

TWENTY-EIGHTH ANNUAL REPORT

OF THE

SANITARY COMMISSIONER

AND THE

SECOND REPORT

OF THE

SANITARY ENGINEER TO GOVERNMENT.

MADRAS,

1891.

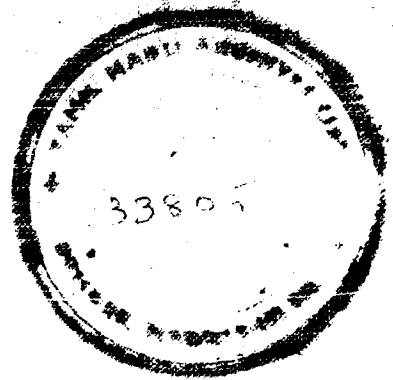
WITH APPENDICES.

M A D R A S :

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

1892.

D 8, MIIY N 1
M 90,



2-
33805

PART I.

GENERAL SANITATION.

செப்பனிருபவர் பெயர்
செப்பனிருவதற்காக எடுத்த
கொள்வீப்பட்ட நாள்
15-11-1995
செப்பனிரு யுத்த நாள்
15-11-1995
சரிபார்க்கும்
யு.பா.செ.
கையொப்பம்

CONTENTS.

PART I.

GENERAL SANITATION.

SECTION V.—GENERAL POPULATION.

Paras.		Page
1 & 2.	Rainfall	2
	Tables of Rainfall	3-5
3.	Prices of Food	6
	Tables of Prices of Food	6 & 7
<i>Vital Statistics of the General Population :—</i>		
4 & 5.	General Remarks	8
6.	Births	ib.
7.	Presidency and District Birth and Death rates compared with former periods	8 & 9
8.	Births according to Sexes	9
9.	Presidency Birth-rates according to Months	ib.
10.	Birth and Death rates in Districts compared	9 & 10
11.	Birth-rates in Districts among Rural and Urban Populations compared	10
12.	Do. in Municipal Towns	ib.
13.	Taluk Birth-rates	11
14 & 15.	Deaths	ib.
16.	Deaths according to Sexes	ib.
17.	Do. to Ages	11 & 12
18.	Deaths by Sexes according to Age compared	12
19.	Deaths according to Classes compared	ib.
20.	Presidency Death-rates according to Months	ib.
21.	Death-rates in Districts	ib.
22.	Do. among Rural and Urban Populations compared	12 & 13
23.	Do. in Municipal Towns and in Districts (exclusive of Municipal Towns) compared	13
24.	Taluk Death-rates	14

SECTION VI.—GENERAL HISTORY OF CHIEF DISEASES.

Paras.		Page
25—35.	Cholera	15-22
36.	Statement showing Daily Records of Meteorological Observations and Deaths from Cholera at Madras, Trichinopoly and Nellore	23-35
37—43.	Small-pox	35-37
44—49.	Fevers	37 & 38
50—55.	Bowel-complaints	39 & 40
56—58.	Injuries	41
59.	All other causes	ib.
60.	Statement showing Death-rates from Cholera, Small-pox, Fevers and Dysentery and Diarrhoea per mille of population in each circle of Registration	41-45

SECTION IX.—SANITARY WORKS—CIVIL.

MUNICIPALITIES :—

Paras.		Page
61.	Number of Towns administered by the Act	46
62.	Sanitary Works	ib.
63 & 64.	Water-supply, Drainage and Conservancy	ib.
65.	Private scavenging	46 & 47
66.	Statement showing Conservancy Staff, &c.	47 & 48
67.	Total Income, Allotment and Expenditure on Sanitary Works	48
68.	Statements of Expenditure showing in abstract and in detail	48 & 49

Abstract of Sanitary Reports :—

	Page
From Anantapur	50
Adóni	
Bellary	
Conjeeveram	
Coimbatore	

Erode	51
Karúr	51
Cuddapah	51
Berhampore	51
Chicacole	51
Parlakimedi	51
Cocanada	52
Ellore	52
Rajahmundry	52
Guntūr	52
Masulipatam	52
Bezvāda	53
Kurnool	53
Dindigul	53
Madura	53
Palni	53
Periyakulam	54
Calicut	54
Cannanore	54
Cochin	54
Palghat	54
Tellicherry	54
Nellore	55
Ongole	55
Coonoor	55
Ootacamund	55
Gūdiyātām	55
Tirupati	56
Vellore	56
Wāljāpet	56
Salem	56
Tirupatūr	56
Vāniyambādi	56
Chidambaram	57
Cuddalore	57
Mangalore	57
Kumbakonam	57
Manārgudi	58
Māyāveram	58
Negapatam	58
Tanjore	58
Palamecottah	59
Tinnevelly	59
Tuticorin	59
Srirangum	59
Trichinopoly	59
Anakāpalle	60
Bimlipatam	60
Vizagapatam	60
Vizianagaram	60
Madras	61

DISTRICT LOCAL FUND BOARDS:—

Paras. 69. General Remarks	62
70. Sanitary Works	ib.
71. Water-supply, Drainage and Conservancy	ib.
72. Information regarding Number of Villages conserved	ib.
73. Total Estimated Receipts, Allotment and Expenditure on Sanitary Works	ib.
74. Statements of Expenditure showing in abstract and in detail	62 & 63.

Abstracts of Sanitary Reports:—

From Anantapur	64
Bellary	64
Chingleput	64
Coimbatore	64
Cuddapah	65
Ganjam	65
Godāvri	65
Kistna	65
Kurnool	66
Madura	66
Malabar	66
Nellore	67
Nīlgiris	67

North Arcot	67
Salem	67
South Arcot	67
South Canara	68
Tanjore	68
Tinnevelly	68
Trichinopoly	69
Vizagapatam	69

Abstracts of Sanitary Estimates of Villages according to each Circle of Registration:—

From Anantapur	70
Gooty and Tadpatri	70
Penukonda, Dharmavaram, Hindupur and Madakasira	70
Bellary	70
Rāyadrug	70
Alūr	70
Hospet	70
Kādligi	70
Harpanahalli	70
Hadagally	70
Sandūr (Zemindary)	71
Tiruvallūr	71
Ponnéri	71
Saidāpet	71
Chingleput	71
Mādurantakam	71
Conjeevaram	71
Coimbatore	72
Erode	72
Satyamangalam	72
Pollāchi	72
Palladam	72
Bhavāni	72
Kollegāl	72
Udamalpet	72
Karūr	73
Dhārāpuram	73
Badvel	73
Proddatur	73
Sidhout	73
Pullampet	73
Cuddapah	74
Jammalamadugu	74
Pulivendla	74
Rāyachōti	74
Kadiri	74
Vāyalpād	74
Madanapalle	74
Chicacole	75
Berhampore	75
Goomsur	75
Parlakimedi and Tokkali (Zemindaries)	75
Godāvri District	75
Répalle	75
Bāpatla	75
Guntūr	75
Palnād	75
Narsaraopet	76
Gudivāda	76
Sattenapalle	76
Bandar	76
Nandigāma	76
Bezvāda	76
Vinnukonda	76
Nūzvid Zemindary	76
Vissanapet Zemindary	76
Pattikonda	77
Rāmālakōt	77
Nandikōtkur	77
Nandyāl	77
Koilkuntla	77
Sirvél	77
Cumbum	77
Mārkapur	78
Madura	78
Tirumangalam	78

	Page
Melūr	
Dindigul	
Palni	
Periyakulam	
Kodaikanal Division	
Head Assistant Collector's Division	79
Malabar District	
Nellore	
Atmakūr	
Gūdūr	
Ongole	
Pōlūr Division	
Kanigiri	
Venkatagiri Division	
Podili Division	80
Darsi do.	
Chittoor	
Chandragiri	
Palmanér	
Gudiyatām	
Vellore	
Pōlūr	81
Wandiwash	
Arcot	
Wārajā	
Puttūr Division	
Kālahasti do.	
Tirutani do.	
Maderpauk do.	
Punganūr do.	
Venkatagirikota do.	
Kangundi do.	82
Arni do.	
Salem and Attur	
Nāmakal	
Hosūr Sub-division	
Tirupatūr	
Uttankārai	
Chidambaram and Vriddhāchalām	
Cuddalore	
South Canara District	
Tanjore	
Kumbakōnam	83
Māyavaram	
Shiyāli	
Nannilam	
Tiruturaipūndi	
Negapatam	
Patukōta	
Mannārgudi	
Otapidāram and Pudukōta	84
Tenkarai	
Sankaranainārkoil	
Tinnevelly	
Srīvilliputur	
Nāngunéri	
Ambāsamudram	
Sātūr	
Tenkāsi	85
Trichinopoly	
Musiri	
Kulitalai	
Perambalūr	
Udayarpālaiyam	
Vizianagrum Taluk Board	
Vizagapatam do.	86
Narsapatnam do.	
Pārvatipur do.	

SECTION X.—

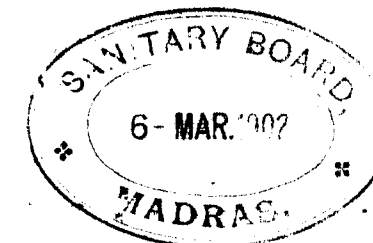
Paras. 75—86. General Remarks and Personal Proceedings 87 & 88

APPENDICES.

	Page
APPENDIX I.—Table showing places visited by Sanitary Commissioner and Deputy Sanitary Commissioner	91-93
APPENDIX II.—Vital Statistics of the General Population	94-103

PART II.

SANITARY ENGINEERING, WITH APPENDICES.



TWENTY-EIGHTH ANNUAL REPORT
OF THE
SANITARY COMMISSIONER FOR MADRAS,
1891.

6
33803

SECTION I.

METEOROLOGY OF THE YEAR.

Information given under SECTION V, GENERAL POPULATION.

SECTION II.

(a) EUROPEAN ARMY.

SECTION III.

(a) NATIVE ARMY.

SECTION IV.

(a) JAILS.

SECTION VII.

(b) VACCINATION.

SECTION VIII.

(a) SANITARY WORKS—MILITARY.

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

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

SECTION V.

GENERAL POPULATION.

RAINFALL.

1. In 1891 the amount of rain registered (38.26 inches) was less than in any of the preceding nine years, and it was below the average of ten years by 7.54 inches. In nineteen districts the rainfall was below the average, and in three only (Anantapur, Salem and Tinnevely) it was above. The decrease was most marked in the Madras, Nellore and Chingleput districts, where an aggregate fall of 30.43, 19.18 and 31.31 inches, respectively, was measured against the corresponding average rainfall of 57.89, 37.06 and 48.33 inches for ten years. The heaviest falls of rain occurred in South Canara and Malabar. It rained in 1891 on a less number of days (52.6) than the average of ten years (65.2).

2. The subjoined table shows the rainfall, the prices of food-supply and the mortality from various causes during the year under notice compared with the figures for the preceding five years and the mean average of the quinquennial period:—

Years.	Ratio per mille of population.							Rainfall.	Prices of food in rupees of 80 tolas for the rupee.		
	Cholera.	Small-pox.	Fever.	Bowel-complaints.	Injuries.	All other causes.	Total.		Rice.	Ragi.	Cholam.
1891	3.5	1.4	8.6	1.2	0.4	11.1	26.2	38.26	11.8	22.4	21.1
1890	1.2	1.0	9.2	0.9	0.4	10.1	22.8	39.49	12.7	26.2	21.6
1889	2.7	1.0	8.2	1.0	0.4	10.1	23.5	48.38	13.6	27.8	24.6
1888	2.1	0.8	7.3	1.0	0.4	9.8	21.4	43.92	15.3	29.4	27.5
1887	1.0	0.7	8.6	0.9	0.4	9.8	21.6	51.04	15.5	29.9	28.0
1886	0.4	0.6	7.8	0.9	0.4	9.3	19.7	47.76	14.5	28.0	26.4
Average of quinquennial period (1886 to 1890).	1.5	0.8	8.2	0.9	0.4	9.8	21.8	46.11	14.3	28.3	25.6

* Dysentery and diarrhoea only.

This table shows that the mortality was higher in 1891 than in any of the five preceding years, the increase being due to the high mortality from cholera, small-pox, bowel-complaints and "all other causes"; that the rainfall was insufficient (in places) being the lowest amount registered for many years; and that the prices of food were higher than those of any of the preceding five years.

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

Districts.	Number of places of observation.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.		Rainfall.	
		Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.	Days.
Anantapur	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.06	0.2	0.08	0.2	0.12	0.2	0.33	0.7	2.45	3.6	1.70	3.9	2.16	4.9	3.95	6.8	3.47	5.6	3.91	6.7	2.57	4.4	0.32	1.0	21.12	38.2
Bellary	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.08	1.0	0.03	0.1	0.14	0.4	0.65	1.4	2.37	4.4	2.42	5.8	2.48	7.6	3.82	8.0	4.01	7.3	4.47	7.1	1.83	3.2	0.14	0.5	22.44	46.9
Chingleput	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.13	0.3	0.03	0.4	0.06	0.3	0.86	2.6	6.61	8.6	37.06	27.3	38.82	29.4	24.73	26.5	9.88	13.0	8.87	13.7	3.64	6.3	0.37	1.2	131.08	185.2
Coimbatore	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.42	0.4	0.06	0.2	0.10	0.2	0.10	0.2	0.10	0.2	0.27	5.1	3.46	6.8	4.26	9.8	5.03	7.0	8.20	6.3	3.89	3.9	1.69	4.9	88.90	136.0
Cuddapah	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.20	0.6	0.06	0.1	0.06	0.1	0.25	2.6	3.87	7.1	2.14	4.2	1.55	4.7	2.41	5.3	3.08	4.8	6.50	10.2	4.73	8.3	1.61	5.7	28.00	54.9
Ganjam	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.10	0.4	0.06	0.1	0.06	0.1	0.18	0.5	0.33	0.7	0.46	0.8	1.10	2.4	1.69	3.8	2.98	4.4	3.29	6.4	0.61	1.1	0.56	2.0	14.79	28.2
Godavari	{ Average of 10 years 1889 ... 1890 ... 1891 ... }	0.08	0.1	0.04	0.1	0.06	0.1	0.18	0.5	0.33	0.7	0.46	0.8	1.10	2.4	1.69	3.8	2.98	4.4	3.29	6.4	0.61	1.1	0.56	2.0	14.79	28.2

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 1889 1890 1891	0.08	0.1	0.06	0.1	0.37	0.6	0.10	0.4	1.88	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	38.50	52.0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kurnool	Average of 10 years 1889 1890 1891	0.04	0.1	0.03	0.1	0.21	0.4	0.20	0.4	0.46	0.7	3.25	6.3	2.78	8.1	4.84	9.2	4.55	8.1	4.52	7.2	2.57	4.6	0.45	0.9	26.44	48.7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madras	Average of 10 years 1889 1890 1891	0.04	0.3	0.25	0.3	0.27	1.1	0.18	0.3	1.48	2.1	2.63	11.4	3.84	14.9	4.75	14.2	4.16	11.3	14.02	16.3	18.27	16.7	7.14	9.5	57.89	100.7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Madura	Average of 10 years 1889 1890 1891	0.32	0.9	0.01	0.1	0.88	1.5	0.04	0.5	2.22	4.8	1.18	2.6	2.59	4.9	2.38	4.9	2.35	4.7	6.98	10.4	16.79	10.1	4.35	6.3	39.23	51.6
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Malabar	Average of 10 years 1889 1890 1891	0.16	0.3	0.08	0.3	0.62	1.4	2.63	4.7	9.53	10.9	30.27	25.6	29.66	27.4	15.55	21.1	6.79	13.9	8.97	14.4	6.94	9.4	1.03	2.3	111.28	131.7
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nellore	Average of 10 years 1889 1890 1891	0.37	0.7	0.04	0.1	0.29	0.5	0.28	0.6	2.87	3.2	2.67	4.9	2.64	5.2	5.31	8.1	4.67	6.1	7.66	8.9	9.93	9.1	2.74	3.0	37.06	44.0
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
North Arcot.	Average of 10 years 1889 1890 1891	0.35	0.6	0.10	0.1	0.47	0.3	1.12	1.6	0.69	1.3	3.68	6.1	4.31	7.2	5.11	8.1	8.16	9.3	8.97	9.1	1.82	3.0	5.44	5.1	39.79	51.5
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nilgiris	Average of 10 years 1889 1890 1891	0.65	1.7	0.40	0.9	0.69	3.3	3.06	6.4	6.31	12.2	9.12	15.5	10.88	19.0	7.98	16.8	5.62	13.2	10.42	17.5	8.65	14.6	3.72	6.7	67.45	127.8
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

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 1889 1890 1891	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
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South Arcot.	Average of 10 years 1889 1890 1891	0.52	0.8	0.04	0.1	0.38	0.7	0.29	0.5	2.91	3.5	1.80	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
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tanjore	Average of 10 years 1889 1890 1891	0.34	1.1	0.25	0.5	0.16	0.5	1.62	3.2	2.51	3.1	1.15	2.8	5.66	7.6	4.73	7.8	4.33	6.1	6.08	7.1	4.04	3.7	5.66	4.4	36.18	46.4
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tinnevely	Average of 10 years 1889 1890 1891	0.66	1.5	0.07	0.1	0.41	0.8	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
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trichinopoly.	Average of 10 years 1889 1890 1891	0.35	0.9	0.02	0.3	0.06	0.2	0.88	1.2	3.67	5.9	1.36	2.5	1.43	3.6	4.75	7.0	3.92	6.4	9.48	11.2	12.91	12.6	10.00	9.9	49.51	60.1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Vizagapatam.	Average of 10 years 1889 1890 1891	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	13.2	7.66	12.1	6.98	10.6	6.08	7.5	1.56	4.9	0.83	1.1	39.98	44.1
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	Average of 10 years 1889 1890 1891	0.33	0.7	0.16	0.3	0.89	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
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

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 Nilgiris) 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 Nilgiris) ranged from 30.8 seers for the rupee in the Ganjam district to 18.0 in Chingleput. In the Chingleput, North Arcot and Tinnevely 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 tola, 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.	Godavari.	Kistna.	Nellore.	Cuddapah.	Anantapur.	Bellary.	Kurnool.	Madras.	Chingleput.	N. Arcot.	S. Arcot.	Tanjore.	Trichinopoly.	Madras.	Tinnevely.	Chembalore.	Nilgiris.	Salem.	S. Canara.	Malabar.		
Second-sort rice.	January	Average of 10 years...	16.8	14.1	14.9	13.2	14.6	14.7	*	14.0	15.2	15.4	15.5	16.2	16.0	15.6	14.7	14.3	13.9	14.5	11.3	12.8	14.7	14.2	
	1889	...	11.6	12.3	15.6	15.3	15.0	15.4	15.5	12.8	12.7	13.4	16.3	16.2	16.3	15.0	14.1	13.5	13.2	13.8	10.9	14.9	14.8	13.5	
	1890	...	15.3	14.7	15.7	14.1	13.6	13.8	15.0	13.0	12.7	13.3	13.1	12.8	13.2	11.5	10.9	12.2	10.6	13.4	13.7	11.6	11.6		
	1891	...	18.9	18.3	15.1	13.8	11.8	11.5	13.1	11.8	13.4	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	14.9	14.9	15.1	*	14.0	12.1	13.7	16.1	16.4	16.5	16.3	15.1	16.0	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	12.1	12.7	13.4	17.3	16.3	16.3	15.0	14.6	14.6	13.6	13.7	13.1	14.9	14.3	13.8	
	1890	...	16.4	15.3	15.7	14.4	13.7	13.8	15.4	13.1	12.9	13.7	13.7	12.8	12.7	12.4	11.8	11.0	12.7	10.8	11.6	14.0	14.0	12.8	
	1891	...	18.9	18.1	15.3	14.0	12.6	13.0	13.0	12.7	13.0	11.6	12.9	12.9	12.8	12.7	11.3	10.6	11.3	9.9	12.7	14.0	13.7	11.8	
	March	Average of 10 years...	18.3	13.4	15.2	14.5	13.9	14.9	15.2	*	14.0	13.2	13.8	15.1	16.4	16.7	16.5	14.9	14.3	14.0	11.8	11.7	12.3	14.9	14.1
	1889	...	11.3	12.3	15.2	15.0	14.9	14.9	15.2	13.3	12.4	13.4	17.3	16.1	16.4	16.7	15.4	14.3	14.0	11.8	11.7	12.3	14.9	14.1	
	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	10.8	13.3	14.2	13.5	
	1891	...	18.9	18.0	15.2	14.0	12.1	11.0	13.0	11.9	12.4	10.9	11.7	11.7	12.5	13.4	11.6	11.4	11.2	11.3	9.6	12.0	13.7	14.0	
	April	Average of 10 years...	18.6	14.4	15.2	14.8	14.9	15.1	*	13.8	13.1	13.9	16.3	16.5	16.7	16.6	15.8	15.2	14.8	14.8	11.7	12.3	14.8	14.0	13.0
	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	16.1	15.5	14.5	14.7	14.1	13.7	12.8	14.5	13.8	13.0	
	1890	...	17.1	14.9	15.6	14.2	13.2	13.5	14.9	12.5	12.1	11.4	12.5	13.2	12.1	12.2	11.8	11.7	10.8	12.6	10.7	13.4	14.1	12.0	
	1891	...	18.6	17.9	14.9	14.0	11.9	11.9	13.7	13.1	12.6	11.0	11.7	12.7	13.3	13.2	12.1	11.7	11.2	11.2	9.8	12.1	13.4	11.7	
	May	Average of 10 years...	18.4	14.3	14.6	14.5	15.1	15.2	*	14.9	12.0	12.2	13.3	16.6	15.6	15.9	14.8	14.0	14.3	13.7	14.6	11.0	12.5	14.6	13.9
	1889	...	11.1	11.6	14.6	14.2	14.5	14.5	14.9	12.0	12.2	13.3	16.6	15.6	15.9	14.8	14.0	14.3	13.7	14.6	11.0	12.5	14.6	13.9	
	1890	...	17.3	14.7	15.6	14.1	13.3	13.6	14.7	12.3	12.0	11.7	12.4	12.9	12.2	12.1	11.7	11.3	10.5	12.8	9.9	13.1	13.9	11.7	
	1891	...	18.9	17.8	14.9	14.0	12.2	11.7	13.0	11.3	12.4	11.0	11.3	11.8	12.5	13.6	12.0	11.6	11.0	10.5	12.2	9.7	12.0	13.1	11.7
	June	Average of 10 years...	18.5	14.1	14.8	14.4	15.1	15.3	*	13.9	13.0	13.7	16.9	16.2	16.2	15.9	14.9	14.9	13.7	14.3	11.4	12.0	14.2	13.9	13.0
	1889	...	10.3	11.2	14.2	13.9	14.4	14.7	14.4	12.6	12.0	13.0	15.9	15.5	15.5	14.1	13.8	14.1	13.2	13.8	12.9	14.2	12.7	12.6	
	1890	...	17.0	14.5	15.3	13.6	13.4	13.8	13.2	12.5	11.8	11.9	12.9	12.5	12.5	11.9	11.4	11.0	10.2	11.8	9.6	12.7	13.8	11.5	
	1891	...	18.1	17.5	14.1	13.2	11.9	11.5	12.9	11.3	11.9	11.4	11.0	11.3	12.4	13.6	11.6	11.5	10.7	11.1	9.3	11.6	12.0	11.1	
July	Average of 10 years...	18.1	14.0	14.7	14.4	15.2	15.5	*	13.7	12.9	13.4	11.0	11.3	12.4	13.6	11.6	14.3	13.3	14.0	11.4	12.4	14.1	13.4	11.4	
1889	...	10.4	11.3	14.4	13.8	14.3	14.6	14.6	12.8	12.0	12.8	15.2	15.1	14.9	13.7	13.9	14.3	13.2	13.7	12.1	12.1	12.1	12.1		
1890	...	16.9	14.5	15.0	13.8	13.2	13.9	14.3	12.2	11.9	11.9	12.0	12.5	11.9	11.5	10.7	10.5	9.8	13.3	9.0	12.4	13.3	11.2		
1891	...	16.9	14.5	15.0	13.8	13.2	13.9	14.3	12.2	11.9	11.9	12.0	12.5	11.9	11.5	10.7	10.5	9.8	13.3	9.0	12.4	13.3	11.2		
August	Average of 10 years...	17.6	13.4	13.9	14.3	14.9	15.2	*	13.8	12.9	13.7	15.0	15.9	15.5	15.0	14.1	14.1	13.3	13.7	11.2	11.4	13.6	13.9	13.0	
1889	...	10.5	11.7	14.5	13.7	14.3	14.4	14.0	12.8	11.8	12.8	14.8	14.8	15.0	13.9	13.3	13.9	12.4	12.8	12.2	13.9	12.0	12.1		
1890	...	16.7	14.8	15.0	13.5	12.8	13.7	13.8	12.3	11.8	11.0	11.5	12.3	12.0	11.2	10.6	10.3	9.8	11.2	9.8	12.2	13.6	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	10.1	9.9	10.8	11.3	10.9		
September	Average of 10 years...	16.7	13.1	14.4	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	13.0	13.2	12.9	
1889	...	11.2	11.9	14.9	13.8	14.0	14.3	14.9	12.8	12.0	12.8	14.3	14.7	15.1	13.9	13.1	13.2	13.3	12.6	12.2	14.2	13.2	13.2		
1890	...	17.0	14.0	14.9	13.6	12.7	15.6	14.1	12.4	11.9	11.0	11.7	12.2	11.7	11.4	10.8	10.3	9.8	12.2	10.2	13.6	11.1	11.1		
1891	...	16.3	14.7	15.0	13.4	11.3	14.4	11.0	10.6	11.2	10.3	10.6	10.9	11.6	11.5	10.5	10.5	10.2	10.3	8.7	10.4	11.7	10.7		
October	Average of 10 years...	17.4	13.0	14.0	13.9	14.9	14.9	*	14.6	11.2	10.3	15.0	15.6	15.3	14.6	13.5	13.7	13.8	13.0	11.5	11.5	14.0	13.4	12.6	
1889	...	11.9	12.3	15.6	14.5	14.2	14.5	15.2	12.6	12.2	12.5	14.2	14.6	15.0	14.2	13.7	13.9	12.6	12.8	10.5	14.4	11.3	12.6		
1890	...	17.5	15.4	14.7	13.6	12.7	13.5	14.2	12.3	12.0	11.0	11.6	12.1	11.7	12.1	10.8	10.5	10.1	11.4	9.9	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	10.3	11.1	12.0	10.5	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	13.0	14.9	*	13.7	13.1	13.3	15.2	16.0	15.8	16.2	14.8	14.1	14.1	14.7	10.9	12.2	14.1	14.2	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	12.3	12.9	10.5	14.5	13.1	12.3		
1890	...	18.2	16.0	14.6	13.6	12.3	15.2	14.0	12.2	13.2	11.8	11.8	12.0	12.3	12.9	11.1	10.9	10.3	11.4	9.5	12.3	13.6	11.1		
1891	...	13.4	11.7	15.6	14.9	13.3	9.9	9.9	11.3	12.5	9.8	9.7	11.2	12.2	12.2	10.7	10.6	10.4	10.8	8.0	11.4	11.4	11.8		
December	Average of 10 years...	18.0	13.8	14.7	14.6	15.9	15.1	*	15.9	13.3	13.8	15.6	16.8	11.8	12.7	12.1	13.9	14.3	14.3	11.7	11.8	14.7	11.8	11.8	
1889	...	15.3	13.3	15.5	14.5	15.0	13.9	15.5	12.9	12.2	10.8	11.8	12.7	12.1	12.1	10.5	10.5	10.2	10.9	9.8	13.2	14.1	11.8		
1890	...	19.2	16.6	14.7	13.6	11.9	13.8	12.0	12.3	10.8	11.7	11.4	12.4	13.1	12.1	11.2	11.2	10.4	11.7	9.6	12.6	13.6	11.3		
1891	...	11.8	10.4	10.1	10.3	9.3	7.8	7.9	8.1	8.4	9.1	9.5	9.2	11.2	12.2	10.4	10.3	10.3	6.9	7.8	9.2	12.9	11.8		
Average	Average of 10 years...	16.2	13.8	14.6	14.3	14.8	15.1	*	13.9	13.0	13.7	15.6	16.2	16.1	15.9	14.7	14.4	13.9	14.3	11.4	12.0	14.4	14.0	14.0	
1889	...	11.6	12.1	15.1	14.4	14.2	14.6	15.1	12.8	13.2	12.8	15.3	15.1	15.2	14.5	13.7	13.6	13.9	13.2	11.9	12.3	13.0	12.7	12.7	
1890	...	17.1	15.1	15.2	13.9	13.0	13.5	13.2	12.4	13.1	11.3	12.1	12.2	12.0	12.2	11.4	11.1	10.4	11.9	10.9	12.8	13.8	11.8		
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	12.9	11.2	11.0	10.6	10.9	9.0	11.3	12.4	11.6		

