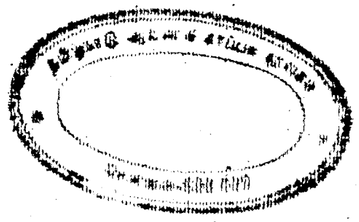
J. F. PRICE,
Chief Secretary.

To the Sanitary Commissioner.
„ the Sanitary Engineer.
„ the Sanitary Board.
„ the Surgeon-General.
„ the Public Department.
„ the Military Department.
„ the Revenue Department.
„ the Inspector-General of Police.
„ „ „ of Jails.
„ the Accountant-General.
„ all Collectors.
„ all Presidents of District Boards.
„ all Chairmen of Municipal Councils,
through the Collectors concerned.
„ the President, Municipal Commission, Madras.
Editors' Table.

ENDORSEMENT—dated 9th July 1892, No. 1597 L., Local and Municipal.

Copy to the Government of India, Home Department.

J. F. PRICE,
Chief Secretary.



Govt. of {1892} Madras.

LOCAL AND MUNICIPAL.

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G.O., &c., 9th July 1892,
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JULY.

Reports.

Reviewing the Sanitary Commissioner's and the Sanitary Engineer's — for 1891.