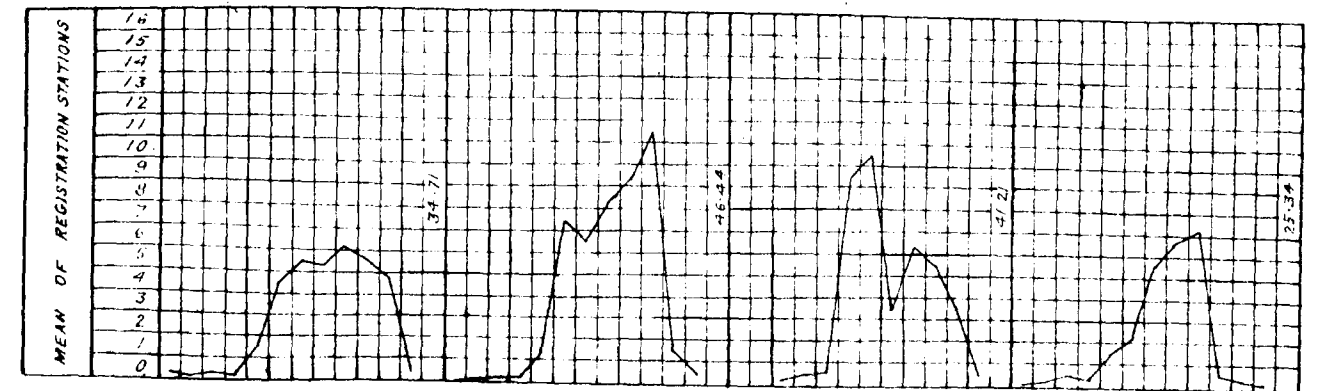
10
93/100

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

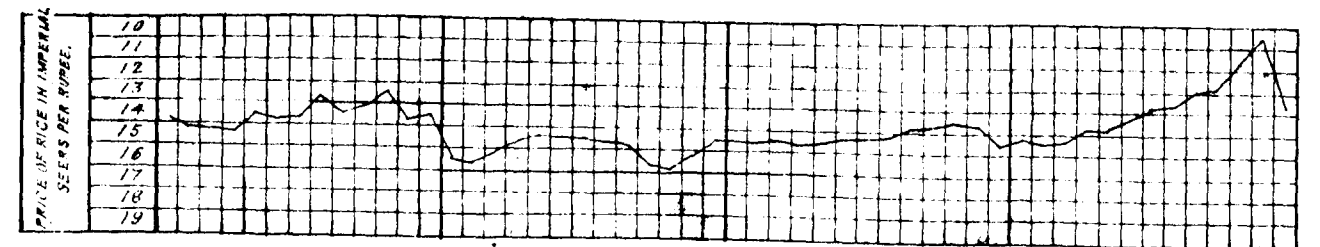
GODAVARI

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									

RAINFALL

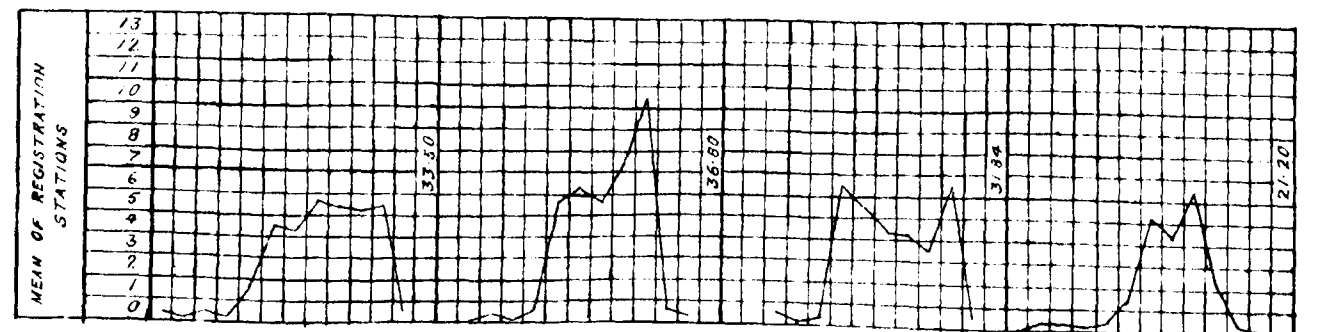


PRICE OF FOOD (RICE)

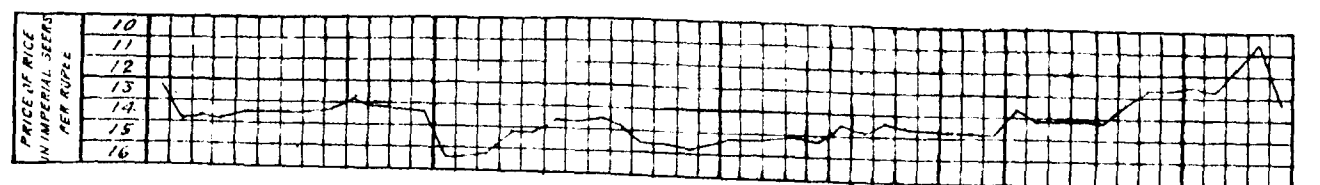


KISTNA

RAINFALL



PRICE OF FOOD (RICE)

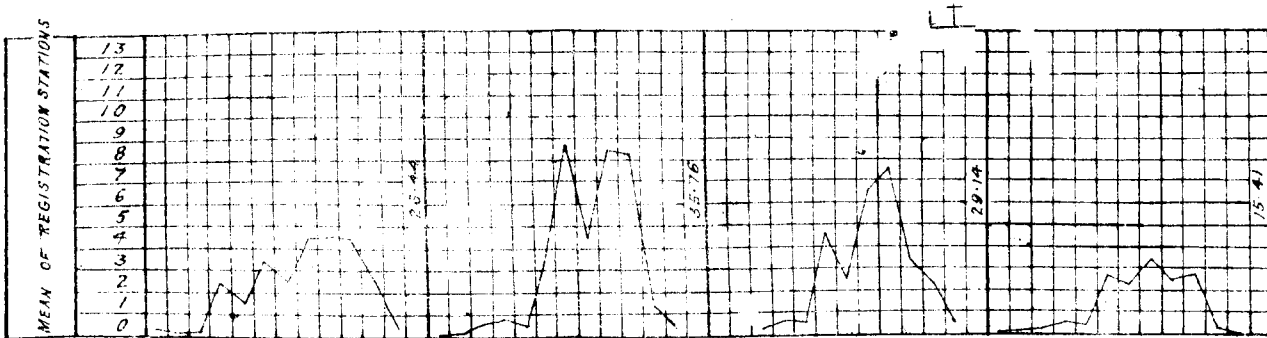


11/2/809
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (CHOLUM) IN THE DISTRICTS OF KURNOOL & BELLARY
FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

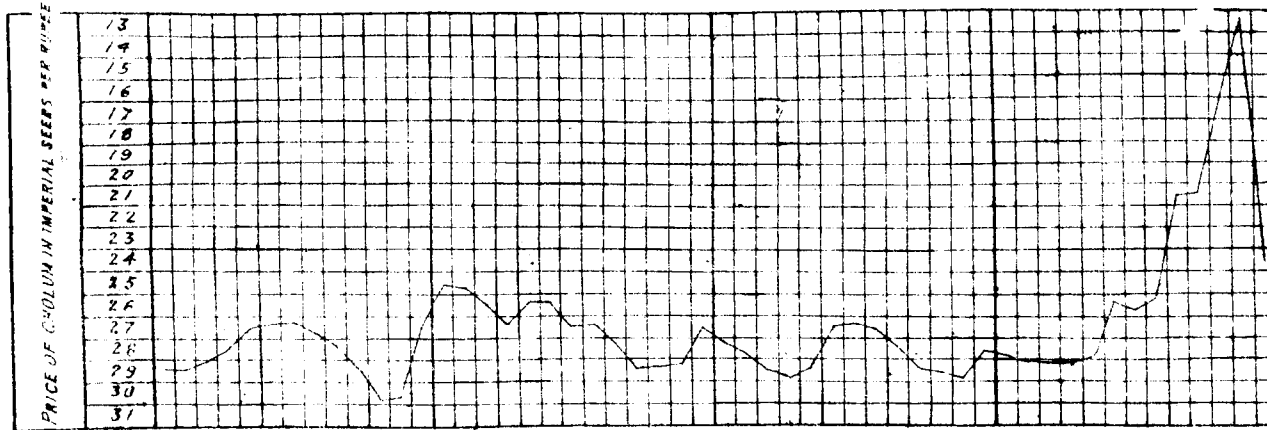
KURNOOL

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									

RAINFALL

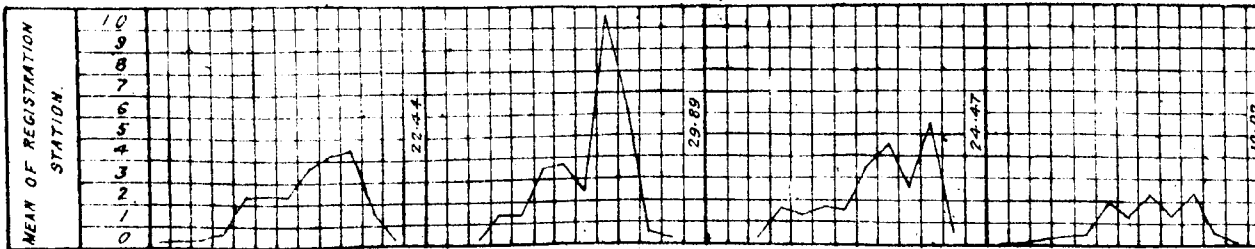


PRICE OF FOOD (CHOLUM)



BELLARY

RAINFALL



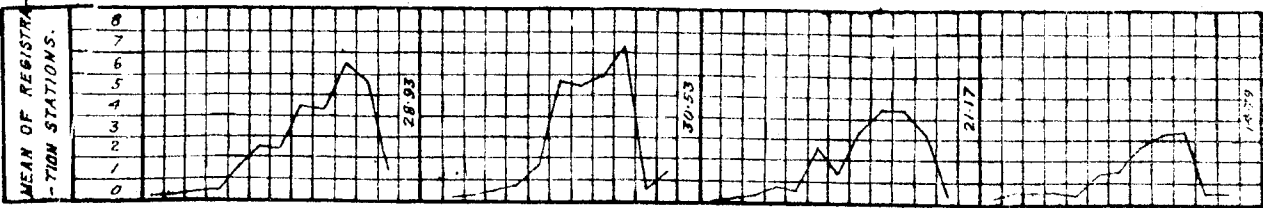
PRICE OF FOOD (CHOLUM)



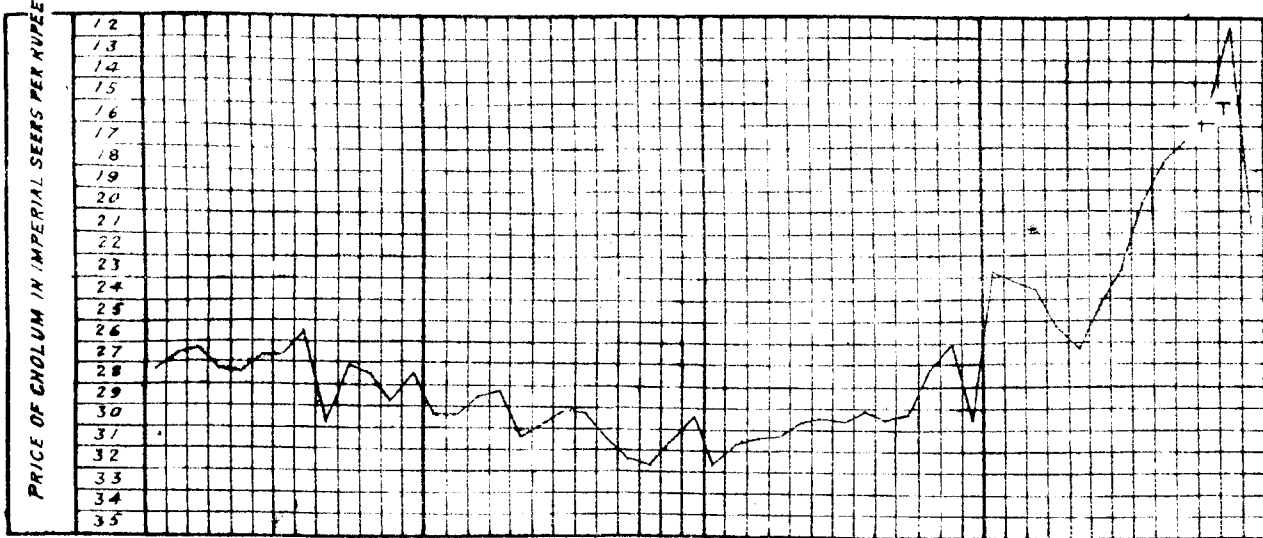
12
33805
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (CHOLUM) IN THE DISTRICTS OF CUDDAPAH & ANANTAPUR FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.
CUDDAPAH.

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									

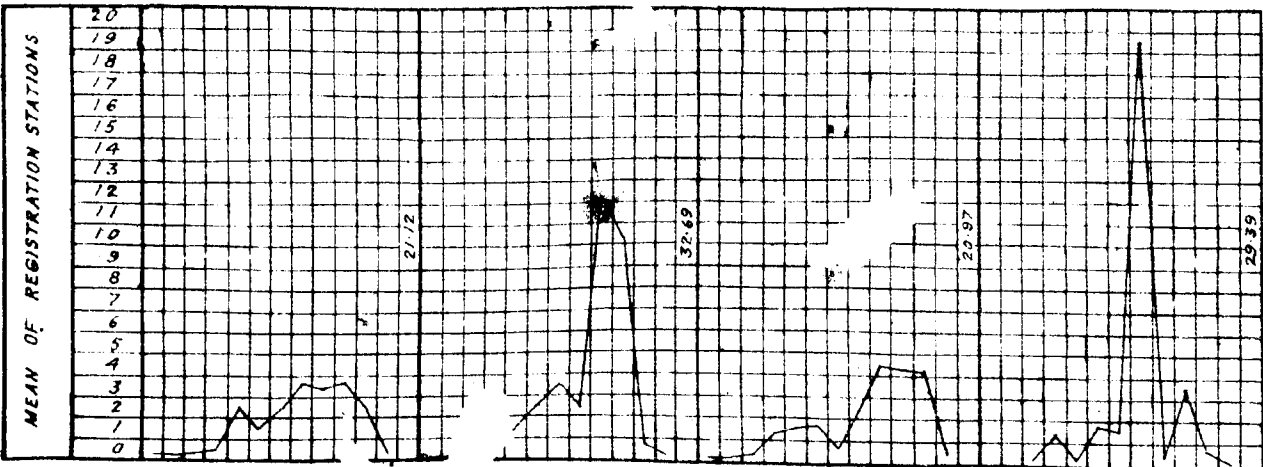
RAINFALL



PRICE OF FOOD (CHOLUM)



ANANTAPUR
RAINFALL



PRICE OF FOOD (CHOLUM)

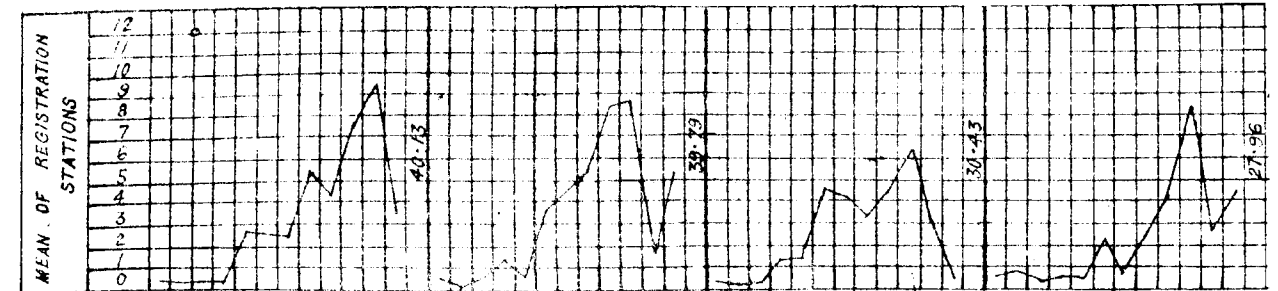


13/33805

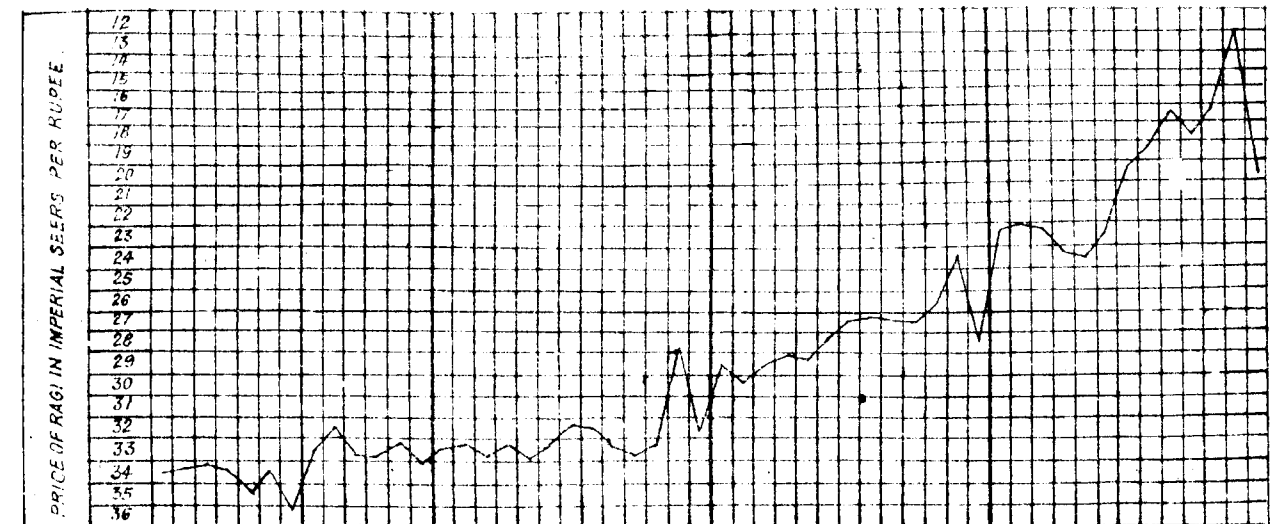
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RAGI) IN THE DISTRICTS OF NORTH ARCOT
& NELLORE FOR 3 YEARS ENDING 1891 COMPARED WITH THE AVERAGE OF 10 YEARS
NORTH ARCOT

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

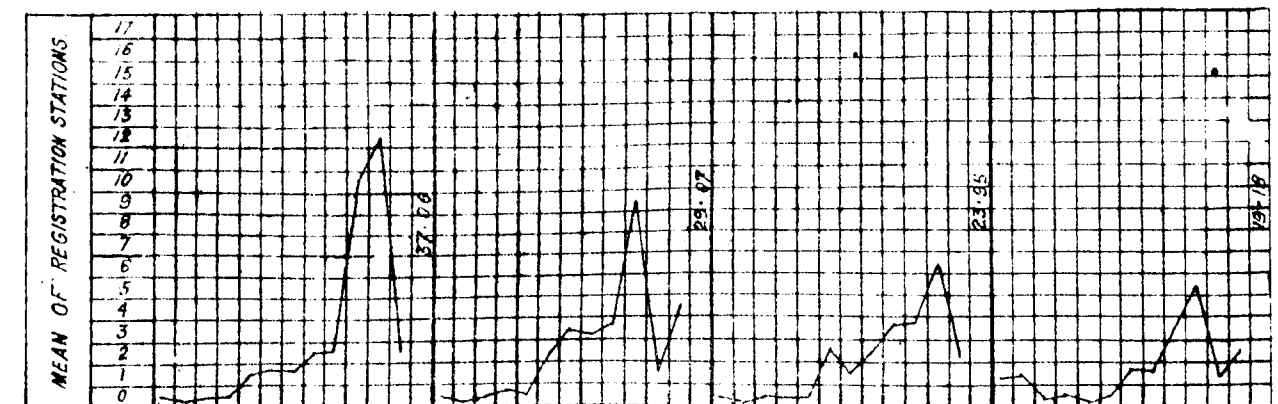
RAINFALL



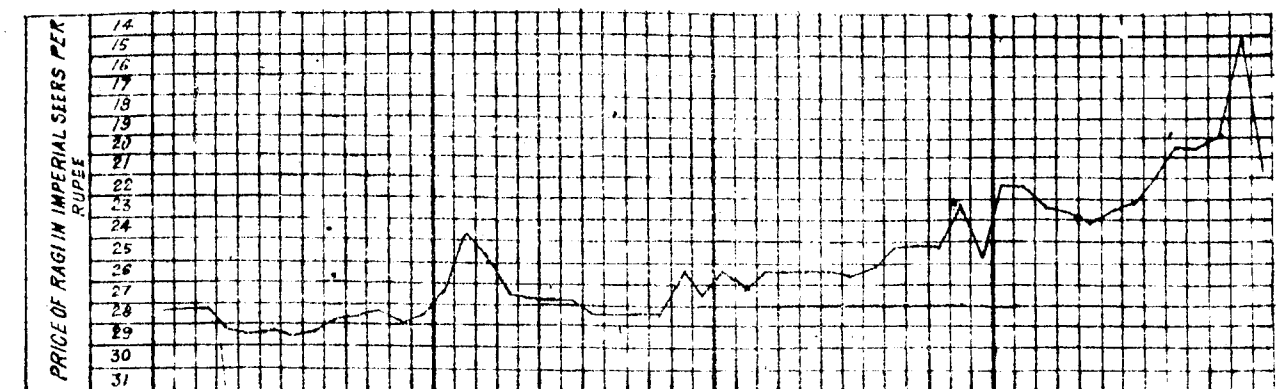
PRICE OF FOOD (RAGI)



NELLORE
RAINFALL



PRICE OF FOOD (RAGI)

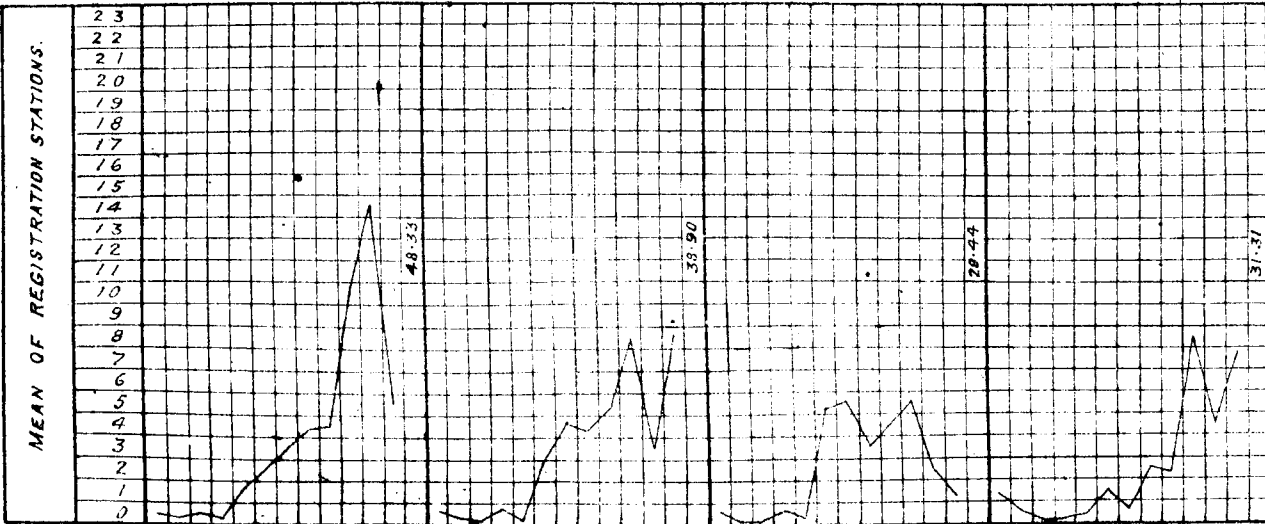


14
23808
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICTS OF CHINGLEPUT & MADRAS
FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

CHINGLEPUT

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										

RAINFALL



PRICE OF FOOD (RICE)

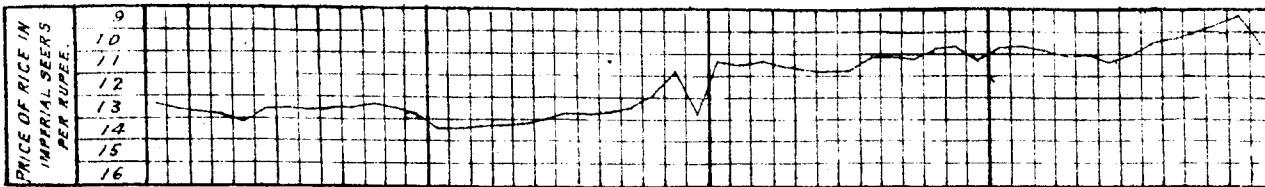


MADRAS.

RAINFALL

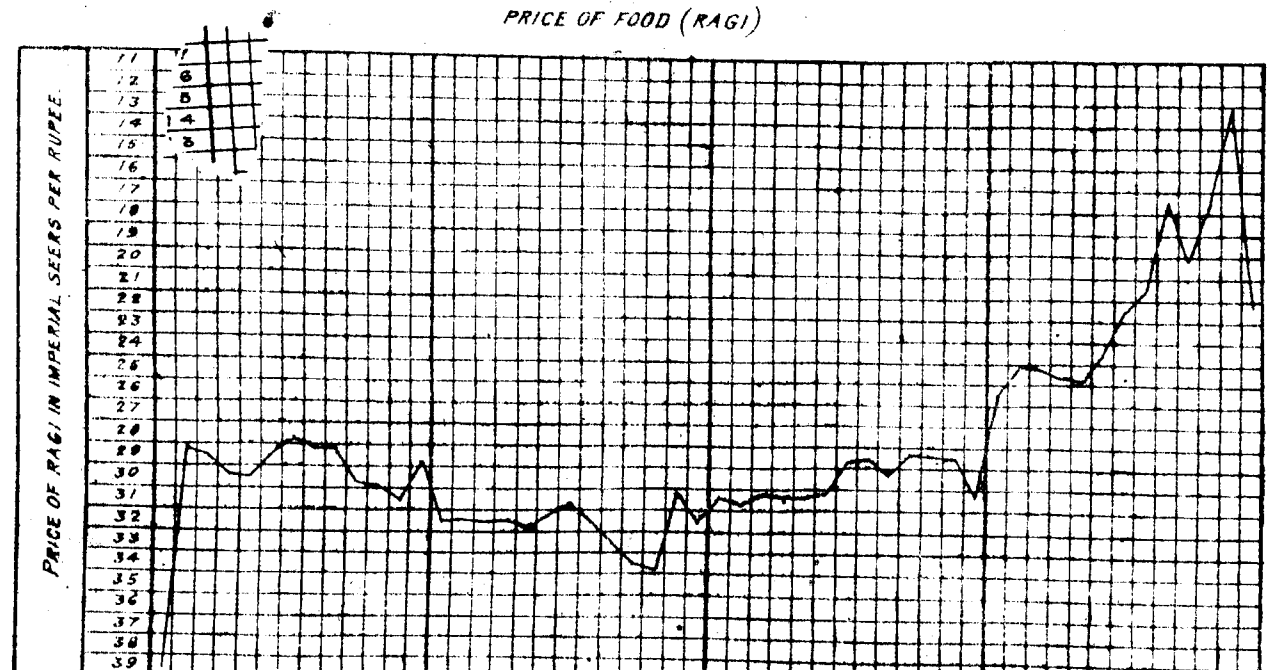
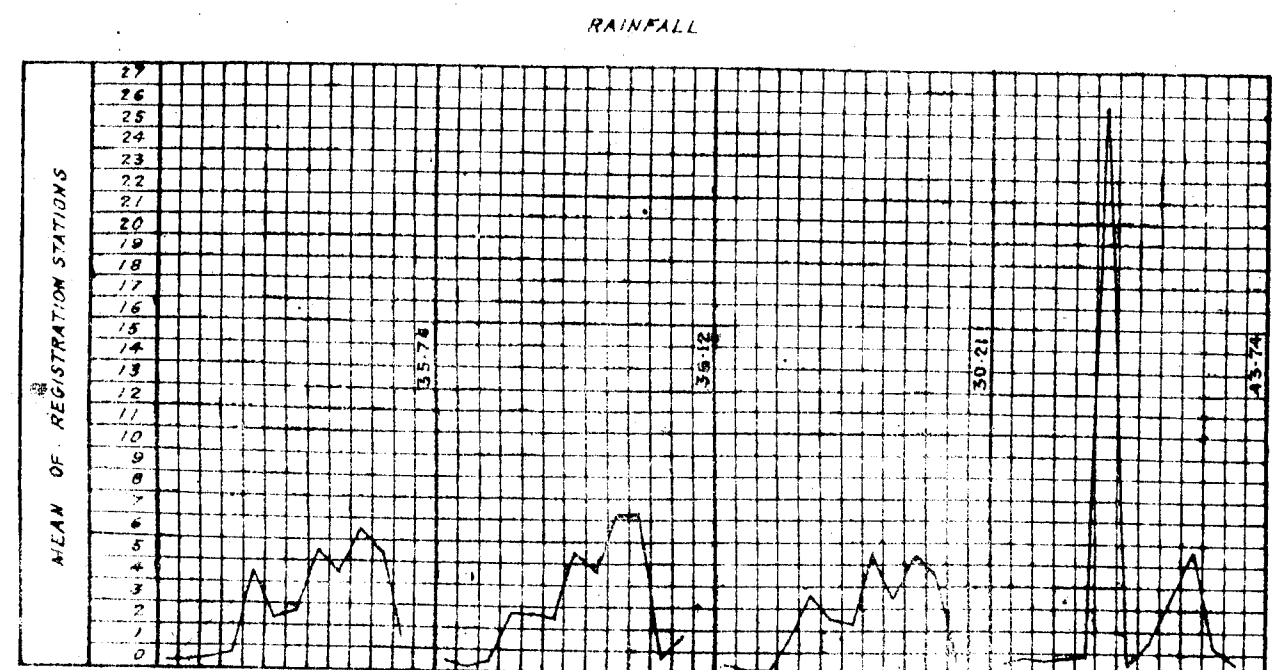


PRICE OF FOOD (RICE)



18/25/803
 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.

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



SOUTH ARCOT
 RAINFALL



PRICE OF FOOD (CUMBU)



16
33-805
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.

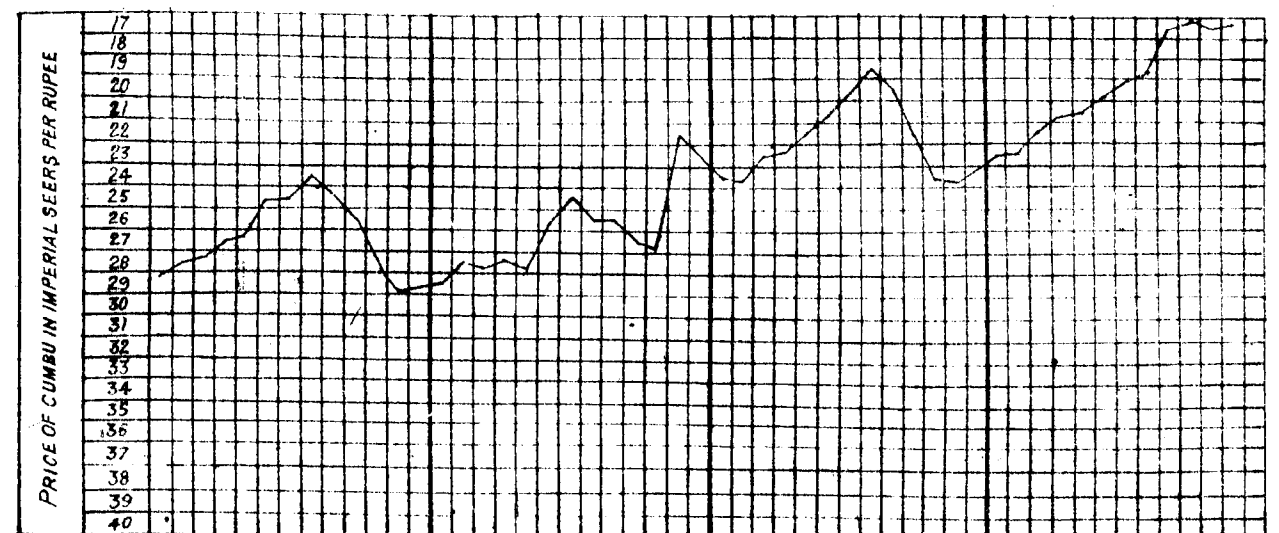
TRICHINOPOLY

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

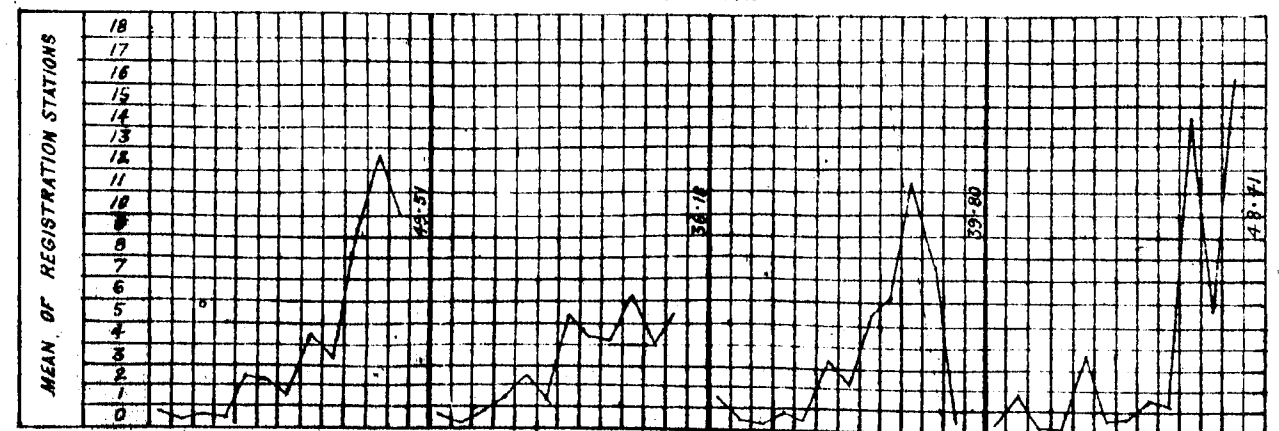
RAINFALL



PRICE OF FOOD (CUMBU)



TANJORE
RAINFALL



PRICE OF FOOD (RICE)

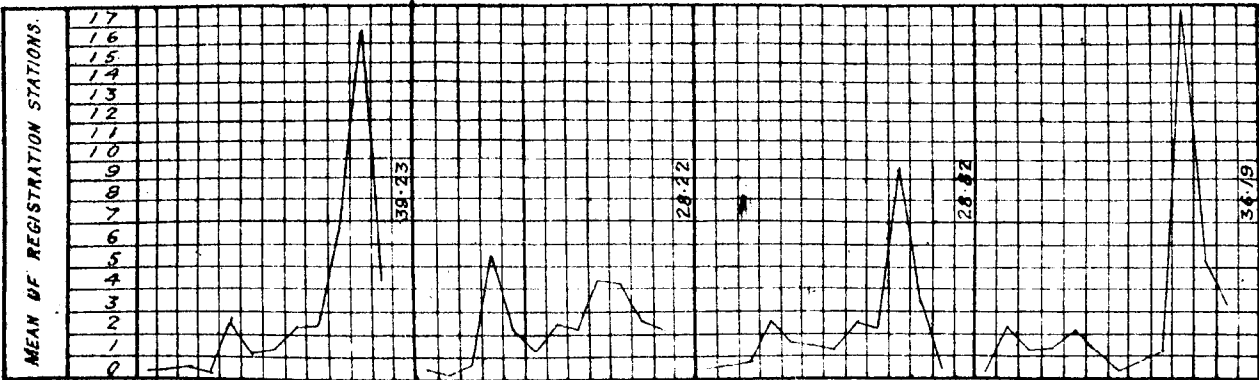


17/23803
DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RAGI) IN THE DISTRICT OF MADURA & (CUMBU) IN THE DISTRICT OF TINNEVELLY FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS.

MADURA

DISTRICTS	YEARS		AVERAGE OF 10 YEARS												1889												1890												1891											
	MONTHS		JAN.	FEB.	MAR.	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.									

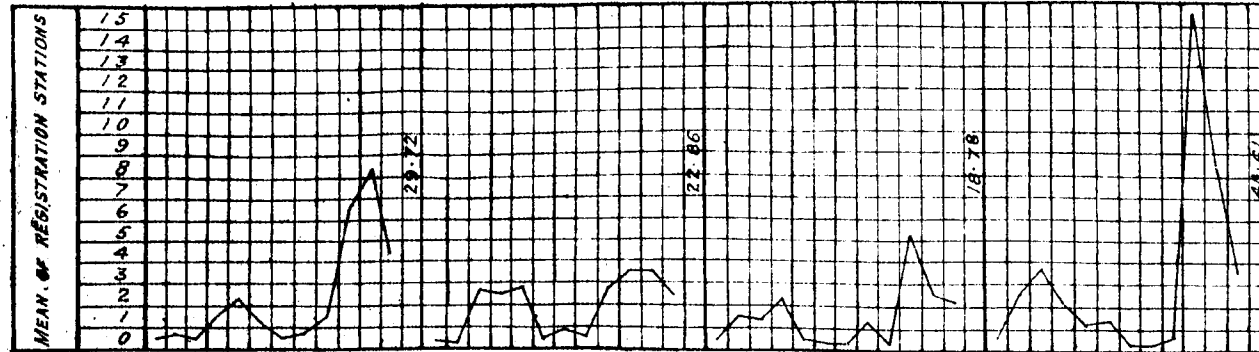
RAINFALL



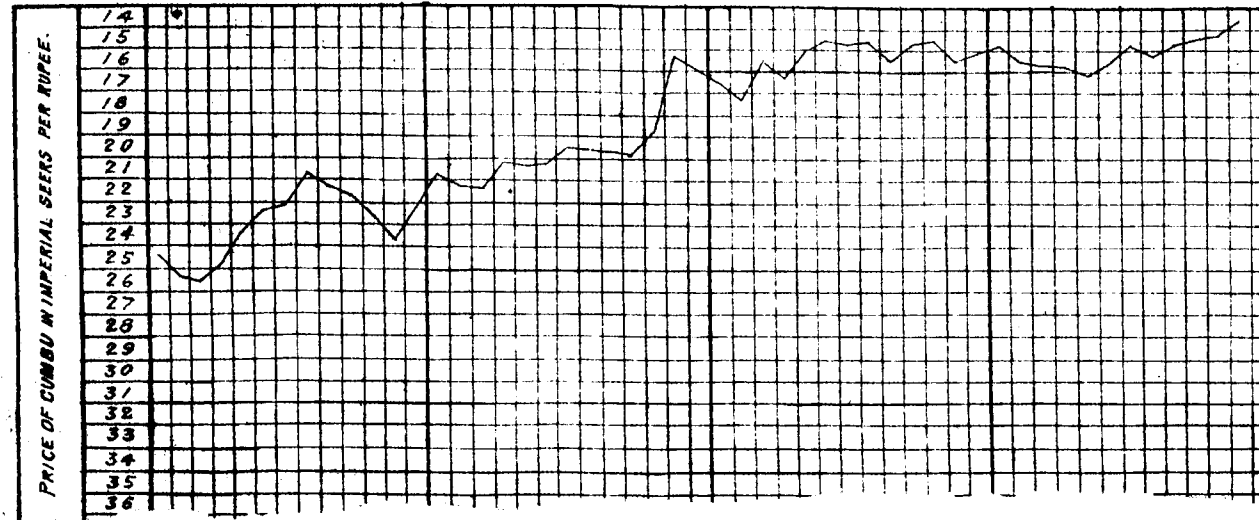
PRICE OF FOOD (RAGI)



TINNEVELLY
RAINFALL



PRICE OF FOOD (CUMBU)



18/22808
 DIAGRAM 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

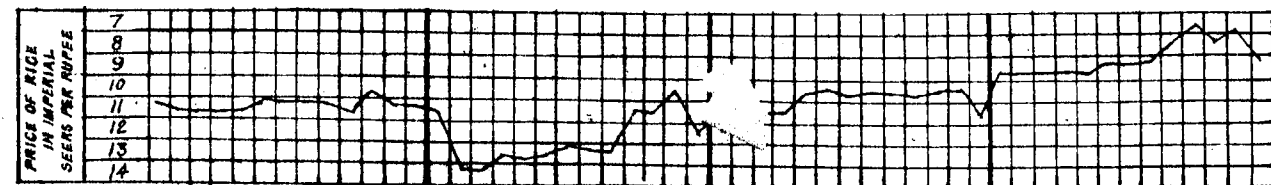
NILGIRIS

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

RAINFALL



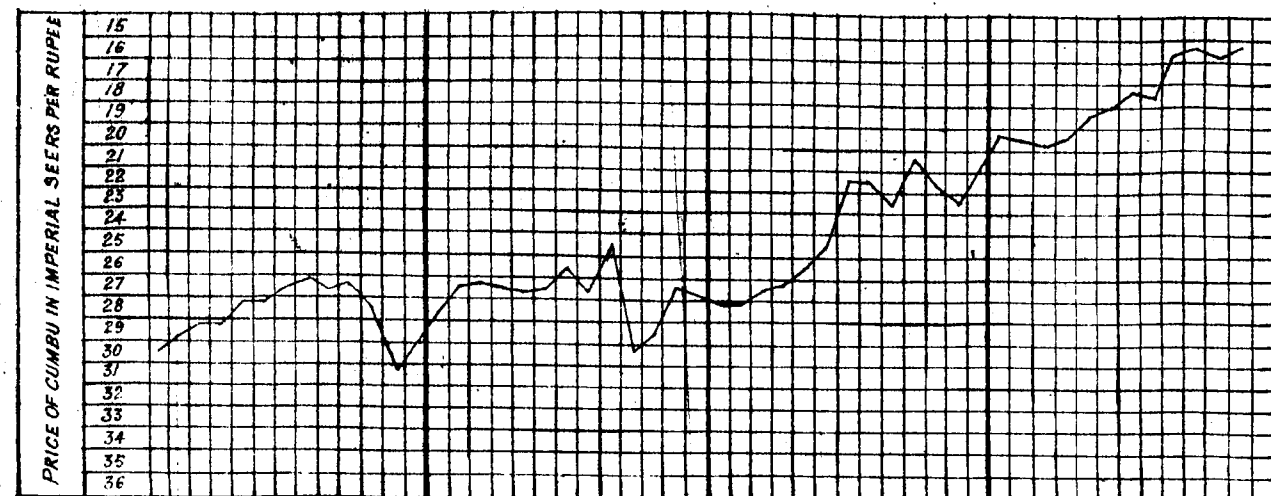
PRICE OF FOOD (RICE)



COIMBATORE
 RAINFALL



PRICE OF FOOD (CUMBU)

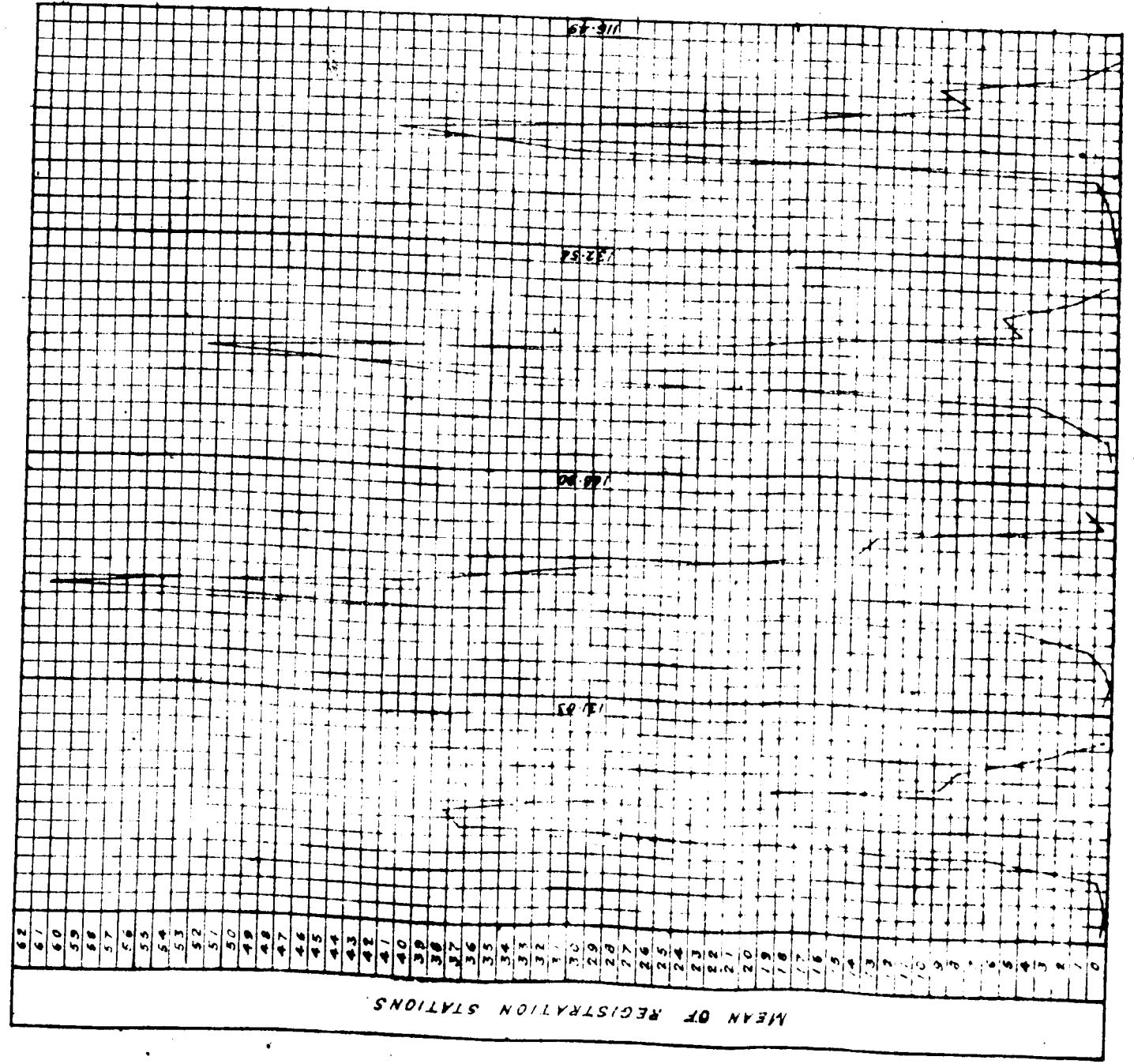


195508
 DIAGRAM SHOWING THE RAINFALL & PRICE OF FOOD (RICE) IN THE DISTRICTS OF SOUTH CANARA & MALABAR
 FOR 3 YEARS ENDING 1891 COMPARED WITH AVERAGE OF 10 YEARS
 SOUTH CANARA

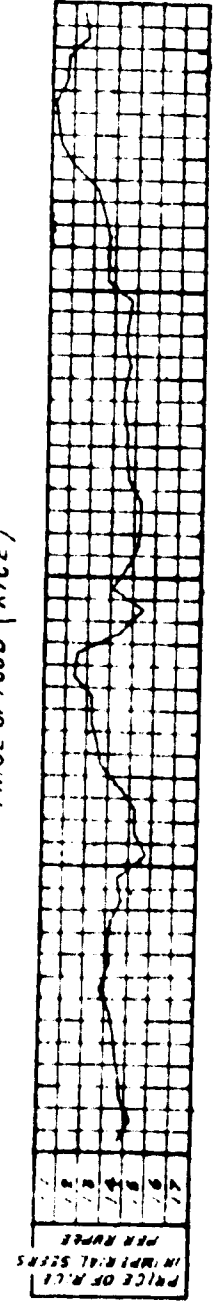
DISTRICTS	YEARS	AVERAGE OF 10 YEARS.												1889												1890												1891											
	MONTHS	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL									

RAINFALL

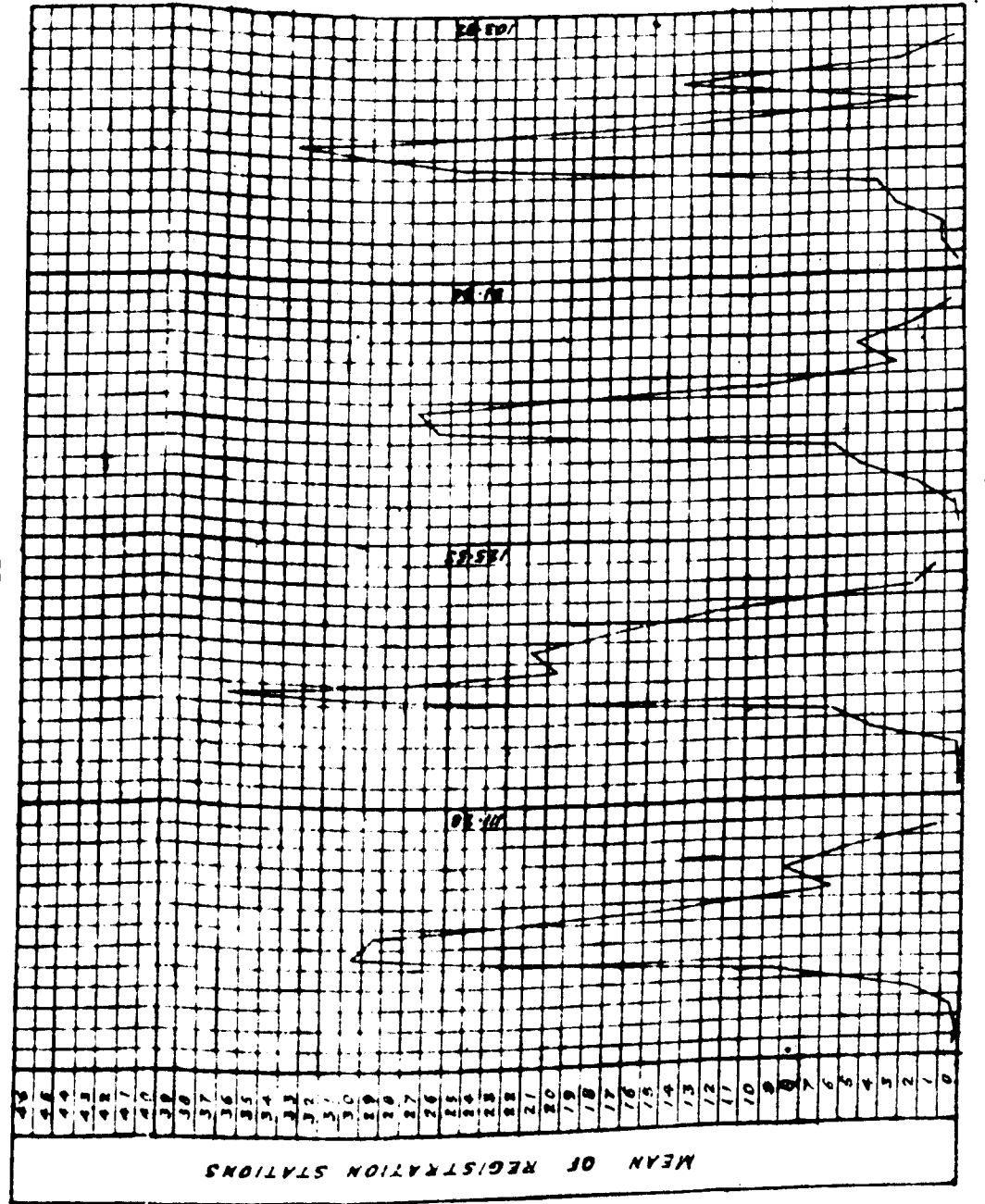
RAINFALL



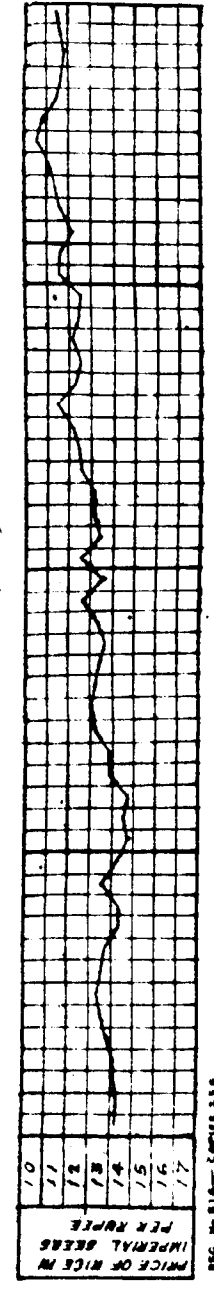
PRICE OF FOOD (RICE)



MALABAR
 RAINFALL

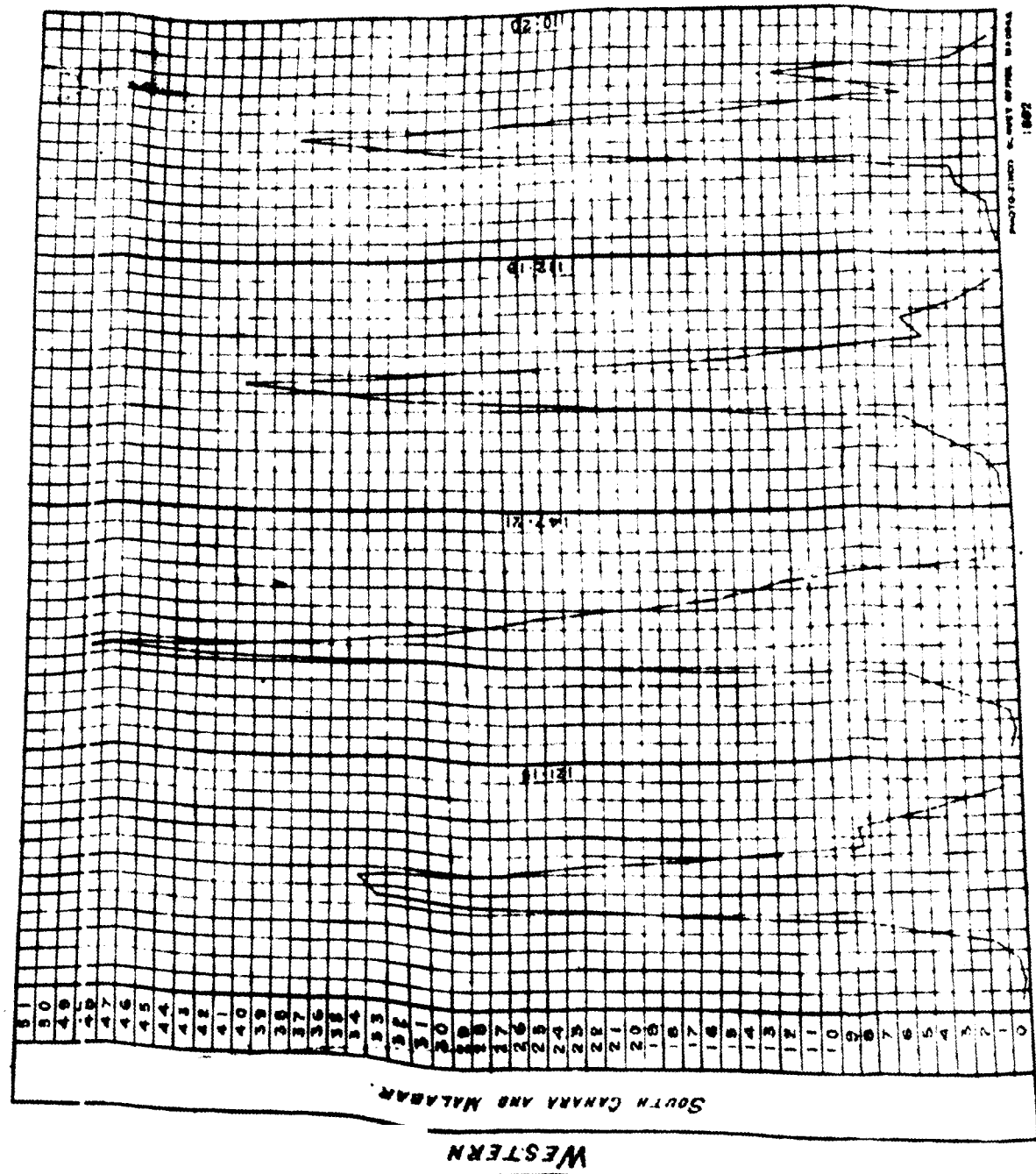
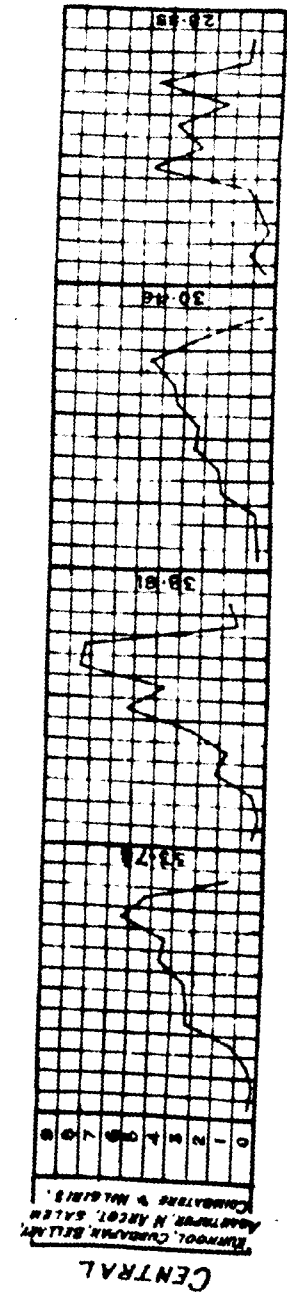
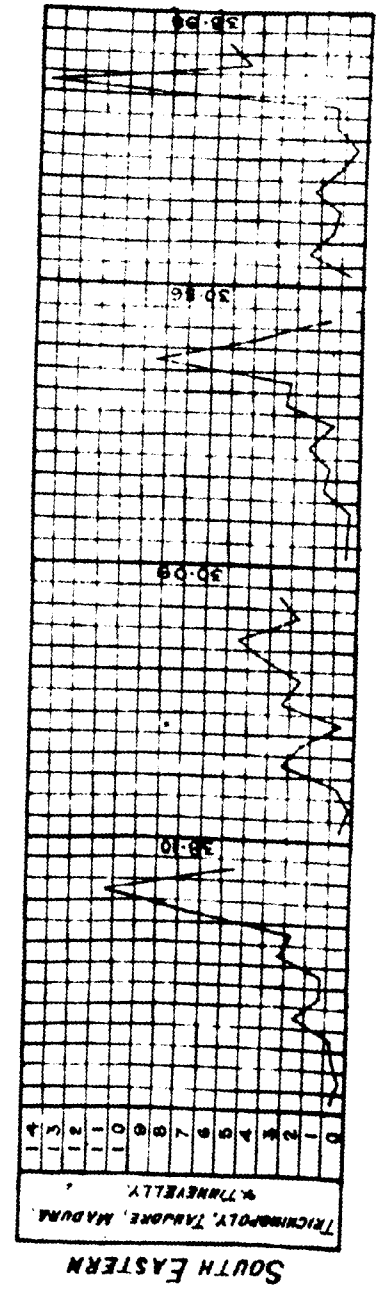
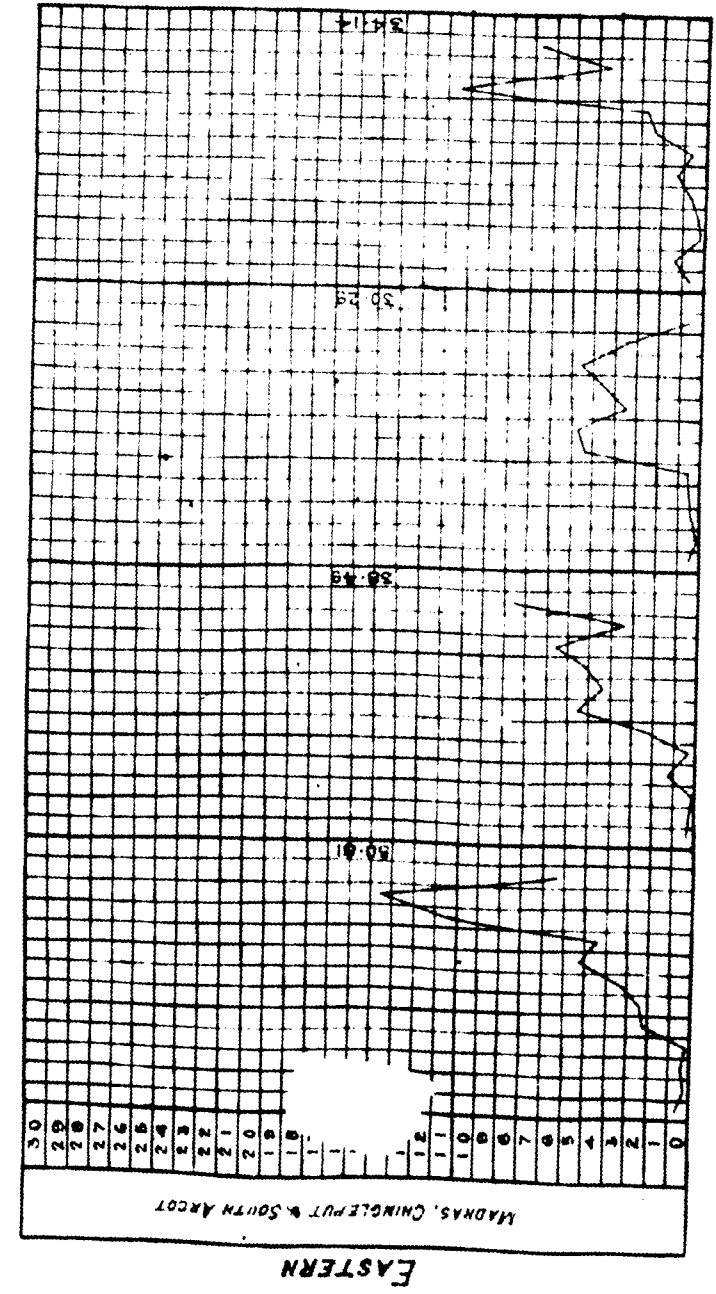
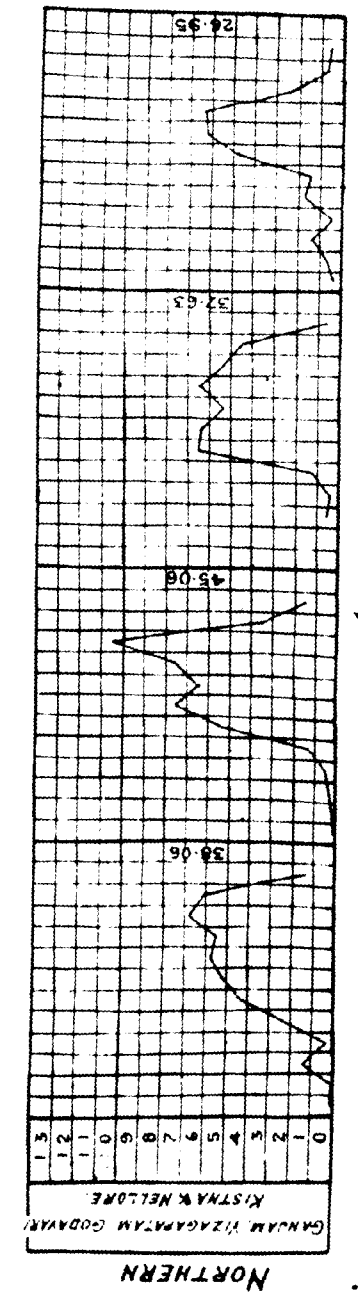


PRICE OF FOOD (RICE)



20/3/2008
 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.

DISTRICTS	AVERAGE OF 10 YEARS.												1890												1891													
	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



2/2/88
50/80

PRICES OF FOOD.

Table showing the Average Quantities of Food Grains, in seers of 80 talaks, 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.	Tamil.	Vizianpalem.	Godavari.	Kistna.	Nellore.	Cuddapah.	Ashtapur.	Bellary.	Kurnool.	Madras.	Chingleput.	N. Arcot.	S. Arcot.	Tanjore.	Tiruchinopoly.	Madras.	Pinnovelly.	Coimbatore.	Nilgiris.	Salem.	B. Canara.	Malabar.
January	261	0.65	284	344	0.58	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
February	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
March	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
April	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
May	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
June	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
July	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
August	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
September	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
October	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
November	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
December	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
Average	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
January	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
February	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
March	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
April	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
May	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
June	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
July	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
August	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
September	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
October	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
November	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
December	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...
Average	250	0.64	284	335	0.57	1.28	1.38	0.06	29.5	17.4	0.82	3.86	3.25	9.36	30.8	30.0	32.0	24.2	20.8	23.2	...	...

* 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., 30,885,771; 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 28,513,784, being 2,322,087 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	30,366,221	569,631	18.7	516,848	17.0
1875	30,378,903	625,958	20.6	641,260	21.1
1876	29,157,056	619,748	21.2	680,384	23.3
1877	29,209,543	467,543	16.01	1,556,312	53.2
1878	29,127,205	341,888	11.7	810,921	27.6
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	28,675,375	716,672	24.9	465,682	16.2
1882	28,587,111	743,777	26.7	470,700	16.5
1883	28,566,106	774,754	27.2	541,930	19.0
1884	28,131,942	810,102	28.8	650,335	23.1
1885	28,115,178	807,105	28.7	615,449	21.9
1886	28,042,538	837,077	29.8	553,927	19.7
1887	27,907,540	849,551	30.4	604,775	21.6
1888	27,852,474	832,345	29.9	597,015	21.4
1889	28,050,067	867,528	30.9	661,178	23.5
1890	28,522,213	893,645	31.3	650,394	22.8
1891	28,513,784	924,238	32.4	747,563	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.		Average of birth-ratio for previous 10 years.	Ratio of deaths per mille of population.		Average of death-ratio for previous 10 years.
		1891.	1890.		1891.	1890.	
1	Anantapur	40.0	39.4	36.1	30.6	26.1	21.5
2	Bellary	38.4	40.3	39.4	32.8	24.0	24.6
3	Chingleput	35.5	34.7	28.3	26.0	21.9	17.3
4	Coimbatore	30.0	29.9	28.6	25.4	24.6	19.6
5	Cuddapah	25.8	18.2	21.9	13.5	13.4	19.7
6	Ganjam	22.7	22.5	23.7	22.3	19.3	20.0
7	Godavari	36.4	36.0	32.7	30.6	23.0	21.3
8	Kistna	40.4	41.2	36.8	32.9	29.7	24.2
9	Kurnool	44.7	43.6	40.3	59.4	42.7	39.6
10	Madras	38.5	35.5	31.0	29.0	23.9	19.9
11	Madura	23.6	23.8	24.0	21.4	17.5	18.8
12	Malabar	28.7	27.4	25.3	20.5	16.8	14.8
13	Nellore	28.3	23.2	17.5	25.4	24.4	17.0
14	Nilgiris	34.5	33.1	27.8	26.3	22.7	18.8
15	North Arcot	40.5	37.7	33.1	25.4	25.5	19.0
16	Salem	34.7	34.4	27.9	35.3	26.8	20.8
17	South Arcot	32.2	32.2	29.8	20.6	26.5	22.4
18	South Canara	30.9	30.0	28.5	27.4	24.4	24.6
19	Tanjore	29.1	30.1	30.6	26.5	25.3	22.8
20	Tinnevely	33.5	35.5	30.4	29.0	26.1	22.4
21	Trichinopoly	29.6	23.6	21.7	17.3	17.3	16.6
22	Vizagapatam						
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 Godavari. In only four districts (Chingleput, Godavari, Malabar and Tinnevely) were the birth-rates lower than the average birth-rates for the previous ten years. In five districts, viz., Chingleput, Kurnool, Malabar, Tinnevely 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 Godavari (22.7), Malabar (23.6), Ganjam (25.8) and Nilgiris (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	27·6	28·6	24·6	3
		Rural .. 39·0	41·0	33·0	23·9	
4	Coimbatore	Urban .. 40·8	45·2	36·2	36·3	4
		Rural .. 35·3	34·3	25·9	21·3	
5	Cuddapah	Urban .. 19·3	18·5	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	Godavari	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	34·2	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	Tinnevely	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, Godavari, Madura, Malabar, Nilgiris, 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 (Bezvada, Tuticorin, Cochin, Calicut, Adoni, Erode, Kumbakonam, 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	444,371	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	222,843	36,392	14,251	180,784	1873
1874	616,848	313	48,313	226,220	37,998	13,065	190,914	1874
1875	641,260	94,546	24,7	252,042	37,484	12,421	219,992	1875
1876	680,384	148,193	23,4	30,092	38,176	11,175	229,279	1876
1877	1,556,312	357,430	88,311	469,241	133,366	16,460	491,494	1877
1878	810,921	47,167	56,366	374,443	48,083	15,007	269,861	1878
1879	549,390	13,296	17,840	285,477	28,218	12,619	196,940	1879
1880	454,101	613	14,529	209,940	19,622	10,845	198,552	1880
1881	495,682	9,446	15,716	203,542	18,961	11,527	206,430	1881
1882	470,700	28,604	20,159	188,561	19,958	11,611	206,807	1882
1883	541,930	36,284	37,8	203,786	22,088	11,509	230,278	1883
1884	650,335	75,476	61,2	215,977	28,775	11,502	257,358	1884
1885	615,449	58,109	34,7	218,786	31,209	11,659	260,960	1885
1886	553,927	12,417	17,125	221,679	27,379	13,103	262,220	1886
1887	604,775	28,359	21,472	240,800	26,679	11,328	276,077	1887
1888	597,015	58,677	21,858	204,561	27,721	11,401	272,797	1888
1889	661,178	76,020	29,138	280,172	29,122	11,506	285,220	1889
1890	660,394	35,238	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 diarrhoea 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	34,640	13·8	4·6
6	20 years and under 30 years	72,073	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
Total		747,553	24·4	...

Out of a total death-roll of 747,553, there were 154,688 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," 18.1 per 1,000. In eleven districts (Chingleput, Cuddapah, Godavari, Kurnool, Madura, Nellore, Nilgiris, North Arcot, Salem, Tinnevely 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 (59.4) occurred (as has been the case for some years past) in Madras and was due to the high death-rates from fevers, diarrhoea 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, Nilgiris, 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.

22. The death-rates per 1,000 of population among the urban and rural populations in each district of the presidency during 1891, as compared with 1890, are

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 showing 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	Bezvada	64.3
2	Kurnool	40.7	2	South Arcot	35.4	2	Bezvada	60.6	2	Palni	40.7
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	Vaniyambadi	47.9	4	Tuticorin	47.4
5	Bellary	38.3	5	Anantapur	30.3	5	Karur	46.1	5	Adoni	44.5
6	Chingleput	38.1	6	Bellary	30.3	6	Wajalpet	44.6	6	Cochin	43.9
7	Madura	36.5	7	Kistna	28.8	7	Anakapalle	42.9	7	Anantapur	40.9
8	Kistna	35.3	8	Trichinopoly	28.2	8	Parlakimedi	42.8	8	Dindigul	40.0
9	Coimbatore	34.9	9	Madura	27.1	9	Tirupatir	42.2	9	Karur	38.2
10	South Arcot	34.4	10	Tanjore	26.2	10	Anantapur	41.9	10	Conjeevaram	37.5
11	North Arcot	34.1	11	Tinnevely	26.1	11	Coimbatore	41.2	11	Tirupatir	36.9
12	Trichinopoly	31.9	12	North Arcot	26.1	12	Conjeevaram	40.9	12	Coimbatore	36.4
13	South Canara	31.2	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	Nilgiris	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	Tinnevely	28.9	17	Godavari	22.1	17	Salem	37.9	17	Wajalpet	35.0
18	Nellore	28.7	18	Malabar	20.4	18	Madura	37.3	18	Guntur	34.5
19	Nilgiris	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	36.8	20	Kurnool	33.3
21	Malabar	22.9	21	Vizagapatam	16.7	21	Palamcottah	36.5	21	Negapatam	33.2
22	Godavari	22.5	22	Ganjam	13.3	22	Bellary	36.0	22	Kumbakonam	33.1
						23	Mayavaram	35.8	23	Tirupati	33.0
						24	Guntur	35.4	24	Anakapalle	32.4
						25	Periyakulam	35.2	25	Rajahmundry	32.3
						26	Berhampore	35.1	26	Bellary	31.9
						27	Srirangam	35.0	27	Srirangam	31.4
						28	Tellicherry	34.6	28	Tinnevely	31.2
						29	Palghat	34.6	29	Trichinopoly	31.2
						30	Cochin	34.6	30	Periyakulam	30.4
						31	Vizagapatam	34.0	31	Mayavaram	30.4
						32	Calicut	33.9	32	Vellore	30.1
						33	Vizianagrum	33.6	33	Masulipatam	29.8
						34	Adoni	33.2	34	Palghat	29.2
						35	Tinnevely	33.2	35	Tanjore	29.1
						36	Cannanore	31.5	36	Bimlipatam	29.0
						37	Erode	31.4	37	Ongole	28.8
						38	Ootacamund	31.4	38	Ellore	28.4
						39	Cuddalore	30.9	39	Vaniyambadi	28.4
						40	Kumbakonam	30.7	40	Salem	28.3
						41	Kurnool	30.5	41	Cuddalore	28.1
						42	Masulipatam	30.3	42	Palamcottah	27.6
						43	Rajahmundry	30.0	43	Vizianagrum	27.6
						44	Tirupati	29.1	44	Cuddapah	26.8
						45	Gudiyatam	28.6	45	Mangalore	25.9
						46	Ellore	28.3	46	Vizagapatam	25.8
						47	Tanjore	28.3	47	Gudiyatam	24.8
						48	Chidambaram	26.3	48	Mannargudi	24.5
						49	Trichinopoly	25.3	49	Parlakimedi	23.2
						50	Mannargudi	24.8	50	Cannanore	22.5
						51	Nellore	24.0	51	Tellicherry	22.0
						52	Chicacole	23.9	52	Ootacamund	22.0
						53	Negapatam	23.8	53	Berhampore	19.3
						54	Cuddapah	19.3	54	Chicacole	19.1
						55	Cocanada	18.8	55	Cocanada	17.3
Total		32.8	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 Bezvada (64.3), Palni (49.7), Calicut (47.6) and Tuticorin (47.4) and the lowest:—Berhampore (10.3), Chicacole (19.1), and Cocanada (17.3).

24. The death-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. From this diagram it will be seen that three taluks recorded a high death-rate of above 40 per 1,000. Among forty-four rural circles the death-rate was between 30 and 40 per 1,000; and in forty-eight taluks between 25 and 30, while forty-one others returned death-rates varying from 25 to 20. In forty-five circles the registered rate was below 20 per mille.

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.	
1885	10,794	4,193	1,081	491	590	843	550	780	644	777	799	2,062	23,604
1886	3,671	1,826	1,392	1,007	497	1,168	2,248	1,298	623	1,247	6,143	15,164	36,264
1887	21,268	7,362	2,874	1,550	2,108	3,975	6,267	3,298	2,677	1,645	3,639	19,313	75,476
1888	22,885	8,366	5,385	3,617	3,863	2,708	4,686	3,077	1,439	723	681	664	58,109
1889	1,224	554	582	1,219	1,597	1,214	1,584	774	640	1,111	1,003	985	12,417
1890	945	679	1,111	483	966	1,445	1,184	2,104	1,718	1,840	2,258	13,626	28,359
1891	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
1892	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
1893	7,448	5,169	2,441	1,988	1,755	2,868	3,344	2,904	1,780	1,062	1,284	3,245	35,288
1894	5,912	2,887	1,971	2,937	2,702	3,462	9,656	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, Godavari and South Canara, the death-rates were higher than the average of the previous five years. In one district only (Tinnevely), 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	13,815	21.9
Nellore	Nellore	27,505	18.9
Adoni	Bellary	23,441	18.6
Anantapur	Anantapur	4,907	18.5
Chidambaram	South Arcot	19,837	12.8
Arcot	North Arcot	10,718	11.5
Dindigul	Madura	14,182	10.6
Erode	Coimbatore	9,564	9.7
Karur	Do.	9,205	9.6
Cuddalore	South Arcot	43,545	8.0
Tinnevely	Tinnevely	23,221	7.9
Saidápet	Chingleput	10,290	7.8
Salem	Salem	59,631	7.3
Vaniyambadi	Do.	15,933	7.1
Vellore	North Arcot	40,968	7.0
Panruti	South Arcot	20,172	6.9
Kurnool	Kurnool	20,529	6.8
Kalladakurichi	Tinnevely	10,936	6.6
Negapatam	Tanjore	53,776	6.4
Cochin	Malabar	15,698	6.2
Madura	Madura	76,847	6.0
Viravanallur	Tinnevely	12,318	5.8
Thirupati	North Arcot	13,332	5.4
Conjeeveram	Chingleput	37,275	5.3
Trichinopoly	Trichinopoly	84,449	5.3
Bervada	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:—

33 per

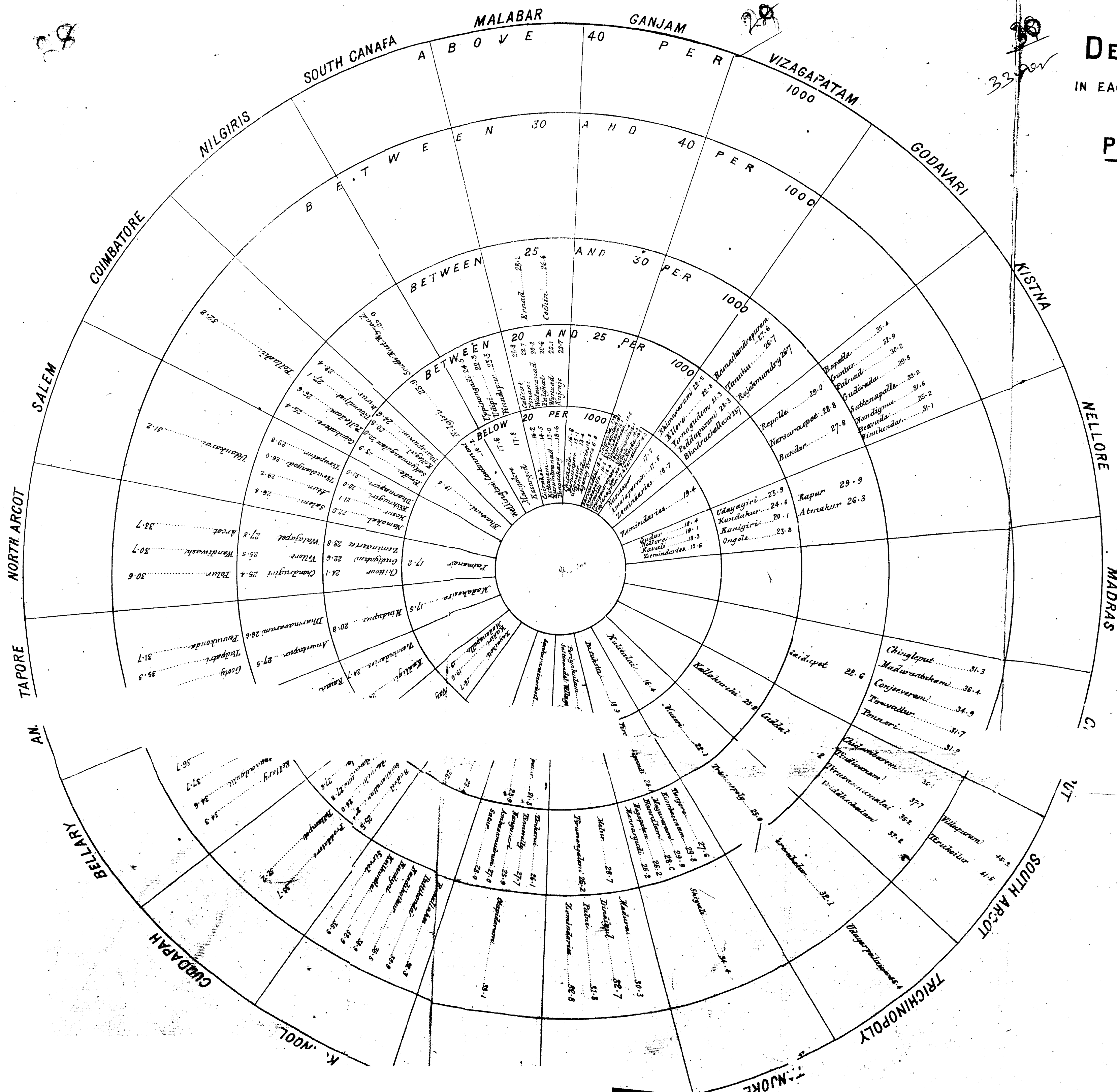
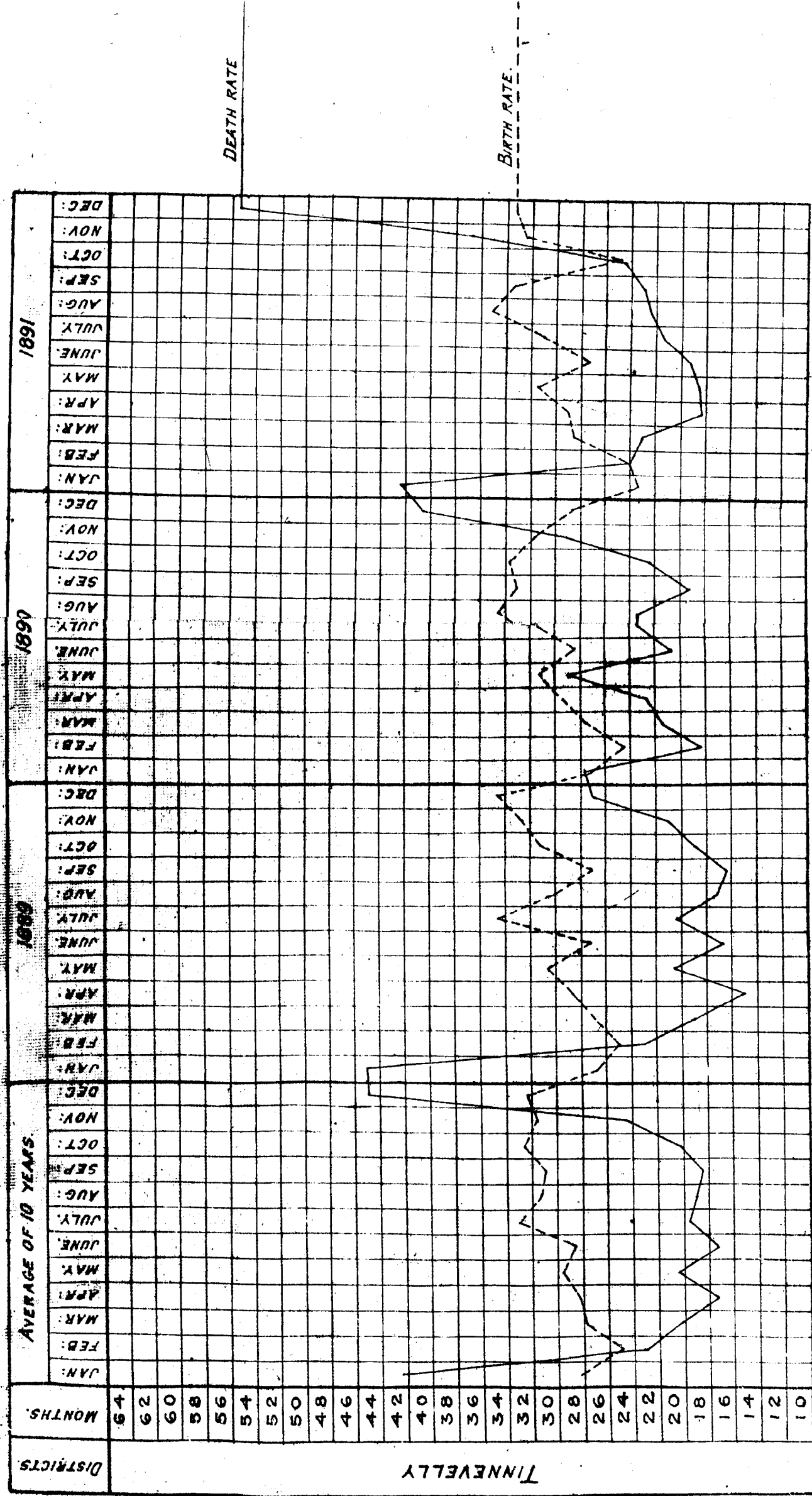


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICT

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.

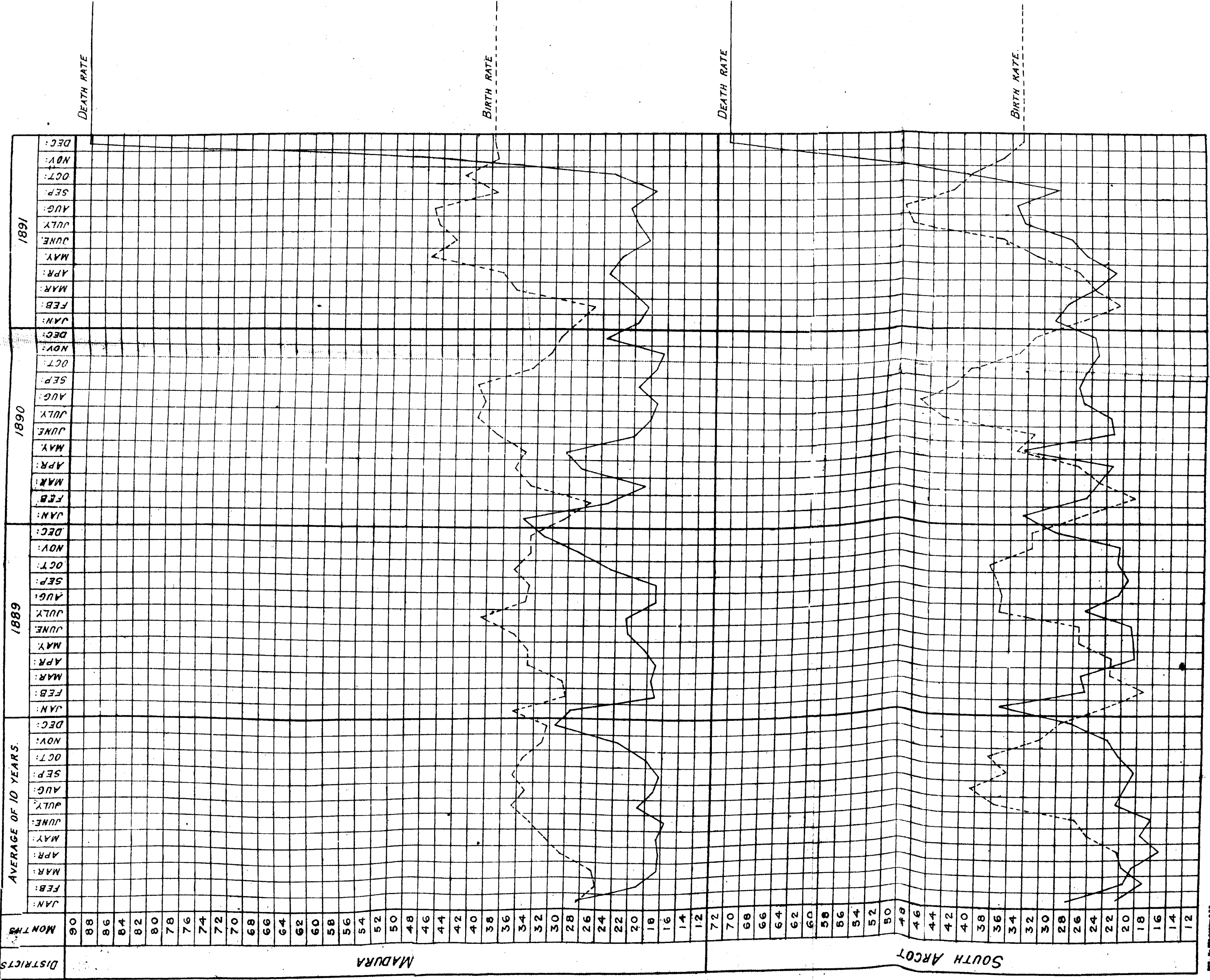


22



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

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.



DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.



26
 DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNMENTIONED DISTRICTS
 DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS

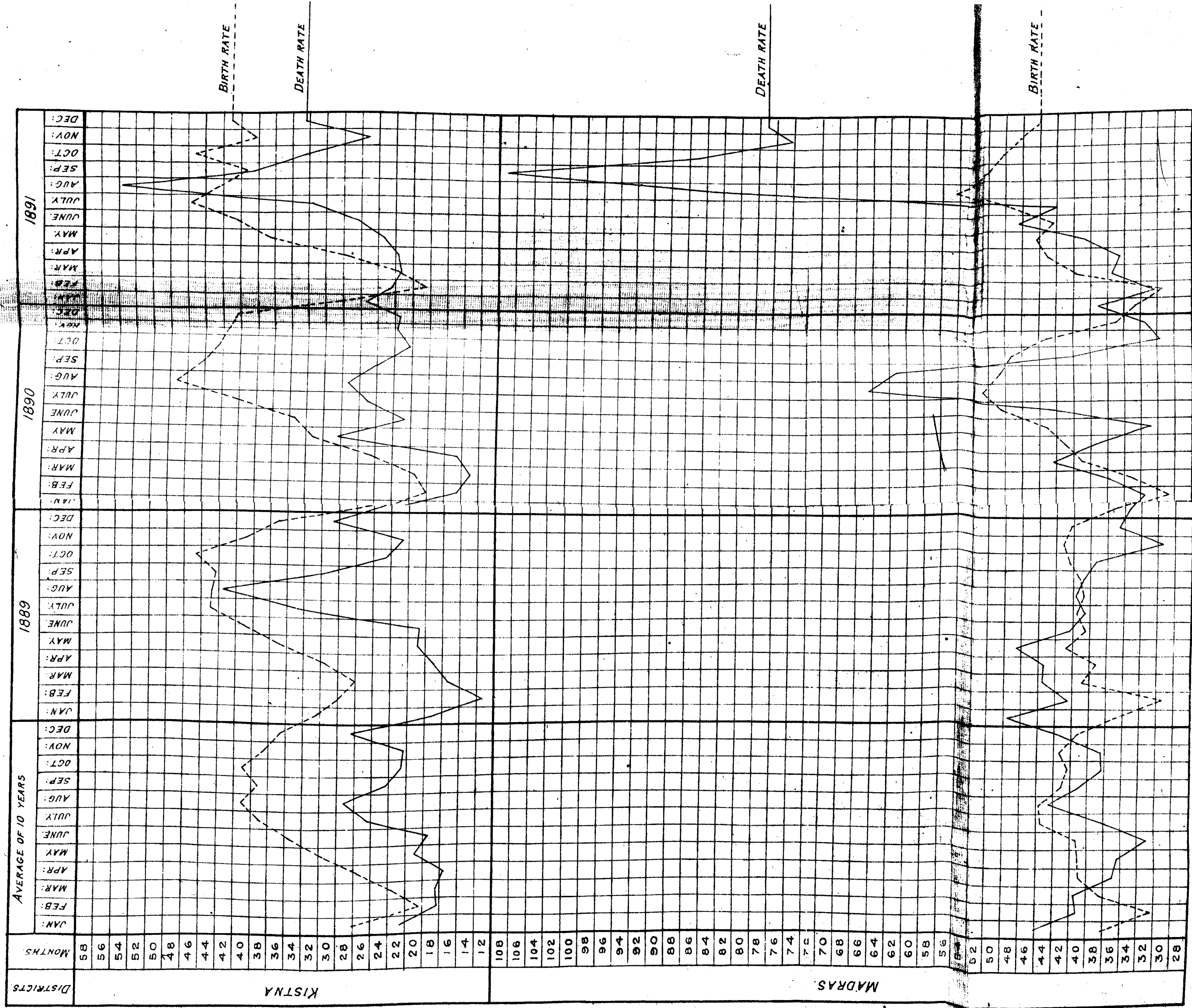
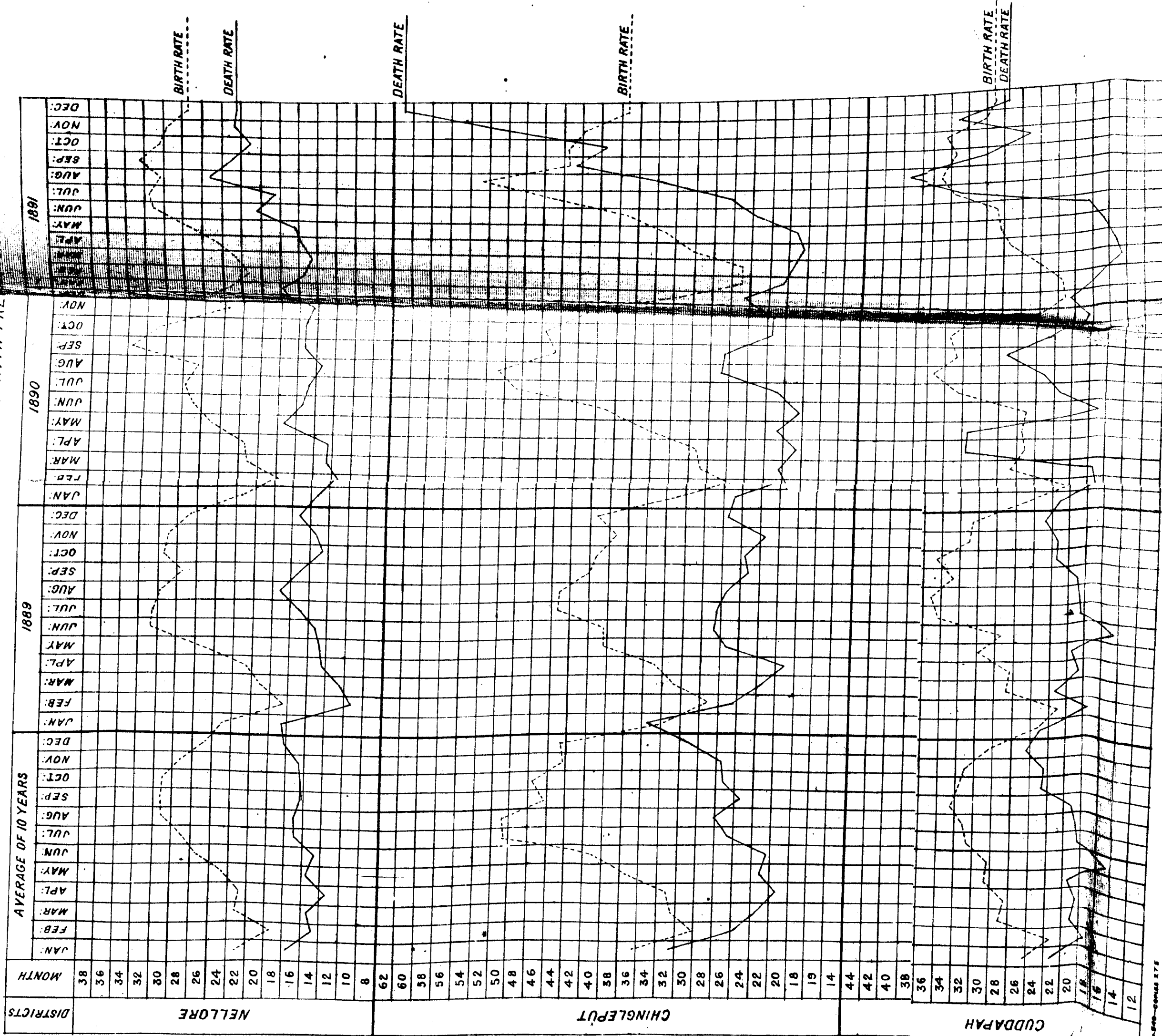


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM
DISTRICTS DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS



138

48

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

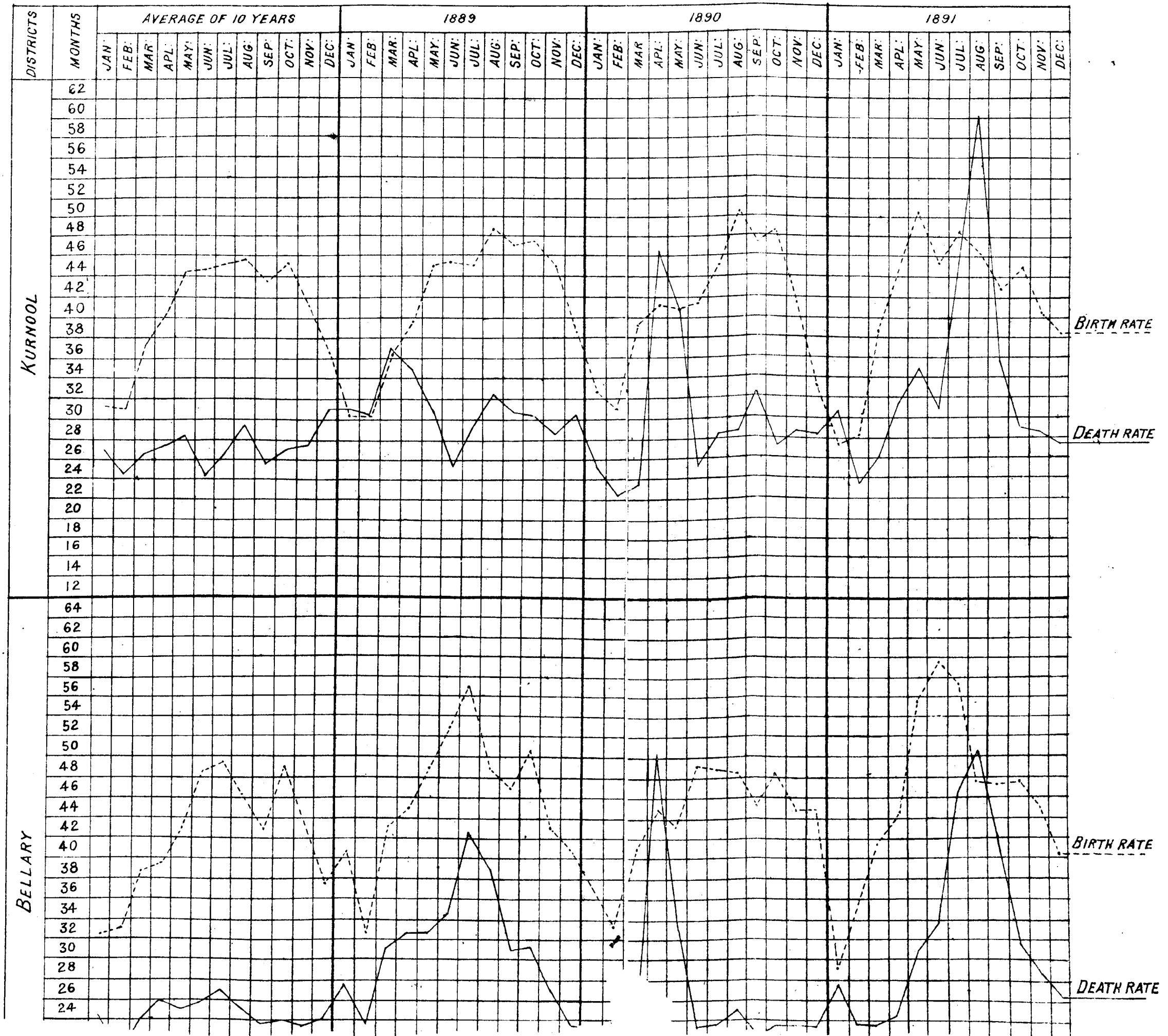


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE UNDERMENTIONED DISTRICTS

DURING THE YEAR 1891 COMPARED WITH PREVIOUS YEARS.

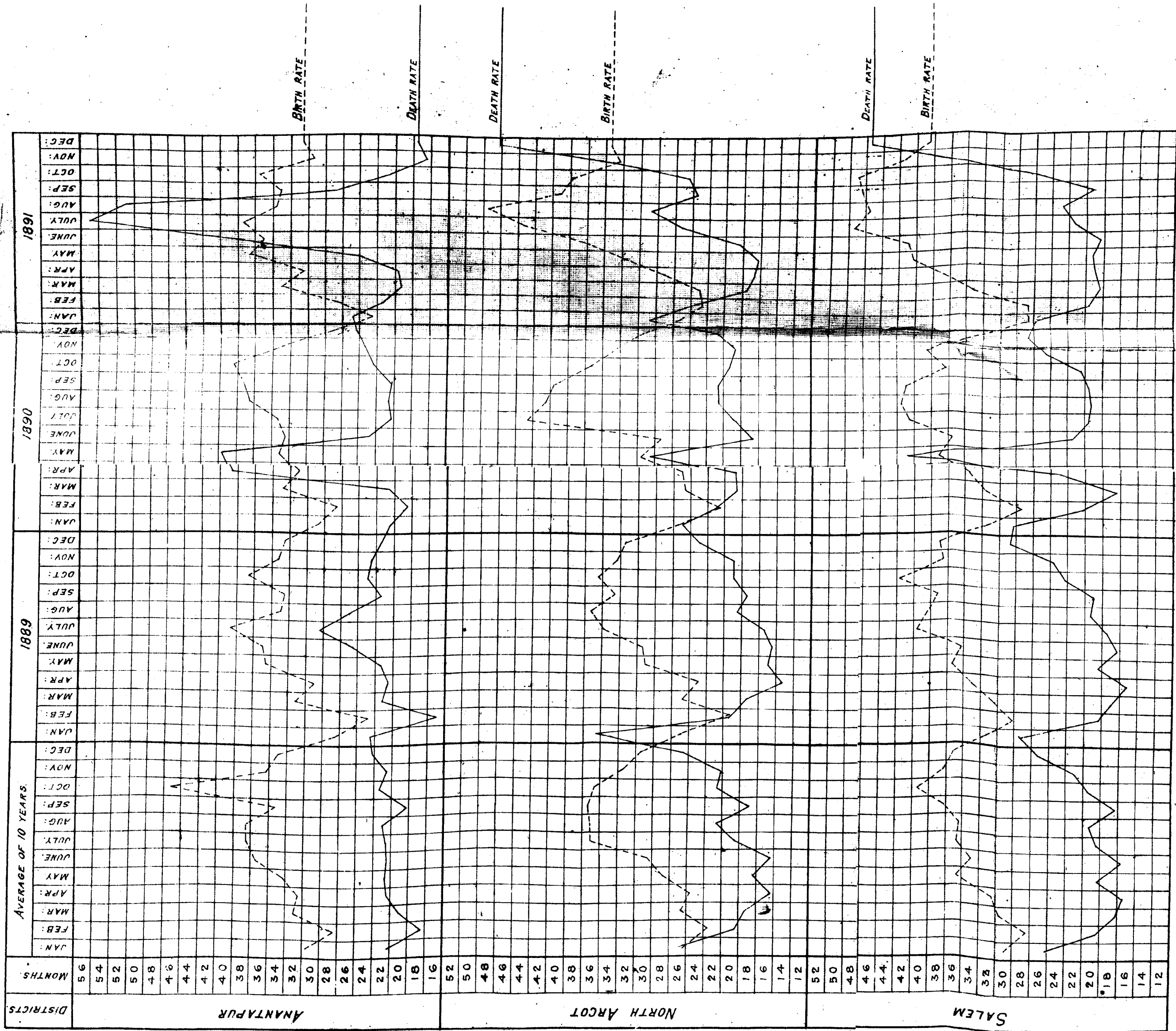
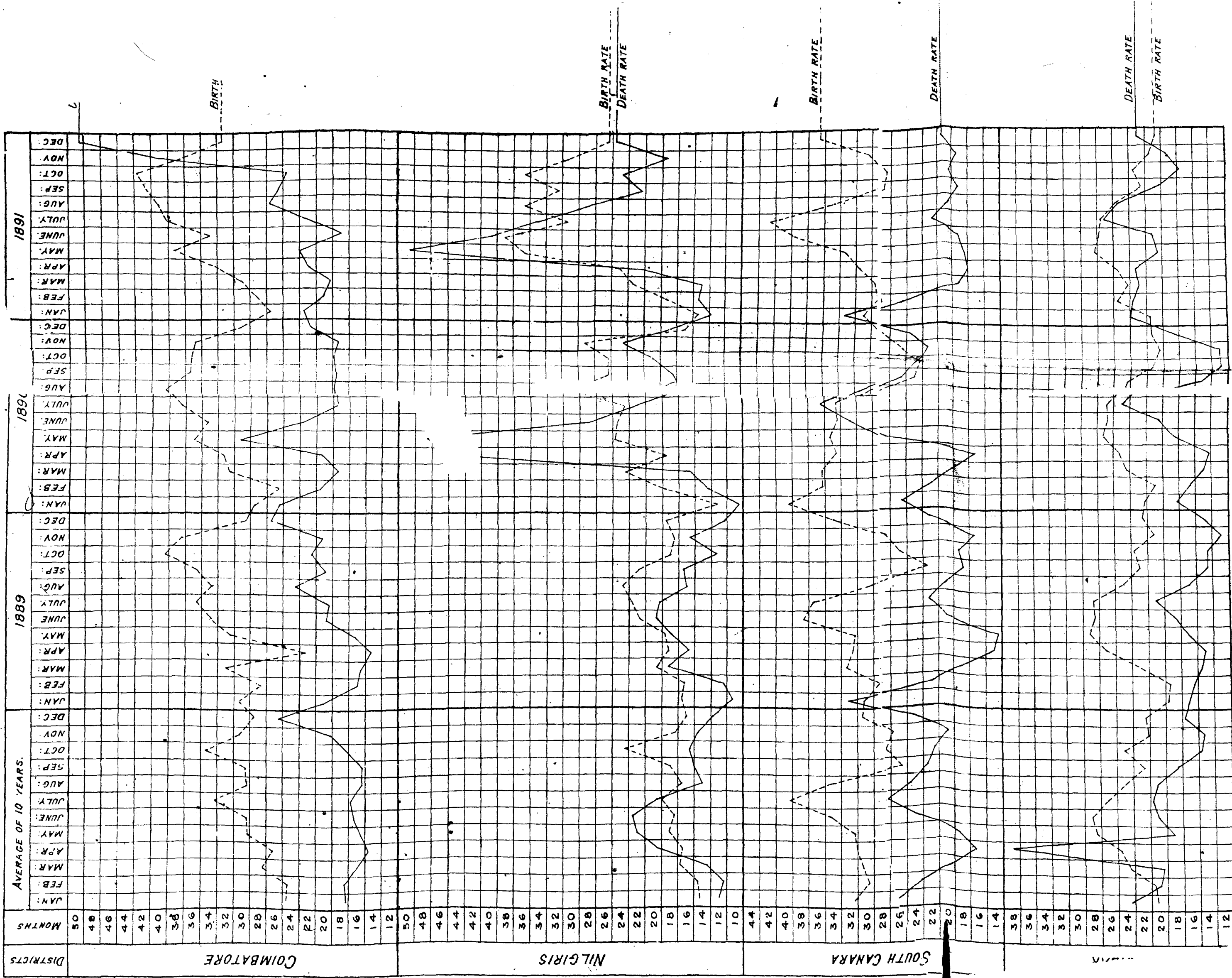


DIAGRAM SHOWING THE BIRTH AND DEATH RATES PER MILLE PER ANNUM IN THE

DURING THE YEAR 1891 COMPARED WITH PREVIOUS



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
		Adoni	18.6
Chingleput	5.1	Conjeeveram	5.3
Coimbatore	5.0	Coimbatore	3.8
		Erode	5.7
		Karur	9.6
Cuddapah	5.6	Cuddapah	2.1
Godavari	0.7	Ellore	3.7
		Rajahmundry	1.6
		Cocanada	1.6
Kistna	2.8	Masulipatam	3.2
		Bezvada	5.1
		Guntur	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
		Palghat	4.6
		Cochin	6.2
		Cannanore	0.8
Nellore	1.0	Nellore	18.9
		Ongole	1.8
Nilgiris	1.1	Ootacamund	0.6
		Coonoor	2.1
North Arcot	3.9	Vellore	7.0
		Walajapet	3.8
		Gudiyatam	2.9
		Tirupati	5.4
Salem	3.5	Salem	7.2
		Vaniyambadi	7.1
		Tirupatūr	5.0
South Arcot	8.8	Cuddalore	8.0
		Chidambaram	12.3
Tanjore	3.0	Tanjore	1.1
		Kumbakonam	3.8
		Negapatam	6.4
		Mayavaram	2.4
		Mannargudi	3.9
Tinnevely	2.3	Tinnevely	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.

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.		Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Number of those	
						Total Deaths in each of the Circles.	Ratio per 1,000 of Population.			Affected by Cholera.	Not affected by Cholera.
Ganjam.	1	Chicacole Taluk	173,734	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	23,539	...	...	...	...	...	1	...	1
	6	M. T. Parlakimedi	15,365	...	...	...	...	...	1	...	1
	7	Zemindaries	604,468	1st April...	25th Dec.	67	0.1	December...	2,754	10	2,744
	8	Agency Tracts	46,939	...	...	...	...	...	2,733	...	2,733
		Total	1,376,420	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	Anakapalle 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	Srungavarupukottah do.	115,982	...	...	...	...	...	178	...	178
	16	Vizianagrum do.	87,169	28th Aug.	1st Sept.	4	0.05	August	186	2	184
	17	Gajapatnagar do.	100,520	...	...	...	...	...	224	...	224
	18	Chipurupalle do.	115,856	...	...	...	...	...	268	...	268
	19	Salur do.	65,371	...	...	...	...	...	156	...	156
	20	Bobbili do.	94,772	...	...	...	...	...	178	...	178
	21	Palkonda do.	135,182	...	...	...	...	...	362	...	362
	22	Parvatipur 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	22,477	...	...	...	...	...	1	...	1
	26	M. T. Anakapalle	13,341	...	...	...	...	...	1	...	1
		Total	1,446,806	23rd Aug.	29th Dec.	30	0.02	August	2,667	12	2,655
Godavari.	27	Ramachandrapuram Taluk	220,780	13th Aug.	17th Oct.	121	0.5	September.	168	31	132
	28	Amalapuram do.	227,157	18th Aug.	30th Sept.	32	0.2	Do.	172	8	164
	29	Narsapur do.	200,153	21st Aug.	— Nov.	35	0.2	Do.	139	7	132
	30	Bhimavaram do.	106,599	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	Yernagudem do.	159,364	29th 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	Peddapuram do.	124,314	1st Sept.	26th Oct.	36	0.3	Do.	213	3	210
	36	Bhadrachalam do.	35,656	...	...	...	...	...	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	25,092	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	Répalie Taluk	184,340	25th July	17th Dec.	368	2.0	August	150	67	83
	42	Rápatla do.	151,736	Do.	29th Nov.	968	6.4	Do.	114	55	59
	43	Guntur do.	116,437	10th Feb.	11th Dec.	289	2.5	Do.	113	34	79
	44	Palnad 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	Gudivada 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	Nandigama 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	26th Sept.	112	3.2	August	1	1	...
	53	M. T. Guntur	19,646	20th Aug.	28th Sept.	71	3.6	Do.	1	1	...
	54	M. T. Bezváda	10,098	23th 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.	23th Dec.	4,353	2.8	August	1,837	509	1,328
Nellore.	56	Óddér 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	Atmakur do.	83,911	18th 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	Kandukur do.	97,113	22nd Aug.	27th Dec.	123	1.3	September.	126	18	108
	63	Manigiri do.	50,174	7th Dec.	10th Dec.	6	0.1	December	58	2	46

*Statement illustrating the distribution, &c., of Cholera in the Madras Presidency during the year . . . ,
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.		Period of Maximum of the Disease.	Number of Villages in each of the Circles.	Number of those	
						Total Deaths in each of the Circles.	Ratio per 1,000 of Population.		Affected by Cholera.	Not affected by Cholera.	
Nellore-cont.	64	Ongole Taluk ...	144,764	6th Aug...	19th Oct...	177	1.2	September.	124	19	105
	65	M. T. Nellore ...	27,506	7th July...	31st Dec...	521	18.9	August ...	1	1	...
	66	M. T. Ongole ...	9,200	14th Aug...	29th Oct...	17	1.8	October ...	1	1	...
	67	Zemindaries ...	418,618	2nd July...	31st Dec...	194	0.5	August ...	947	17	980
		Total ...	1,220,886	13th Jan...	28th Dec...	1,764	1.4	August ...	1,874	170	1,704
Chingleput. Madras.	68	Madras Town ...	405,848	18th Jan...	31st Dec...	1,806	4.4	September...	1	1	...
	69	Saidapet Taluk ...	204,680	3rd Jan...	31st Dec...	868	4.2	September...	281	118	168
	70	Chingleput do. ...	127,218	1st Jan...	Do. ...	522	4.5	Do. ...	302	82	220
	71	Madurantakam do. ...	229,087	26th Jan...	Do. ...	1,576	7.1	December...	510	221	289
	72	Conjeevaram do. ...	148,374	22nd Jan...	Do. ...	568	5.7	September...	373	139	234
	73	Tiruvallūr do. ...	148,334	27th April...	Do. ...	416	2.9	Do. ...	293	83	211
	74	Ponnéri do. ...	107,548	8th April...	Do. ...	556	5.2	December...	240	101	189
	75	M. T. Conjeevaram ...	87,275	8th Jan...	Do. ...	196	5.3	July & Dec.	1	1	...
		Total ...	981,881	1st Jan...	31st Dec...	4,985	5.0	September...	2,000	789	1,261
South Arcot.	76	Cuddalore Taluk ...	254,978	8th Jan...	31st Dec...	1,670	6.5	December...	241	146	96
	77	Villupuram do. ...	243,696	22nd Jan...	Do. ...	3,067	12.6	Do. ...	319	197	122
	78	Chidambaram do. ...	245,413	2nd Jan...	Do. ...	2,637	10.7	July ...	493	258	240
	79	Tindivanam do. ...	264,261	Do. ...	Do. ...	2,742	10.4	December...	563	236	327
	80	Kallakurohi do. ...	196,029	1st Jan...	Do. ...	910	4.6	Do. ...	315	105	210
	81	Tirukoilūr do. ...	206,489	16th Feb...	Do. ...	1,714	8.3	Do. ...	374	169	215
	82	Tiruvannamalai do. ...	154,859	10th Feb...	Do. ...	1,567	10.1	Do. ...	516	129	387
	83	Vridhdachalam do. ...	187,008	5th Jan...	Do. ...	2,206	6.4	Do. ...	323	126	197
	84	M. T. Cuddalore ...	43,545	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	1352	1,794	
Trichinopoly.	86	Trichinopoly Taluk ...	231,296	1st Jan...	31st Dec...	777	3.3	January ...	260	174	186
	87	Musiri do. ...	258,068	Do. ...	Do. ...	503	1.9	December...	208	68	140
	88	Kulitalai do. ...	201,990	9th Jan...	Do. ...	627	3.1	Do. ...	131	88	73
	89	Perambalur do. ...	172,281	2nd Jan...	Do. ...	599	3.5	Do. ...	199	79	120
	90	Udayarpalayam do. ...	247,178	1st Jan...	Do. ...	2,205	8.9	August ...	595	153	442
	91	M. T. Trichinopoly ...	84,449	Do. ...	Do. ...	445	5.3	December...	1	1	...
	92	M. T. Srirangam ...	19,773	7th Jan...	Do. ...	41	2.1	February...	1	1	...
		Total ...	1,215,093	1st Jan...	31st Dec...	5,197	4.2	December...	1,495	584	961
Tanjore.	98	Tanjore Taluk ...	320,341	1st Jan...	31st Dec...	839	2.6	December...	407	122	285
	94	Kumbakonam do. ...	320,625	4th Jan...	Do. ...	1,054	3.3	Do. ...	505	194	311
	95	Máyavaram do. ...	215,950	3rd Jan...	Do. ...	898	4.1	July ...	341	111	230
	96	Shiyáli do. ...	114,041	1st Jan...	Do. ...	582	7.7	Do. ...	291	83	64
	97	Nannilam do. ...	220,202	3rd Jan...	Do. ...	657	2.9	December...	387	151	266
	98	Negapatam do. ...	169,091	1st Jan...	27th Dec...	484	3.0	July ...	322	81	241
	99	Mannargudi do. ...	162,241	3rd Jan...	31st Dec...	879	2.3	December...	290	68	241
	100	Tiruturaipundi do. ...	168,108	6th Jan...	Do. ...	390	2.3	Do. ...	238	112	126
	101	Patukōta do. ...	244,717	4th April...	Do. ...	254	4.0	Do. ...	840	45	795
	102	M. T. Tanjore ...	54,745	1st Jan...	24th Dec...	61	1.1	Do. ...	1	1	...
	103	M. T. Kumbakonam ...	50,096	29th July...	31st Dec...	158	3.2	Do. ...	1	1	...
	104	M. T. Màyavaram ...	23,044	8th May...	10th Dec...	53	2.4	July ...	1	1	...
	105	M. T. Negapatam ...	53,776	10th Jan...	31st Dec...	347	6.4	August ...	1	1	...
	106	M. T. Mannargudi ...	19,409	27th April...	Do. ...	77	3.9	May ...	1	1	...
		Total ...	2,130,233	1st Jan...	31st Dec...	6,565	3.0	December...	3,545	966	2,579
Madras.	107	Madras Taluk ...	138,452	3rd Feb...	31st Dec...	1,093	7.9	December...	277	104	173
	108	Melūr do. ...	182,666	7th May...	Do. ...	243	7.1	Do. ...	90	69	41
	109	Tirumangalam do. ...	208,693	21st Jan...	Do. ...	780	3.5	Do. ...	266	81	155
	110	Periyakulam do. ...	215,677	14th May...	Do. ...	54	0.3	Do. ...	155	13	73
	111	Dindigul do. ...	290,601	21st Feb...	Do. ...	2,755	9.5	Do. ...	510	134	76
	112	Palni do. ...	158,200	29th Mar...	Do. ...	791	5.0	Do. ...	53	72	72
	113	Sattenandal Villages, do.	1,161						1	1	...
	114	M. T. Madras ...	76,847	1st Jan...	30th Dec...	463	6.0	November...	1	1	...
	115	M. T. Dindigul ...	14,182	6th Jan...	31st Dec...	161	10.6	December...	1	1	...
	116	M. T. Periyakulam ...	16,446	12th Jan...	23rd Dec...	8	0.2	Do. ...	1	1	...
	117	M. T. Palni ...	18,315	25th Mar...	3rd Dec...	292	21.9	April ...	1	1	...
	118	Zemindaries ...	83,287	3rd Jan...	31st Dec...	457	13.7	November...	3	3	...
	Total ...	1,294,332	1st Jan...	31st Dec...	7,781	5.9	December...	1,063	460	608	

*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.		Period of Intensity of Disease.	Number of Villages in each of the Circles.	Number of those	
						Total Deaths in each of the Circles.	Ratio per 1,000 of Population.			Affected by Cholera.	Not affected by Cholera.
Tinnevely.	119	Otapidāram 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	Tinnevely do. ...	180,193	Do. ...	Do. ...	405	3.1	Jan. & Dec. ...	143	57	86
	122	Srivilliputur do. ...	163,608	26th Nov. ...	29th Dec. ...	35	0.2	December ...	111	7	104
	123	Sankaranainārkoil do. ...	181,064	1st Jan. ...	31st Dec. ...	74	0.4	January ...	114	20	94
	124	Nānguneri do. ...	174,347	Do. ...	Do. ...	709	4.0	Do. ...	250	99	151
	125	Ambāsamudram do. ...	165,152	Do. ...	Do. ...	667	4.0	Do. ...	94	57	37
	126	Sātūr do. ...	150,886	18th Jan. ...	Do. ...	261	1.8	December ...	230	31	199
	127	Tenkāsi do. ...	140,405	1st Jan. ...	Do. ...	508	3.6	January ...	104	43	61
	128	M. T. Tinnevely ...	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
Kurnool.	131	Rāmalkōt 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	Nandikōtkur do. ...	72,741	17th April ...	12th Sept. ...	281	3.9	July ...	101	7	94
	134	Nandyāl 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. ...	67,197	21st 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	Mārkapur 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. ...	3,285	4.8	August ...	767	210	547
Cuddapah.	140	Badvél Taluk ...	82,445	20th July ...	31st Dec. ...	276	3.3	September ...	115	21	94
	141	Proddutur do. ...	90,658	5th June ...	29th Nov. ...	1,103	12.2	July ...	90	45	45
	142	Sidhoub do. ...	59,076	7th Jan. ...	31st Dec. ...	374	6.3	August ...	79	40	39
	143	Pullāmpet do. ...	124,898	Do. ...	Do. ...	1,549	11.5	November ...	130	77	53
	144	Cuddapah do. ...	123,471	3rd Feb. ...	27th Dec. ...	1,054	8.2	August ...	148	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	Bāyachōsi do. ...	92,541	17th July ...	28th Dec. ...	60	0.7	Do. ...	98	9	84
	148	Kadiri do. ...	116,252	7th June ...	24th Nov. ...	313	2.7	July ...	139	18	121
	149	Vēyalpēd do. ...	104,462	13th Jan. ...	6th Dec. ...	84	0.8	November ...	117	18	104
	150	Madanāpalle 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 ...	1,121,088	1st Jan. ...	31st Dec. ...	6,270	5.5	August ...	1,238	374	864	
Bellary.	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	Kōdligi do. ...	74,840	1st May ...	30th Aug. ...	131	1.8	May ...	884	15	869
	155	Hadagalli do. ...	79,317	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	Alūr do. ...	65,586	5th June ...	24th Oct. ...	419	6.4	September ...	107	24	83
	158	Adōni do. ...	99,644	10th April ...	22nd Dec. ...	584	5.9	August ...	203	46	157
	159	Bāyadrug do. ...	80,032	12th May ...	19th Nov. ...	426	5.3	July ...	142	26	116
	160	M. T. Bellary ...	55,460	28th May ...	2nd Nov. ...	153	2.9	September ...	1	1	...
	161	M. T. Adōni ...	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
Anantapur.	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. ...	885	7.8	August ...	153	60	93
	165	Tadipatri do. ...	98,934	1st May ...	21st Nov. ...	1,353	13.7	June ...	96	96	...
	166	Penukonda do. ...	78,023	7th June ...	26th Sept. ...	843	11.5	July ...	99	86	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	Madakasira 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
North Arcot.	171	Chittoor Taluk ...	171,907	3rd Jan. ...	31st Dec. ...	569	3.3	December ...	336	163	173
	172	Chendragiri do. ...	79,919	5th Jan. ...	Do. ...	476	5.9	July ...	228	98	130
	173	Palmanēt do. ...	41,815	4th Nov. ...	4th Nov. ...	1	0.02	...	87	1	86
	174	Gudiyātam do. ...	137,956	1st Jan. ...	31st Dec. ...	584	4.2	August ...	177	102	75
	175	Vellore do. ...	129,258	Do. ...	Do. ...	993	7.4	December ...	150	78	72
	176	Pōlūr do. ...	111,877	21st Jan. ...	Do. ...	631	5.6	Do. ...	365	123	142
177	Wandiwash do. ...	148,100	19th Jan. ...	Do. ...	605	4.1	Do. ...	286	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.		Period of Maximum Intensity of the Disease.	Number of Villages in each of the Circles.	Number of those	
						Total Deaths in each of the Circles.	Ratio per 1,000 of Population.			Affected by Cholera.	Not affected by Cholera.
N. Arcot—cont.	178	Aroor Taluk	147,388	1st Jan. ...	31st Dec. ...	800	5.4	December ...	258	98	160
	179	Wárajápet do.	188,790	Do. ...	Do. ...	694	3.6	September ...	249	89	160
	180	M. T. Vellore	40,958	Do. ...	Do. ...	288	7.0	January ...	1	1	...
	181	M. T. Wárajápet	10,387	4th Jan. ...	29th Nov. ...	40	3.8	August ...	1	1	...
	182	M. T. Gudiyatam	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. ...	1,539	2.6	December ...	1,597	145	1,452
	Total ...	1,822,878	1st Jan. ...	31st Dec. ...	7,355	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	408
	186	Atúr do.	158,554	Do. ...	Do. ...	1,200	7.5	December ...	181	103	78
	187	Námakal 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.	181,770	7th Jan. ...	26th Dec. ...	42	0.8	Do. ...	952	6	946
	190	Kistnagiri do.	120,929	1st Jan. ...	28th Dec. ...	89	0.7	March ...	541	13	528
	191	Dharmapuri do.	186,826	Do. ...	30th Dec. ...	261	1.9	December ...	704	33	671
	192	Tirupatur do.	133,070	2nd Jan. ...	31st Dec. ...	717	5.4	Do. ...	338	103	235
	193	Uttankarai do.	109,456	3rd Jan. ...	Do. ...	419	3.8	Do. ...	555	62	493
	194	M. T. Salem	59,681	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.	185,805	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	Polláchi do.	172,909	28th Mar. ...	Do. ...	2,304	13.8	August ...	161	109	52
	201	Palladam do.	213,391	24th Jan. ...	Do. ...	747	3.5	December ...	195	71	124
	202	Bhaváni do.	94,123	15th Jan. ...	Do. ...	128	1.4	Do. ...	62	22	40
	203	Kollegál do.	77,522	Do. ...	Do. ...	...	...	Do. ...	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	7.8	December ...	95	68	28
	206	Dhármapuram 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	696	
Nilgiri.	210	Nílgiri Taluk	46,756	20th April ...	8th Dec. ...	67	1.4	May ...	33	12	21
	211	Wellington Cantonment.	1,725	Do. ...	Do. ...	...	...	Do. ...	1	...	1
	212	South-East Wynad	25,440	5th May ...	4th June ...	13	0.5	May ...	1	...	11
	213	M. T. Ootacamund	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	29	
S. Canara.	215	Mangalore Taluk	216,950	26th Nov. ...	31st Dec. ...	5	0.02	November ...	306	1	305
	216	Kásaragódo do.	243,881	27th Nov. ...	Do. ...	80	0.3	December ...	243	16	227
	217	Uppinangadi do.	110,367	Do. ...	Do. ...	...	...	Do. ...	278	...	278
	218	Udipi do.	287,432	22nd Sept. ...	31st Dec. ...	268	1.1	November ...	258	34	224
	219	Kandapur do.	115,113	Do. ...	30th Sept. ...	4	0.03	September ...	190	1	189
	220	M. T. Mangalore	32,099	...	...	...	...	...	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	13	31
	222	Kóttayam do.	141,194	31st July ...	26th Dec. ...	21	0.1	Do. ...	27	5	22
	223	Kurumbanád 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	Ernáád do.	296,148	1st Jan. ...	Do. ...	1,674	5.6	January ...	52	48	4
	226	Ponáni do.	392,654	Do. ...	31st Dec. ...	1,273	3.3	March ...	73	48	25
	227	Wálawanád do.	306,102	Do. ...	22nd Dec. ...	567	1.8	January ...	64	34	30
	228	Pálgat do.	306,115	1st Feb. ...	31st Dec. ...	764	2.4	July ...	56	48	8
	229	Wynad do.	88,091	...	...	...	...	...	22	...	22
	230	Cochin do.	1,463	...	...	...	...	...	1	...	1
	231	Anjengo do.	2,534	...	...	...	...	...	1	...	1
	232	Tangachéri do.	1,685	...	...	...	...	...	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. Pálgat	86,339	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 ...	2,354,234	1st Jan. ...	31st Dec. ...	5,385	2.2	January ...	440	353	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.			Moisture of air per cent., 100 being saturation.		Wind.		Deaths from cholera recorded on each day.	
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.			Velocity, miles per diem.
							12 A.M.	12 P.M.		
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	61	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	...	85.3	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.	130	...
17	...	87.8	71.2	16.6	86	71	N.N.E.	N.E.	144	...
18	...	88.5	75.8	12.7	80	74	N.E. by E.	N.E. by E.	227	2
19	...	88.0	76.9	11.1	82	66	N.E. by E.	N. by E.	198	...
20	...	87.9	70.1	17.8	87	61	N. by E.	N.E.	138	5
21	...	86.6	67.8	18.8	68	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	69	E. by N.	E.N.E.	87	2
24	...	88.0	68.0	20.0	81	68	N.E.	E.N.E.	88	2
25	...	87.0	67.8	20.2	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	...
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.	169	...
30	...	87.2	68.2	19.0	60	61	N.E.	N.E. by N.	192	...
31	...	87.8	67.1	20.7	76	67	N.N.E.	N.N.E.	121	...
FEBRUARY.										
1	...	88.0	63.8	24.2	86	62	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	53	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	64.8	25.2	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.	181	...
9	...	89.2	68.4	20.8	73	55	E.N.E.	N.E.	177	...
10	...	89.0	73.0	16.0	79	74	N.E. by N.	N.E.	212	...
11	...	82.8	75.2	7.6	80	81	E.N.E.	E.N.E.	158	...
12	...	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	...	86.0	73.2	12.8	89	66	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.	181	...
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	66	E.N.E.	E.N.E.	124	...
19	...	88.3	69.1	19.2	82	60	E. by N.	S.E.	104	...
20	...	89.2	69.8	19.4	84	52	S.	S.E. by S.	150	...
21	...	87.2	71.8	15.6	84	60	S. by W.	S.E. by S.	178	...
22	...	86.5	71.7	14.6	84	63	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	101	...
27	...	89.8	69.7	19.6	82	61	N.E.	N.E. by S.	107	...
28	...	88.8	66.0	22.8	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.	
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.			Velocity, miles per diem.
							12 A.M.	12 P.M.		
MARCH.										
1	...	86.5	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	89	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	...	87.8	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	...	90.4	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	...	89.5	77.8	10.7	73	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	83	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	...	90.6	76.8	13.7	79	87	S.S.E.	S.E. by S.	214	...
17	...	93.9	76.6	18.3	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.	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.	157	...
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.	S.E.	134	...
27	...	91.3	73.4	17.9	69	61	S.E.	S.E. by E.	102	...
28	...	98.9	71.9	22.0	84	48	S. by E.	S.E.	104	...
29	...	92.4	71.1	21.3	64	60	S.E. by S.	S.E.	112	...
30	...	90.7	72.9	17.8	79	60	S.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	76	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	72.7	23.4	75	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	73	67	S.S.E.	S.E. by S.	177	...
8	...	98.4	79.2	14.2	73	63	S.E. by S.	S.S.E.	146	...
9	...	98.2	80.2	13.0	76	73	S.E.	S.E. by E.	127	...
10	...	93.9	77.4	16.5	73	58	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	73	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	63	S.E. by S.	S.E. by S.	152	...
18	...	94.1	75.2	18.9	75	63	S. by E.	S.E. by S.	134	...
19	...	92.2	73.6	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	75	60	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	73	61	S. by E.	S.S.E.	242	...
26	...	96.4	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.	203	...

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.
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.		Velocity, miles per diem.	
							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	...	95.2	80.7	14.5	73	58	S. by E.	S.E. by S.	231	1
8	...	98.4	77.9	15.5	76	59	S. by 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	S. by E.	E.N.E.	128	1
21	...	96.4	80.8	15.6	75	67	E.N.E.	E. by N.	178	...
22	...	96.4	79.7	6.7	85	75	S.W. by W.	W. by S.	87	...
23	...	97.3	77.8	1.5	97	82	S.W.	W.S.W.	77	...
24	...	96.1	77.2	18.9	75	62	S. by N.	S.E. by S.	148	...
25	...	103.5	78.8	24.7	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	68	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	...	94.6	82.5	11.1	78	61	S.	S.S.E.	217	...
30	...	103.3	81.2	22.1	68	60	S.W. by S.	S. by E.	259	...
31	...	104.3	81.9	22.4	65	59	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	...	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	54	S.W.	S.W. by S.	313	2
7	...	106.4	84.2	22.2	53	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	54	S.W.	S. by W.	287	6
10	...	104.4	83.5	20.9	55	59	S.W. by W.	S.S.W.	267	3
11	...	105.6	83.6	22.0	56	53	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	80.3	18.9	78	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	S.S.W.	S.E.	233	...
22	...	104.0	83.6	20.4	52	43	S.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	S.S.W.	S.S.W.	223	...
29	...	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

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.		
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.			Velocity, miles per diem.	
							12 A.M.	12 P.M.			
JULY.											
1	...	0.19	83.6	75.2	8.4	95	74	S.W. by S.	S.S.W.	217	...
2	...	...	89.0	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	3
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	82.4	18.1	58	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	67	48	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	...
12	...	...	92.7	79.1	13.6	65	58	W.	S.E.	148	...
13	...	...	98.5	82.8	15.7	46	36	W.S.W.	S.S.W.	246	1
14	...	...	102.7	80.7	22.0	60	67	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	19.0	65	58	W. by S.	S.S.E.	195	1
17	...	...	102.2	79.8	22.4	49	51	W.S.W.	S.E. by S.	200	1
18	...	...	104.1	79.6	24.5	57	29	S.W. by S.	S. by E.	200	1
19	...	0.01	102.3	83.6	18.7	57	40	W.S.W.	W.	247	1
20	...	0.02	99.9	80.6	19.3	70	46	S.W. by W.	S.S.E.	236	1
21	...	0.05	100.0	78.8	21.2	69	36	S.W.	S.W. by S.	213	2
22	...	0.04	98.4	77.8	20.6	66	44	S.S.W.	S.W. by S.	192	...
23	...	...	98.5	82.2	16.3	63	36	S.W. by W.	S.S.W.	216	...
24	...	0.04	102.1	82.2	19.9	66	36	W. by S.	S.W. by W.	275	...
25	...	...	102.7	80.8	21.9	60	46	W. by S.	W. by S.	311	1
26	...	...	100.1	82.2	17.9	50	33	W. by S.	S.W.	298	...
27	...	0.01	101.3	81.6	22.7	53	34	W.S.W.	S. by E.	241	1
28	...	...	101.2	78.6	22.6	66	52	S. by W.	S. by E.	201	1
29	...	...	102.7	81.6	21.1	60	50	S.W. by W.	S.S.E.	216	...
30	...	0.18	103.2	80.0	23.2	60	35	S.W.	S.	183	...
31	...	0.22	100.1	76.6	23.5	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.	200	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	8
11	...	0.29	95.5	75.4	20.1	76	64	W.S.W.	S.	214	8
12	...	0.08	96.7	74.4	22.3	86	52	W.	W.	162	15
13	...	...	95.2	80.4	14.8	65	49	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	...	...	98.3	76.1	22.2	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	73	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	25
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	18
27	...	...	95.5	76.2	19.3	72	53	N.W.	S.E.	159	41
28	...	...	98.6	79.6	19.0	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

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.		
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.			Velocity, miles per diem.	
							12 A.M.	12 P.M.			
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	63	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.	143	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.	143	27
21	...	0.01	98.3	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	68	45	S.S.W.	S. by E.	189	14
25	...	0.09	96.0	80.1	15.9	73	63	S.S.W.	S.S.W.	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	...	...	81.8	73.3	18.5	86	59	W.S.W.	S.S.W.	122	14
30	...	...	84.3	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.	73	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.	S.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	75.3	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	89.5	74.4	9.1	98	85	...	N.E. by N.	120	8
18	...	3.60	79.6	72.3	6.3	98	93	...	...	97	15
19	...	0.13	82.1	72.3	9.3	89	76	N. by W.	...	177	8
20	...	1.63	86.5	74.5	11.0	95	72	N. by W.	N. by W.	163	10
21	...	0.24	84.3	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	9
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

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.
		Highest maxi- mum.	Lowest mini- mum.	Range.	8 A.M.	2 P.M.	Direction.		Velocity, miles per diem.	
							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	88.0	75.6	12.4	93	73	N. by E.	N.E. by E.	131	3
10	0.51	88.6	76.3	12.0	75	67	N.E.	N.E. by N.	166	1
11	0.23	86.3	75.8	10.5	83	69	N.N.E.	N.N.E.	69	5
12	...	88.7	75.6	11.1	83	65	N. by E.	N.E. by N.	93	5
13	...	86.2	70.1	15.1	82	68	...	N.N.E.	58	5
14	...	86.9	69.8	17.1	81	68	N. by E.	N.E. by N.	71	2
15	...	88.7	70.7	18.0	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	69	...	...	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.	134	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.	226	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.	261	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	...	84.8	74.3	10.0	74	83	N.N.E.	N.N.E.	270	3
27	0.08	83.4	69.9	8.5	94	72	N.N.E.	N.N.E.	211	1
28	0.01	83.8	69.7	14.1	93	73	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

Daily Record of Meteorological Observations and of Cholera Deaths at TRICHINOPOLY 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.
		Highest maxi- mum.	Lowest mini- mum.	Range.	10 A.M.	4 P.M.	Direction.		Velocity, miles per diem.	
							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	
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	63	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.	116	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.	56	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.	198	4
12	0.62	81.1	72.2	8.9	62	80	N.E.	E.N.E.	123	3
13	1.21	85.1	71.3	13.8	78	70	E.N.E.	N.E.	166	
14	1.30	87.0	72.9	14.1	78	63	N.E.	E.	147	2
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	...	93.0	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

Daily Record of Meteorological Observations and of Cholera Deaths at TRICHINOPOLY 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.	
		Highest maxi- mum.	Lowest mini- mum.	Range.	10 A.M.	4 P.M.	Direction.			Velocity, miles per diem.
							10 A.M.	4 P.M.		
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	68.0	24.1	59	35	N.	E.	84	1
7	...	95.0	73.6	21.4	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	1.30	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.W.	74	...
13	...	95.2	72.7	22.5	67	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	33	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	43	25	E.	S.E.	87	...
30	...	99.1	73.0	26.1	51	30	N.E.	E.	122	...
31	...	97.8	72.0	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	...	102.3	69.9	32.4	45	23	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.	103	...
8	0.06	97.2	78.0	19.2	56	40	S.E.	E.S.E.	110	...
9	0.21	90.8	78.0	12.8	69	70	S.E.	S.E.	83	1
10	...	98.0	74.6	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	58	48	S.S.W.	E.S.E.	89	...
17	0.05	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	...

Daily Record of Meteorological Observations and of Cholera Deaths at TRICHINOPOLY 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.	
		Highest maxi- mum.	Lowest mini- mum.	Range.	10 A.M.	4 P.M.	Direction.			Velocity, miles per diem.
							10 A.M.	4 P.M.		
August.										
1	...	100.3	79.6	20.7	46	38	W.	W.N.W.	365	...
2	...	100.1	78.5	21.6	41	32	W.S.W.	W.N.W.	437	...
3	...	99.7	78.1	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	1.99	95.6	72.9	22.7	52	53	W.	W.N.W.	162	...
12	0.69	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	1.76	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	42	N.W.	W.	223	...
22	...	98.4	78.8	19.6	44	38	W.N.W.	W.N.W.	254	...
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	1.89	93.8	74.0	19.6	56	47	S.W.W.	N.W.	194	...
26	...	97.3	76.8	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	0.06	82.4	73.8	8.6	806	74	N.E.	N.E.	117	...
2	0.23	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.	39	...
8	...	88.7	75.0	13.7	93	78	Calm.	S.S.E.	49	...
9	0.29	85.7	75.5	10.2	78	74	Calm.	N.E.	56	...
10	1.37	80.9	78.2	7.7	84	91	Calm.	N.E.	40	...
11	...	87.3	78.9	13.4	87	74	Calm.	Calm.	44	...
12	...	88.2	74.9	13.3	77	60	N.E.	N.E.	41	1
13	0.16	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	0.11	87.9	73.6	14.3	80	60	N.E.	N.E.	59	...
16	...	89.3	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	0.04	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

Daily Record of Meteorological Observations and of Cholera Deaths at TRICHINOPOLY 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.		Velocity, miles per diem.	Deaths from cholera recorded on each day.
		Highest maxi- mum.	Lowest mini- mum.	Range.	10 A.M.	4 P.M.	Direction.			
							10 A.M.	4 P.M.		
DECEMBER.										
1	...	96.0	74.0	12.0	77	90	N.E.	N.N.E.	119	1
2	0.11	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	69.5	18.3	68	56	N.E.	N.E.	141	9
7	...	87.8	66.9	20.9	68	51	N.E.	N.E.	141	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	12
16	...	88.2	67.6	20.6	74	57	N.W.	N.E.	84	6
17	...	88.3	67.9	20.4	61	56	N.N.E.	N.E.	112	8
18	...	90.0	72.0	18.0	65	57	N.E.	N.E.	181	13
19	...	89.0	75.0	14.0	66	56	N.E.	N.E.	189	4
20	0.55	81.2	74.6	6.6	78	81	N.E.	N.E.	146	8
21	...	86.2	73.9	12.3	82	72	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

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

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 maxi- mum.	Lowest mini- mum.	Range.		Direction.	Velocity, miles per diem.		
						8 A.M.	8 A.M.		
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		95.8	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	68	S.W.	360	9	
27		98.8	82.0	16.8	55	S.S.W.	336	11	
28		99.8	81.0	18.8	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	0.80	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	79	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	61	N.W.	312	18	
21		92.3	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		104.8	82.0	22.8	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	

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

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 maxi- mum.	Lowest mini- mum.	Range.		8 A.M.	Direction.		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	58	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	70.1	16.6	91	N.W.	264	...	
19	0.02	99.3	75.1	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	8	
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	8	
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	88	N.W.	96	2	

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

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 maxi- mum.	Lowest mini- mum.	Range.		Direction.	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	92	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	...	...	...	...	...	...	...	...	...
15	...	...	83.7	71.1	12.6	88	N.W.	144	2
16	...	...	85.7	70.1	15.6	93	N.W.	120	2
17	...	...	85.2	70.6	14.6	93	N.W.	120	3
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, Godavari, Kistna, Madura, Malabar, Nilgiris, South Canara and Tinnevely) 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 Nilgiris 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 ..	1,163	20.4	58.1	29	Nagapatam ..	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	Mayavaram ..	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	Kumbakonam ..	27	0.5	26.0
6	Bezvada ..	42	4.2	67.6	34	Mannargudi ..	10	0.4	30.4
7	Gudiyatam ..	64	3.8	31.04	35	Bollary ..	21	0.4	54.9
8	Tirupatūr ..	54	3.8	47.6	36	Cuddapah ..	7	0.4	38.9
9	Rajahmundry ..	87	3.5	43.4	37	Vaniyambadi ..	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	Srirangam ..	6	0.3	55.02
12	Guntūr ..	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 ..	88	2.1	36.0	42	Ootacamund ..	1	0.1	57.8
15	Vellore ..	78	1.9	41.5	43	Anakapalle ..	2	0.1	47.7
16	Tinnevely ..	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	Adoni ..	..	..	50.4
19	Palamcottah ..	25	1.4	52.6	47	Karūr ..	..	..	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	Parlakimedi ..	..	..	69.5
23	Erode ..	10	1.0	48.0	51	Kurnool ..	..	..	43.9
24	Chidambaram ..	19	0.9	35.6	52	Wálanjpet ..	..	..	24.6
25	Cocanada ..	25	0.8	54.0	53	Mangalore ..	..	..	43.3
26	Ongole ..	7	0.8	61.6	54	Vizianagaram ..	..	..	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	1,326,017	4,632	4,859	4,622	4,789	4,377	6,185	2,212	2,185	4,189	2,638
Bellary	2,089	1,580	1,548	1,358	1,370	2,407	5,444	5,829	7,438	7,001	
Chingleput	978,524	5,582	5,574	6,082	6,114	6,741	6,198	5,938	6,454	7,463	
Coimbatore	1,657,144	11,125	12,343	12,897	10,776	11,185	12,898	11,016	12,935	15,732	13,912
Cuddapah	1,120,714	13,265	11,248	12,282	14,648	15,412	18,906	18,258	16,642	19,444	16,801
Ganjam	1,376,069	12,088	12,016	10,789	10,354	10,739	16,669	11,414	15,852	13,876	14,165
Godavari	1,790,860	14,366	14,221	16,867	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	4,688	6,635
Madura	1,293,829	8,048	9,158	9,496	10,265	9,845	7,760	7,083	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	1,219,888	6,097	7,702	8,094	8,999	9,481	8,708	7,940	10,415	11,589	
Nilgiris	88,324	772	768	1,063	1,177	1,098	981	1,050	980	1,502	1,498
North Arcot	1,822,312	9,296	10,487	11,755	15,724	15,821	16,901	13,839	14,686	17,275	16,097
Salem	1,592,274	9,251	10,081	10,908	12,517	14,136	16,142	13,810	14,517	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	965,596	4,462	7,410	10,384	8,992	7,727	6,866	6,680	6,005	10,308	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
Tinnevely	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	5,580	6,194	6,132	6,066	7,802	6,790
Vizagapatam	1,455,249	16,525	15,982	18,812	20,977	19,355	22,011	12,211	24,457	22,363	20,773
Total, Madras Presidency.	23,513,734	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, Godavari, 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), Nilgiris (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.

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, Godavari, Kistna, Madura, Malabar, Nilgiris, South Canara and Tinnevely) 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 Nilgiris 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	Nagapatam ..	36	0.7	35.8
2	Periyakulam ..	143	8.7	32.3	30	Cuddalore ..	27	0.6	28.2
3	Tuticorin ..	135	8.3	33.9	31	Mayavaram ..	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	Kumbakonam ..	27	0.5	26.0
6	Bezvada ..	42	4.2	67.6	34	Mannargudi ..	10	0.5	30.4
7	Gudiyatam ..	64	3.8	31.04	35	Bellary ..	21	0.4	54.9
8	Tirupatur ..	54	3.8	47.6	36	Cuddapah ..	7	0.4	38.9
9	Rajahmundry ..	87	3.5	43.4	37	Vaniyambadi ..	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	Srirangam ..	6	0.3	55.02
12	Guntur ..	46	2.3	57.8	40	Salem ..	14	0.2	44.4
13	Palghat ..	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	Anakapalle ..	2	0.1	47.7
16	Tinnevely ..	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	Adoni ..	..	..	50.4
19	Palacottah ..	25	1.4	52.6	47	Karur ..	..	..	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	Parlakingudi ..	..	..	69.5
23	Erode ..	10	1.0	48.0	51	Kurnool ..	..	..	43.9
24	Chidambaram ..	19	0.9	36.6	52	Walajapet ..	..	..	24.6
25	Cocanada ..	25	0.8	54.0	53	Mangalore ..	..	..	43.3
26	Ongole ..	7	0.6	61.6	54	Vizianagaram ..	..	..	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	4,632	4,859	4,622	4,789	4,377	6,185	2,212	2,185	4,189	2,638
Bellary ...	2,089	1,530	1,548	1,358	1,370	2,407	5,444	5,829	7,438	7,001	
Chingleput ...	978,524	5,582	5,574	6,082	6,114	6,741	6,198	5,398	6,454	7,453	
Coimbatore ...	1,657,144	11,125	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	12,262	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	16,639	11,414	15,852	13,876	14,165
Godavari ...	1,790,850	14,366	14,321	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	11,810	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	15,660	14,315
Madras ...	389,984	3,674	3,422	3,726	3,553	3,758	3,973	3,306	4,064	4,688	6,635
Madura ...	1,293,829	8,048	9,159	9,496	10,265	9,845	7,760	7,083	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
Nilgiris ...	88,324	772	768	1,063	1,177	1,088	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	18,839	14,686	17,275	16,097
Salem ...	1,592,274	9,251	10,081	10,908	12,517	14,136	16,142	13,810	14,517	19,545	15,129
South Arcot ...	1,815,916	9,282	10,110	10,534	10,563	12,193	13,075	12,797	12,644	15,216	14,926
South Canara ...	955,595	4,462	7,410	10,384	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
Tinnevely ...	1,699,056	5,750	5,987	6,448	5,900	5,055	5,550	4,932	5,047	6,421	5,888
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 ...	1,455,249	16,525	15,932	18,812	20,977	19,355	22,011	12,211	24,457	22,363	20,773
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, Godavari, 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), Nilgiris (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	Bezvada ..	161	15.9
2	Nalgiris ..	1,396	19.6	2	Parlakimedi ..	228	14.8
3	Madras ..	6,635	17.0	3	Tuticorin ..	232	14.2
4	Cuddapah ..	16,548	15.0	4	Adoni ..	310	13.8
5	Vizagapatam ..	20,002	14.5	5	Kurnool ..	281	13.8
6	Ganjam ..	13,697	10.4	6	Cuddapah ..	253	13.3
7	Godavari ..	17,352	10.1	7	Tirupatūr ..	186	13.0
8	Kistna ..	14,202	9.6	8	Anakapalle ..	167	12.5
9	Nellore ..	11,340	9.6	9	Vizianagrum ..	275	12.2
10	Salem ..	14,417	9.6	10	Guntūr ..	214	10.9
11	North Arcot ..	15,588	8.9	11	Wajajpet ..	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	Vaniyambadi ..	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	Coonoor ..	40	8.4
18	Bellary ..	6,368	7.1	18	Rajahmundry ..	184	7.5
19	Madura ..	8,296	7.1	19	Conjeevaram ..	269	7.2
20	Trichinopoly ..	6,152	5.5	20	Kumbakonam ..	324	6.7
21	Tinnevely ..	5,526	5.3	21	Salem ..	385	6.6
22	Tanjore ..	3,750	1.9	22	Mangalore ..	208	6.6
				23	Chicacole ..	118	6.4
				24	Ellore ..	187	6.3
				25	Trichinopoly ..	630	6.3
				26	Ongole ..	56	6.1
				27	Tanjore ..	337	6.1
				28	Bellary ..	323	6.0
				29	Coimbatore ..	281	5.9
				30	Karūr ..	54	5.9
				31	Bimlipatam ..	48	5.6
				32	Negapatam ..	296	5.5
				33	Srirangam ..	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 ..	208	5.1
				39	Periyakulam ..	82	5.0
				40	Ootacamund ..	62	5.0
				41	Gudiyatam ..	81	4.9
				42	Madura ..	353	4.6
				43	Miyavaram ..	104	4.5
				44	Erode ..	41	4.2
				45	Cochin ..	58	3.7
				46	Tellicherry ..	82	3.3
				47	Mannargudi ..	64	3.3
				48	Calicut ..	185	3.2
				49	Palghat ..	108	3.0
				50	Palamcottah ..	54	3.0
				51	Tinnevely ..	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 diarrhoea," all diseases which are not included under dysentery and diarrhoea 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 diarrhoea" 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 diarrhoea.

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 diarrhoea," 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, Godavari, 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 diarrhoea" 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 diarrhoea" in each district and municipality during 1891 :—

No.	Districts, exclusive of municipal towns.	Number of deaths from dysentery and diarrhoea.	Ratio per mille of population.	No.	Municipalities.	Number of deaths from dysentery and diarrhoea.	Ratio per mille of population.
1	Madras	4,480	11.5	1	Bezvada	120	11.9
2	Chingleput	3,926	4.2	2	Tuticorin	142	8.7
3	Malabar	4,696	2.1	3	Bimlipatam	60	7.0
4	Nilgiris	122	1.7	4	Tanjore	372	6.8
5	South Canara	1,233	1.3	5	Karur	60	6.5
6	South Arcot	2,102	2.2	6	Walajapet	61	5.9
7	North Arcot	1,864	1.1	7	Rajahmundry	135	5.5
8	Tinnevely	1,676	1.0	8	Ongole	50	5.4
9	Kurnool	513	0.8	9	Mannargudi	102	5.3
10	Salem	1,195	0.8	10	Cochin	82	6.2
11	Coimbatore	1,200	0.7	11	Coonoor	23	4.8
12	Kistna	1,010	0.7	12	Vizagapatam	144	4.7
13	Anantapur	240	0.6	13	Madura	358	4.6
14	Bellary	548	0.6	14	Nagapatam	247	4.6
15	Madura	749	0.6	15	Conjeevaram	162	4.3
16	Cuddapah	570	0.5	16	Kumbakonam	215	4.3
17	Nellore	597	0.5	17	Mayavaram	97	4.2
18	Trichinopoly	571	0.5	18	Parlakimedi	61	4.0
19	Tanjore	796	0.4	19	Coimbatore	154	3.9
20	Godavari	609	0.3	20	Mangalore	126	3.9
21	Vizagapatam	414	0.3	21	Periyakulam	62	3.7
22	Ganjam	168	0.1	22	Guntur	71	3.6
				23	Tirupati	47	3.6
				24	Tirupatūr	51	3.6
				25	Cuddalore	159	3.6
				26	Trichinopoly	299	3.5
				27	Tinnevely	80	3.4
				28	Vellore	137	3.3
				29	Prode	31	3.1
				30	Chidambaram	61	3.1
				31	Gudiyatam	51	3.0
				32	Calicut	162	2.8
				33	Ootacamund	31	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	Anakapalle	29	2.2
				42	Bellary	104	1.9
				43	Srirangam	37	1.9
				44	Kurnool	37	1.8
				45	Vizianagrum	41	1.8
				46	Palghat	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	Vaniyambadi	10	0.6
				53	Palni	7	0.5
				54	Nellore	13	0.5
				55	Adoni	4	0.2
Total ..		29,279	1.1	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 diarrhoea" is reported to have occurred at Bezvada, where it attained the ratio of 11.9 and next to it comes Tuticorin with a death-rate of 8.7. These two municipalities usually returned the highest death ratios from this cause. The lowest death-rate (0.2) was registered at Adoni.

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	7,582	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	6,057	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 Nilgiris 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

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 diarrhoea 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 Diarrhoea.
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	Goonsur 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. Parlakimedi	15,365	...	...	14.8	4.0
	7	Zemindaries	664,468	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	Anakapalle do.	112,474	0.009	0.04	18.3	0.4
	12	Vizagapatam do.	49,086	...	0.2	14.0	0.2
	13	Viravilli do.	148,861	0.08	0.2	14.8	0.2
	14	Bhimlipatam do.	73,948	0.09	0.6	13.9	0.5
	15	Srungavarapukottah 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	Salur do.	65,371	...	...	15.7	0.8
	20	Bohili do.	94,772	...	0.08	11.3	0.2
	21	Palkonda do.	135,182	...	0.1	15.3	0.1
	22	Parvatipur do.	74,009	...	0.1	17.4	0.2
	23	M. T. Vizagapatam	30,291	0.1	0.08	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. Anakapalle	13,341	...	0.1	12.5	2.2
		Total	1,455,806	0.02	0.2	14.3	0.5
Godavari.	27	Ramachandrapuram Taluk	220,780	0.5	2.6	12.5	0.3
	28	Anakapalle do.	227,157	0.2	2.3	6.7	0.3
	29	Narsapur do.	200,153	0.2	1.6	3.6	0.2
	30	Bhimavaram do.	108,599	1.2	1.3	5.5	0.8
	31	Tanuku do.	188,306	0.3	6.3	9.8	0.4
	32	Ellore do.	124,216	2.1	1.4	11.9	0.3
	33	Yernagudem do.	159,364	0.4	2.1	14.2	0.3
	34	Rajahmundry do.	106,641	2.4	1.4	14.6	0.5
	35	Peddapuram do.	121,314	0.3	1.3	15.4	0.3
	36	Bhadrachalam do.	35,656	...	1.1	6.3	0.4
	37	M. T. Cocanada	30,441	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	3.7	1.5	6.3	2.2
	40	Zemindaries	216,238	1.5	0.8	11.4	0.2
		Total	1,791,512	0.8	0.2	9.9	0.5
Kistna.	41	Répalie Taluk	184,340	2.0	4.8	3.8	0.8
	42	Bapatla do.	161,736	6.4	4.5	9.9	1.0
	43	Guntur do.	116,437	2.5	6.2	8.7	1.1
	44	Palnad do.	125,799	1.1	4.9	15.4	0.9
	45	Narasaraopet do.	128,791	3.3	5.9	13.6	0.9
	46	Gudivada do.	99,233	6.4	4.8	6.0	0.5
	47	Sattenapalle do.	110,290	0.6	9.7	13.1	0.6
	48	Masulipatam do.	140,426	4.1	5.4	8.0	0.3
	49	Nandigama do.	107,288	0.3	6.3	11.0	0.4
	50	Bezvada 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. Guntur	19,648	3.6	2.3	10.9	3.6
	54	M. T. Bezvada	10,098	5.1	4.2	15.9	11.9
	55	Zemindaries	173,566	1.8	2.3	9.4	0.3
		Total	1,548,480	2.8	5.3	9.5	0.8
Nellore.	56	Gaddar Taluk	99,349	2.2	0.1	8.8	0.5
	57	Rapur 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	Atmakur do.	83,911	1.9	0.4	12.4	0.8
	60	Kavali do.	60,650	0.8	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 Diarrhoea.
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
Chingleput.	68	Madras Town	405,848	4.4	0.1	16.3	11.0
	69	Saidapet 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	Madurantakam 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	Tiruvallur 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	1.3	6.4	0.8
	77	Vilupuram 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	Kullakurichi do.	196,029	4.6	0.9	12.0	0.5
	81	Tirukoilur do.	206,489	8.3	3.2	9.2	1.1
	82	Tiruvanamalai do.	154,859	10.1	3.4	11.7	1.8
	83	Vridhachalam 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	Misiri do.	258,068	1.9	0.1	3.4	0.4
	88	Kallitalai do.	201,980	3.1	0.04	2.0	0.4
	89	Perambalur do.	172,281	3.5	0.4	6.5	0.6
	90	Udayarpalayam 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. Srirangam	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	Kumbakonam 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	Mannargudi do.	162,241	2.3	0.5	1.8	0.3
	100	Tiruturaipundi do.	168,103	2.3	0.2	1.6	0.1
	101	Patukota 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. Kumbakonam	50,098	3.8	0.5	6.7	4.3
	104	M. T. Mayavaram	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. Mannargudi	19,409	3.9	0.5	3.3	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	Melur 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	3.9	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	Sattenandat Villages	1,191	...	...	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 Diarrhoea.
Tinnevely.	119	Ootapidāram Taluk	253,518	0.9	4.1	8.2	2.0
	120	Tenkārai do.	283,110	3.2	2.8	2.7	1.4
	121	Tinnevely do.	130,198	3.1	2.5	1.7	0.5
	122	Srivilliputtur do.	163,608	0.2	1.2	1.6	0.5
	123	Sankaranainarkoil do.	181,064	0.4	0.5	1.4	0.6
	124	Nānguneri do.	171,347	4.0	1.2	2.7	0.5
	125	Amāsamudram do.	165,152	4.0	0.8	2.2	0.7
	126	Sātūr do.	150,886	1.8	4.2	5.2	1.1
	127	Tenkāsi do.	140,405	3.6	0.3	2.3	1.0
	128	M. T. Tinnevely	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	Rāmālakōtah Taluk	74,369	5.6	0.04	21.7	0.6
	132	Pattikōnda do.	105,438	7.4	0.5	28.4	0.9
	133	Nandikōtkur do.	72,741	8.9	0.1	26.1	0.8
	134	Nandyāl 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	Sirvāl do.	57,197	3.8	0.1	21.5	1.3
	137	Cumbum do.	109,851	1.1	0.6	19.0	0.4
	138	Mārkāpur do.	84,048	1.6	0.7	19.8	0.5
	139	M. T. Kurnool	20,329	6.8	...	18.8	1.8
	Total		678,551	4.8	0.3	21.1	0.8
Cuddapah.	140	Badvāl Taluk	82,145	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.	134,363	11.5	0.6	16.9	0.6
	144	Cuddapah do.	128,471	8.2	0.1	14.3	0.2
	145	Jammālamadugu do.	91,958	7.0	0.7	12.5	0.3
	146	Palivēndla do.	95,617	7.2	0.2	14.9	0.5
	147	Rāyachōti do.	92,541	0.7	0.1	13.6	0.5
	148	Kādirī do.	116,252	2.7	0.3	11.2	0.6
	149	Vāyalpād do.	104,462	0.8	1.6	18.0	0.8
	150	Madānapalle 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	Kēdligi do.	74,540	1.8	0.2	7.2	0.6
	155	Havanbadgalli do.	70,317	3.8	0.3	9.7	3.2
	156	Harpanahalli do.	75,401	5.6	0.2	11.0	1.3
	157	Alūr do.	65,686	0.4	0.7	5.2	0.3
	158	Adōni do.	99,644	5.9	0.3	8.3	0.2
	159	Rāyadrug 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. Adōni	23,441	18.6	...	13.8	0.2
	162	Zemindaries	10,582	...	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	Tadpatri do.	98,964	13.7	0.3	0.8	0.4
	166	Penukōnda do.	73,023	11.5	0.1	7.8	0.6
	167	Dharmavaram do.	100,873	5.6	0.7	7.4	0.2
	168	Hindupur do.	73,270	...	0.6	5.9	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	8.3	1.1	11.3	0.6
	172	Chendragiri do.	79,919	5.9	2.8	7.5	0.7
	173	Palmanēr do.	41,815	0.02	0.4	10.4	0.1
	174	Gudiyātām do.	137,956	4.2	0.9	10.8	0.8
	175	Vellore do.	129,258	7.4	1.2	9.0	1.1
	176	Pōlūr do.	111,877	5.6	1.8	9.4	1.9
	177	Wandiwaah do.	148,100	4.1	2.2	8.5	1.4

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population.			
				Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhoea.
N. Arcot—cont.	178	Arcot Taluk	147,388	5.4	1.9	5.7	1.8
	179	Wāljāpet 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. Wāljāpet	10,387	3.8	...	9.3	5.9
	182	M. T. Gudiyātām	16,690	2.9	3.8	4.9	3.0
	183	M. T. Tirupati	13,232	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	Atūr do.	158,554	7.5	0.8	11.3	1.0
	187	Nāmākal do.	254,577	2.0	0.6	6.9	0.6
	188	Tiruchengōd do.	191,328	2.4	0.2	11.8	0.8
	189	Mosūr 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	Tirupatūr 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. Vāniyambādi	15,933	7.1	0.4	8.8	0.6
	196	M. T. Tirupatūr	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	Pollāchi 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	Bhavāni do.	94,123	1.4	0.6	11.4	0.4
	203	Kollegāl do.	77,522	...	0.9	12.3	1.0
	204	Udāmalpet do.	112,572	3.4	2.5	7.7	0.7
	205	Karūr do.	167,950	7.3	1.4	4.8	0.3
	206	Dhārāpuram do.	195,232	4.9	1.2	3.8	0.7
	207	M. T. Coimbatore	38,967	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. Karūr	9,205	9.6	...	5.9	6.5
	Total		1,657,690	5.0	1.1	8.4	0.9
Nīlگیر.	210	Nīlگیر Taluk	46,753	1.4	0.5	19.4	1.1
	211	South-East Wynād	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	Māngalore Taluk	216,950	0.02	0.1	6.6	0.9
	216	Kāsaragōd do.	243,881	0.3	0.1	7.3	1.0
	217	Uppinangādi 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. Māngalore	32,099	...	...	6.5	3.9
	Total		955,842	0.3	0.2	7.9	1.4
Malabar.	221	Chirakal Taluk	246,283	1.2	0.4	8.0	1.0
	222	Kōttayam do.	141,194	0.1	0.9	7.9	0.6
	223	Kurumbānād 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	Ernād do.	296,143	5.6	4.7	9.3	8.2
	226	Ponāni do.	392,654	3.3	2.9	3.9	2.2
	227	Wālwānād do.	308,102	1.8	1.3	7.9	2.6
	228	Pālgat do.	306,115	2.4	2.3	8.1	1.3
	229	Wynād 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	Tangachēri 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. Pālgat	36,339	4.6	2.2	8.0	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.

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population.			
				Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhoea.
Tinnevely.	119	Ootapidaram Taluk	253,518	0.9	4.1	8.2	2.0
	120	Tenkarai do.	283,110	3.2	2.8	2.7	1.4
	121	Tinnevely do.	130,198	8.1	2.5	1.7	0.5
	122	Srivilliputtur do.	163,008	0.2	1.2	1.5	0.5
	123	Sankaranainarkoil do.	181,064	0.4	0.5	1.4	0.6
	124	Nanguneri do.	171,347	4.0	1.2	2.7	0.5
	125	Ambasamudram do.	165,152	4.0	0.8	2.2	0.7
	126	Satur do.	150,886	1.8	4.2	5.2	1.1
	127	Tenkasi do.	140,405	3.6	0.3	2.3	1.0
	128	M. T. Tinnevely	23,221	7.9	1.6	2.4	3.4
Kurnool.	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
	131	Ramallakotah 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	Nandikotkur do.	72,741	8.9	0.1	26.1	0.8
	134	Nandyal do.	78,282	10.9	0.2	19.7	1.6
	135	Koilkuntla do.	78,286	4.7	0.06	20.4	0.6
	136	Sirvi do.	57,197	8.8	0.1	21.5	1.2
	137	Cumbum do.	109,851	1.1	0.6	19.0	0.4
Cuddapah.	138	Mankapur do.	84,048	1.6	0.7	18.8	0.5
	139	M. T. Kurnool	20,889	6.8	...	18.8	2.9
	Total		678,551	4.8	0.8	21.1	0.8
	140	Badvel Taluk	82,145	3.3	0.8	17.8	0.2
	141	Proddutur do.	90,653	12.2	0.1	18.9	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	0.2
	145	Jammalamadugu do.	91,958	7.0	0.7	12.5	0.3
	146	Palivenda do.	95,617	7.8	0.2	14.9	0.5
Bellary.	147	Rayachoti do.	92,541	0.7	0.1	13.6	0.5
	148	Kadiri do.	116,252	2.7	0.3	11.2	0.6
	149	Vayalpad 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		1,121,088	5.5	0.6	1.5	0.5
	152	Bellary Taluk	95,287	8.0	0.8	4.3	0.5
	153	Hospet do.	85,500	0.4	0.1	21.5	0.6
	154	Kadlgi do.	74,840	1.8	0.2	7.2	0.6
	155	Havanahalli do.	70,317	3.8	0.2	9.7	3.2
Anantapur.	156	Harpachalli do.	75,401	5.6	0.2	11.0	1.3
	157	Alur do.	65,596	6.4	0.7	5.2	0.3
	158	Adoni do.	99,644	5.9	0.3	8.3	0.2
	159	Rayadurg do.	80,032	5.3	0.9	14.9	0.3
	160	M. T. Bellary	53,460	2.9	0.4	6.0	1.9
	161	M. T. Adoni	22,441	18.6	...	13.8	0.2
	162	Zemindaries	10,582	...	0.5	20.2	0.5
	Total		783,040	4.2	0.4	9.5	0.9
	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
North Arcot.	165	Tadpatri do.	98,964	13.7	0.3	0.8	0.4
	166	Penakonda do.	73,023	11.5	0.1	7.8	0.6
	167	Dharmavaram 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
	171	Chittoor Taluk	171,907	8.3	1.1	11.3	0.6
	172	Chendragiri do.	79,919	5.9	2.3	7.5	0.7
	173	Palmaner do.	41,815	0.02	0.4	10.4	0.1
	174	Gudiyatam 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	Polar do.	111,877	5.6	1.3	9.4	1.9
	177	Wandiwaah do.	148,100	4.1	2.2	8.5	1.4

Districts.	No.	Circles of Registration.	Population for which returns were received.	Ratio per mille of population.			
				Cholera.	Small-pox.	Fevers.	Dysentery and Diarrhoea.
N. Arcot—cont.	178	Arcot Taluk	147,388	5.4	1.9	5.7	1.8
	179	Walaajpet 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. Walaajpet	10,387	3.8	...	9.3	5.9
	182	M. T. Gudiyatam	16,690	2.9	3.8	4.9	3.0
	183	M. T. Tirupati	13,232	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
	185	Salem Taluk	267,547	5.9	0.3	9.4	0.7
	186	Atur do.	158,554	7.5	0.8	11.3	1.0
Salem.	187	Namakal do.	254,577	2.0	0.6	6.9	0.6
	188	Tiruchengod do.	191,328	2.4	0.2	11.8	0.8
	189	Mosir 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	Tirupatur 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. Vaniyambadi	15,933	7.1	0.4	8.8	0.6
	196	M. T. Tirupatur	14,278	5.0	3.8	13.0	3.6
Coimbatore.	Total		1,592,899	3.7	0.7	9.5	0.9
	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	Pollachi do.	172,900	13.3	1.4	10.4	0.7
	201	Palladam do.	213,391	3.5	1.0	9.1	1.4
	202	Bhavani do.	94,123	1.4	0.6	11.4	0.4
	203	Kollegal do.	77,522	...	0.9	12.3	1.0
	204	Udumalpet do.	112,572	3.4	2.5	7.7	0.7
	205	Karur do.	167,950	7.3	1.4	4.8	0.3
Nilgiris.	206	Dharapuram do.	195,232	4.9	1.2	3.8	0.7
	207	M. T. Coimbatore	38,967	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. Karur	9,205	9.6	...	5.9	6.5
	Total		1,657,690	5.0	1.1	8.4	0.9
	210	Nilgiri Taluk	46,758	1.4	0.5	19.4	1.1
	211	South-East Wynad	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
S. Canara.	Total		91,094	1.0	0.8	16.5	1.9
	215	Mangalore Taluk	216,950	0.02	0.1	6.6	0.9
	216	Kasaragod do.	243,881	0.3	0.1	7.3	1.0
	217	Uppinangadi do.	110,867	...	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
	221	Chirakal Taluk	246,288	1.2	0.4	8.0	1.0
	222	Kottayam do.	141,194	0.1	0.9	7.9	0.6
Malabar.	223	Kurumbanad do.	261,023	0.7	1.7	7.9	0.7
	224	Calicut do.	148,877	1.7	5.2	8.1	2.2
	225	Ernad do.	206,143	5.6	4.7	9.3	3.2
	226	Ponani do.	392,654	3.3	2.9	3.9	2.2
	227	Walaanad do.	308,102	1.8	1.3	7.9	2.6
	228	Palghat do.	306,115	2.4	2.3	8.1	1.3
	229	Wynad 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	Tangacherry do.	1,665	...	...	3.6	0.6
North Arcot.	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. Palghat	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	2.3	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 ...	1,007	1,149
Maistries ...	108	108	Dust-bins ...	7,768	8,175
Peons ...	307	213	Public latrines ...	968	1,191
Sweepers, &c. ...	2,169	2,360	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 scavenging 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, Vizianagram 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, Karur, 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 Srirangam 1,670, Trichinopoly 1,610, Bellary 1,462, Tuticorin 1,290, Vizianagram 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 1881.	Inspectors.	Supervisors.	Overseers.	Maistries.	Peons.	Sweepers, &c.	Toties for cleaning public latrines.	Toties for private scavenging.	Number of latrines scavenged by the municipality.	Carts.	Latrines.				Dust-bins.			Tank watchers.
												Packa built.	Brick wall enclosures.	Mud wall enclosures.	Tatty.	Wooden.	Masonry.	Iron.	
Coonoor	4,778	1	...	...	1	...	18	7	7	112	12	10	...	...	...	2	...	45	...
Anantapur	4,907	1	...	...	...	2	16	8	3	123	3	1	...	3	...	...	26	45	...
Bimlipatam	8,592	1	...	4	...	2	37	3	31	281	2	3	4	...	...	...	30	...	1
Ongole	9,200	1	...	...	...	2	20	4	6	276	8	3	6	...	1	...	64	...	1
Karur	9,205	2	...	...	1	2	20	7	1	26	7	3	...	5	...	38	34	...	...
Erode	9,864	1	...	...	...	4	25	9	2	88	19	4	...	5	...	75	50	...	1
Bezavada	10,098	1	2	...	...	...	34	10	1	12	25	7	4	...	...	...	...	104	...
Walajapet	10,887	2	...	4	...	5	12	9	3	140	6	7	...	...	...	...	53	487	6
Ootacamund	12,335	2	...	4	...	...	65	24	32	160	26	150	50	6	...	8	...	36	...
Tirupati	13,232	1	...	...	...	...	37	5	...	...	18	...	...	...	...	...	...	...	...
Palni	13,815	1	...	...	1	4	10	4	2	100	10	...	1	...	10	...	145	20	3
Anakapalle	13,841	...	...	1	3	1	43	4	...	...	10	...	...	4	...	...	23	16	3
Dindigul	14,182	2	...	...	...	3	24	17	4	79	4	2	2	12	3	...	10	24	1
Tirupatūr	14,278	...	...	2	...	...	32	8	...	...	26	2	...	15	...	...	30	22	3
Parakkimedi	15,365	2	...	...	...	...	32	4	...	...	14	...	...	4	3	...	32	55	1
Cochin	15,698	1	...	4	1	...	32	4	6	21	5	10	...	...	2	100	...	...	...
Vaniyambadi	15,933	...	...	2	...	...	40	11	...	250	3	4	3	...	3	12	...	...	3
Tuticorin	16,281	2	...	...	...	5	16	14	...	290	22	...	...	5	5	...	78	7	...
Periyakulam	16,446	1	...	...	...	2	8	5	1	60	17	...	1	...	9	...	43	26	...
Gudiyatam	16,690	1	...	...	5	...	15	4	3	133	9	...	...	...	1	...	5	10	1
Palamcottah	17,964	1	...	1	2	12	12	7	4	70	12	2	3	5	...	...	100	18	11
Chicacole	18,802	...	1	...	1	4	38	5	15	202	6	...	...	...	...	...	106	...	3
Cuddapah	18,983	4	...	...	...	6	29	28	13	498	16	25	...	4	1	2	28	...	3
Mannargudi	19,409	2	...	2	...	...	30	2	...	...	...	...	...	6	...	...	166	7	...
Guntūr	19,646	...	...	5	1	5	36	34	12	147	...	...	2	1	17	46	...	...	4
Srirangam	19,773	3	...	...	...	10	13	20	18	1,670	30	18	...	...	...	...	11	24	4
Chidambaram	19,837	1	...	4	...	...	20	6	2	76	23	...	8	...	9	...	81	1	1
Kurnool	20,329	1	...	...	1	8	36	13	2	1,200	7	38	...	1	7	...	271	45	4
Adoni	22,441	1	...	2	8	25	20	13	750	6	6	...	...	6	...	...	255	...	...
Vizianagram	22,577	2	...	7	6	1	135	11	67	1,273	22	22	...	...	...	100	74	51	8
Máyavaram	23,044	3	...	...	5	15	15	15	...	174	21	4	...	...	2	...	150	22	6
Tinnevely	23,221	8	...	1	...	6	99	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	690	13	4	4	5	8	119	112	5	2
Tellicherry	24,581	3	...	1	2	...	25	13	18	365	15	7	...	...	...	...	40	...	...
Ellore	25,092	4	...	...	...	...	37	13	...	...	10	...	9	5	13	...	60	20	1
Cannanore	25,886	2	...	1	1	2	18	16	8	334	12	11	11	...	10	...	18	...	...
Nellore	27,505	2	...	6	...	...	42	24	13	436	23	...	12	1	11	...	102	60	...
Vizagapatam	30,291	14	...	...	...	...	154	53	10	210	11	...	48	...	20	21	180	30	1
Cocanada	30,441	...	2	...	...	6	45	34	6	94	8	7	...	...	...	...	...	18	6
Mangalore	32,099	9	...	...	...	...	24	...	133	2,450	5	7	5	...	...	...	88	15	...
Masulipatam	35,056	6	...	...	...	...	50	...	...	203	23	8	5	...	...	...	...	...	1
Palghat	35,339	1	...	8	2	42	14	10	220	26	7	2	...	4	...	...	...	151	...
Conjeeveram	37,275	4	1	...	...	...	40	5	5	317	23	11	9	...	...	...	376	28	4
Coimbatore	38,967	3	...	1	7	...	78	25	80	680	39	17	8	7	1	13	...	112	1
Vellore	40,958	6	...	...	...	9	32	42	10	400	44	21	4	...	...	...	403	168	7

* 18 of these attend to private scavenging also. † Attend to private scavenging 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.	Toties for cleaning public latrines.	Toties for private scavenging.	Number of latrines scavenged by the municipality.	Carts.	Latrines.				Dust-bins.			Tank watchers.
												Pucka built.	Brick wall enclosures.	Mud wall enclosures.	Tatty.	Wooden.	Masonry.	Iron.	
Cuddalore	43,545	7	...	...	...	6	43	24	5	50	26	12	...	...	9	...	248	50	3
Kumbakonam	50,098	6	...	...	...	6	45	18	18	341	38	13	...	...	...	...	170	40	3
Bellary	53,460	10	...	...	...	19	64	47	23	1,462	60	17	...	...	...	...	305	101	...
Negapatam	53,776	5	...	...	...	12	96	16	80	1,108	41	...	...	...	...	...	517	24	...
Tanjore	54,745	6	...	...	...	24	78	32	13	706	66	...	...	...	...	...	203	17	...
Calicut	57,085	1	...	...	...	9	48	17	25	710	...	...	...	...	...	...	21	...	...
Salem	59,681	3	...	...	...	...	148	55	12	385	52	1	...	...	...	...	47	160	...
Madura	76,817	6	...	...	...	13	100	25	...	...	67	4	...	...	...	...	72	106	...
Trichinopoly	84,449	9	...	...	...	17	69	89	41	1,610	110	2	...	...	...	...	212	80	...
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	1,516	...

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

	Per cent.		Per cent.
Bezvada	74.9	Nellore	60.9
Walaipet	73.3	Ellore	60.0
Tellicherry	72.5	Anakapalle	59.9
Trichinopoly	72.6	Cuddalore	59.3
Chidambaram	72.4	Mangalore	59.5
Cochin	71.0	Adoni	59.1
Negapatam	70.8	Berhampore	58.3
Vaniyambadi	70.0	Cannanore	58.3
Mavayaram	68.9	Bimlipatam	58.0
Palghat	68.2	Conjeveram	57.7
Rajahmundry	68.0	Tirupatūr	56.9
Guntūr	65.8	Tirupati	56.1
Karūr	65.6	Tanjore	55.3
Salem	65.6	Dindigul	55.1
Madura	65.4	Mannargudi	51.9
Cuddalore	65.1	Bellary	51.2
Gudiyatam	65.0	Ongole	51.2
Tinnevely	64.3	Tuticorin	49.1
Rode	63.8	Vizagapatam	48.8
Chicacole	62.9	Vellore	47.3
Masulipatam	62.0	Parlakimedi	44.5
Srirangam	61.7	Palamcottah	37.9
Ootacamund	61.3	Coonoor	29.8
Palni	60.9	Kumbakonam	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).		1891-92.	
	Amount sanctioned.	Amount spent.	Amount sanctioned.	Amount spent in 9 months ending December 1891.
For conservancy	Rs. 4,20,517	Rs. 3,90,348	Rs. 4,46,415	Rs. 3,16,565
For improvement of village or town sites	1,25,689	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	6,41,506	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.		Conservancy.		Improvement of town sites.		Improvement of water-supply, including cleansing, repairing, &c.		Sanitary arrangements during fairs and festivals.		Construction and repair of markets and slaughter-houses.		Other sanitary objects, including construction and repair of tanks, &c.	
					Amount sanctioned.	Amount expended in the months ending December 1891.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.
Anantapur	4,907	Rs. 24,900	15.9	7.3	Rs. 3,970	Rs. 3,058	Rs. 2,260	Rs. 1,777	Rs. 1,500	Rs. 1,085	Rs. 50	Rs. 103	Rs. 50	Rs. 47	Rs. 800	Rs. 46		
Adoni	23,441	48,950	20.9	11.2	12,970	7,674	8,450	6,142	2,600	1,276	367	236	...	...	150	1,450		
Bellary	53,460	1,03,970	40.3	21.2	48,100	24,621	28,570	20,057	7,230	2,202	3,250	762	...	...	300	1,500		
Conjeveram	37,276	83,070	28.1	17.7	15,190	8,747	7,960	4,859	2,050	1,219	940	798	1,250	1,214	3,040	1,450		
Cummatore	38,067	48,340	26.1	14.7	12,200	10,357	9,600	8,289	...	...	600	1,210	...	...	150	1,150		
Ellore	9,864	15,060	26.1	13.8	4,080	2,602	3,020	2,223	...	...	260	255	...	...	370	900		
Karur	9,266	18,870	31.0	15.6	5,360	3,343	3,290	2,223	100	...	60	199	...	...	570	900		
Cuddapah	18,982	40,160	32.0	18.3	15,776	9,358	8,324	5,955	100	918	60	255	...	...	170	219		
Berhampore	23,599	25,070	37.4	20.9	9,380	5,477	5,930	4,438	2,900	636	2,652	1,787	...	...	3,000	864		
Chicacole	18,302	22,170	32.8	18.9	5,000	3,183	2,960	2,007	1,730	1,021	240	142	...	...	60	220		
Parlakimedi	18,965	12,980	31.3	14.5	4,070	1,811	2,260	1,441	...	...	330	206	...	...	70	290		
Cocanada	30,441	44,190	36.7	20.7	16,220	12,938	7,280	5,424	4,480	4,796	1,560	2,223	...	...	2,000	5		
Ellore	25,092	33,940	41.9	20.0	17,500	6,033	6,170	4,305	2,660	1,126	70	69	...	...	400	750		
Rajahmundry	10,098	20,090	32.5	17.9	22,500	11,908	9,660	7,120	4,800	3,231	1,430	718	...	...	1,320	706		
Bozváda	19,646	35,530	49.7	26.8	19,150	16,850	7,170	5,177	6,500	7,510	2,500	699	80	...	2,230	2,280		
Guntūr	35,056	41,220	38.6	22.0	15,850	12,615	8,780	6,718	4,350	2,602	3,420	3,100	...	...	2,000	1,170		
Masulipatam	20,329	31,210	29.2	16.0	11,900	9,965	7,350	5,079	2,510	2,827	1,020	904	...	...	270	183		
Kurnool	14,182	34,370	39.1	21.1	13,440	10,025	6,503	7,455	2,650	2,812	150	86	...	...	800	622		
Dindigul	76,817	2,30,220	21.4	12.4	40,270	32,209	31,040	19,627	3,380	1,770	10,230	637	2,500	1,000	1,000	509		
Madura	13,315	12,700	56.8	30.9	7,215	4,397	2,755	2,021	2,001	1,715	600	658	70	5	1,100	200		
Palni	16,146	11,200	45.1	22.9	5,961	3,901	2,390	1,650	1,950	1,795	144	54	...	...	217	17		
Periyakulam	57,085	75,715	22.9	81.5	17,350	14,133	9,480	6,813	6,920	6,877	...	...	...	...	200	103		
Calicut	26,386	29,230	39.3	63.5	6,090	6,090	7,430	4,066	2,720	1,900	400	76	...	...	470	332		
Cannanore	15,608	21,040	31.0	17.0	6,530	4,642	5,070	3,772	...	...	30	30	...	...	270	17		
Cochin	36,389	53,400	31.8	18.2	10,910	11,541	6,090	3,867	9,850	7,053	290	46	60	...	1,000	555		
Palghat	24,581	33,290	31.8	18.2	10,910	11,541	6,090	3,867	9,850	7,053	290	46	60	...	1,000	555		
Tellicherry	27,505	42,910	36.7	20.9	12,105	15,608	21,040	31.0	17.0	6,530	6,878	7,430	4,066	3,500	3,223	50	6	
Nellore	27,505	42,910	36.7	20.9	12,105	15,608	21,040	31.0	17.0	6,530	6,878	7,430	4,066	3,500	3,223	50	6	
Ongole	9,200	18,810	36.1	19.2	5,390	9,200	13,010	36.1	19.2	5,390	2,401	500	27	30	2,000	330		
Gudiyatam	16,600	19,550	33.4	18.0	6,390	16,600	19,550	33.4	18.0	6,390	2,678	2,650	1,928	690	153	660	433	
Tirupatūr	18,352	21,400	42.6	23.6	4,390	18,352	21,400	42.6	23.6	4,390	4,260	4,460	3,327	2,440	1,408	380	413	
Vellore	46,958	70,370	29.9	14.7	21,080	2,741	2,860	3,060	1,000	188	500	447	10	30	350	40		
Walaipet	10,387	12,540	30.0	16.7	4,390	10,406	13,900	0.148	5,000	710	1,000	548	...	...	500	90		
Coonoor	4,778	68,740	86.2	73.8	2,530	4,778	68,740	86.2	73.8	2,530	1,855	2,430	1,810	...	...	...	...	
Ootacamund	48,335	1,03,070	65.4	31.3	59,388	48,335	1,03,070	65.4	31.3	59,388	17,997	5,870	4,377	3,550	2,266	792	530	
Salem	59,681	68,750	40.0	23.6	27,300	45,769	19,670	16,762	13,750	14,406	1,230	804	...	...	850	537		
Tirupatūr	18,775	15,800	87.3	58.9	7,340	18,071	18,940	14,141	4,500	1,144	1,830	804	...	...	800	13		
Vaniyambadi	15,538	19,770	80.8	79.0	3,390	5,015	3,424	2,329	1,708	1,000	1,291	...	...	...	287	300		
Chidambaram	19,837	18,230	22.5	12.4	4,115	2,387	3,030	2,110	...	...	30	...	...	...	900	...		
Cuddalore	43,545	43,760	46.8	22.4	19,837	43,545	43,760	46.8	22.4	19,837	2,983	3,235	2,331	...	...	310	30	
Mangalore	32,099	51,460	24.5	12.9	26,040	13,062	8,690	6,445	...	...	1,370	318	7,000	1,184	900	180		
Kumbakonam	80,098	1,61,620	80.2	37.1	1,29,780	7,433	7,810	4,587	...	...	1,870	318	7,000	1,184	900	180		
Mannargudi	10,098	24,590	35.8	18.0	5,702	9,991	2,390	9,007	7,350	4,810	360	298	...	...	100	53		
Mavayaram	25,044	34,000	40.9	20.8	13,005	4,547	2,880	2,017	4,250	1,835	1,400	190	...	...	100	192		
Negapatam	53,776	70,450	30.7	15.3	35,060	9,626	5,855	4,174	2,220	1,818	1,025	542	230	...	200	100		
Tanjore	54,745	78,830	34.1	16.3	34,860	25,252	18,010	11,126	12,150	11,003	4,580	3,031	150	...	1,500	1,544		
Palemootiah	17,964	31,890	24.0	12.9	14,778	17,964	15,280	9,946	2,260	1,818	500	1,356	...	...	1,600	72		
Tinnevely	25,221	36,770	24.3	12.9	20,960	5,824	5,160	1,936	1,070	...	770	88	...	...	130	25		
Tuticorin	19,773	33,246	34.5	16.1	14,478	7,114	5,278	3,568	2,585	1,689	600	220	70	35	100	400		
Atrangan	10,773	24,400	30.9	15.7	9,570	5,912	7,120	4,494	1,820	2,728	2,950	331	...	...	130	25		
Trichinopoly	84,440	3,11,750	37.6	18.0	51,910	37,667	28,910	20,698	13,050	10,708	3,970	2,924	...	...	600	85		
Akanapalle	13,341	17,160	41.3	19.9	7,130	4,301	3,390	2,148	2,000	1,842	250	157	...	...	4,520	1,774		
Binnipatam	8,582	13,550	33.8	16.0	4,530	2,657	2,650	1,800	1,380	650	550	157	...	...	970	301		
Vissappatam	30,291	44,160	46.3	23.8	20,440	7,682	5,350	7,682	6,350	851	2,530	845	...	...	130	98		
Vizianagaram	22,577	26,250	25.8	12.4	14,960	11,360	8,610	6,297	4,300	3,478	180	603	...	...	120	90		
Total	1,456,422	26,62,905	57.6	28.8	9,97,380	5,67,140	4,46,415	3,16,566	1,89,240	1,22,925	66,375	41,544	12,695	8,394	25,927	12,206		
Madras	406,848	11,15,120	38.4	20.7	4,28,940	3,46,301	2,86,090	2,08,155	1,06,000	84,257	35,320	35,807	...	...	211	11,880		

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 ...	103	108	Dust-bins ...	7,768	8,175
Peons ...	307	213	Public latrines ...	968	1,191
Sweepers, &c. ...	2,159	2,360	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 scavenging 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, Vizianagram 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, Chiacole 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, Karur, 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 Srirangam 1,670, Trichinopoly 1,610, Bellary 1,462, Tuticorin 1,290, Vizianagram 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 1881.	Inspectors.	Supervisors.	Overseers.	Maistries.	Peons.	Sweepers, &c.	Toties for cleaning public latrines.	Toties for private scavenging.	Number of latrines scavenged by the municipality.	Carts.	Latrines.				Dust-bins.			Tank watchers.
												Pucka built.	Brick wall enclosures.	Mud wall enclosures.	Tatty.	Wooden.	Masonry.	Iron.	
Coonoor.	4,778	1	...	...	1	...	18	7	7	112	12	10	...	...	...	...	...	45	...
Anantapur.	4,907	1	...	...	...	2	16	8	3	123	3	1	...	...	...	...	26	45	...
Bimlipatam.	5,582	1	...	4	...	2	37	3	31	281	2	3	...	...	...	...	30	...	1
Ongole.	9,200	1	...	...	...	2	20	4	6	276	3	...	6	...	...	...	64	...	1
Karur.	9,205	2	...	...	1	2	20	7	1	25	7	3	...	5	1	...	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	...
Wárajápet.	10,387	2	...	...	...	...	65	9	3	140	6	7	...	...	...	...	53	\$487	6
Ootacamund.	12,335	2	...	...	...	...	12	...	...	...	26	150	50	6	...	8	...	36	...
Tirupati.	13,232	1	...	...	2	...	37	5	32	160	18	...	...	...	10	...	145	20	...
Palni.	13,315	1	...	...	...	4	10	...	...	...	10	...	...	...	...	...	23	10	3
Anakápalie.	13,341	...	...	1	3	1	43	20	2	100	4	2	2	12	3	...	10	24	1
Dindigul.	14,182	2	...	...	...	3	24	17	4	79	26	2	...	15	...	...	30	22	3
Tirupatúr.	14,278	...	...	...	2	...	32	8	...	...	14	...	...	4	...	...	32	55	1
Parákimedi.	15,365	2	...	...	...	3	32	4	6	21	5	10	...	...	2	100	...	...	3
Cochin.	15,698	1	...	4	1	...	21	6	...	...	8	4	3	...	3	12	...	...	...
Vániyambádi.	15,933	...	...	...	2	...	40	11	...	250	22	...	...	5	5	...	...	78	7
Tuticorin.	16,281	2	...	...	...	5	16	14	...	290	17	...	1	...	9	...	43	26	...
Poriyakulam.	16,446	1	...	...	...	2	8	...	1	60	9	...	...	...	...	...	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	13	6	2	...	...	...	106	...	3
Chiacole.	18,302	...	1	...	1	4	38	5	16	292	6	...	4	...	1	2	28	...	...
Cuddapah.	18,982	4	...	...	...	6	29	28	13	498	16	25	...	6	...	...	\$166	7	...
Mannárgudi.	19,409	2	...	...	2	...	30	2	...	...	...	...	2	...	17	46	...	...	4
Guntúr.	19,646	...	...	5	1	5	36	34	12	147	30	18	...	...	...	...	11	24	4
Srirangam.	19,773	3	...	...	...	10	13	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	86	13	2	1,200	7	38	...	...	...	...	255	...	...
Adóni.	22,441	1	...	...	2	8	25	20	13	750	6	...	...	6	...	...	74	51	8
Vizianagram.	22,577	2	...	7	6	1	135	11	67	1,273	22	22	...	...	...	100	25	11	4
Májavaram.	23,044	3	...	...	...	5	15	15	...	...	21	4	...	...	...	...	150	22	6
Tinnevely.	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
Rajshundry.	24,555	2	...	1	1	7	46	22	40	590	13	4	4	5	8	1129	112	5	2
Tellicherry.	24,581	3	...	1	2	...	25	13	18	365	15	7	...	...	...	...	60	20	1
Ellore.	25,092	4	...	...	...	...	37	13	...	...	10	...	9	5	13	...	18	...	...
Cannanore.	26,386	2	...	1	1	2	18	16	8	334	12	11	11	...	...	10	...	...	...
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	...	...	...	...	21	180	30	1
Cocanada.	30,441	...	...	2	...	6	45	34	6	94	8	7	...	...	...	...	18	6	...
Mangalore.	32,099	9	...	...	...	...	24	...	133	2,450	5	7	...	...	...	...	88	15	...
Masulipatam.	35,056	6	...	...	...	...	50	...	...	203	23	8	...	...	...	...	...	...	1
Pálgat.	36,339	1	...	...	9	2	42	14	10	220	26	7	...	...	...	...	...	151	...
Conjeeveram.	37,275	4	1	...	...	...	40	5	5	317	23	11	9	...	...	...	376	28	4
Coimbatore.	38,967	3	...	1	7	...	78	25	30	680	39	17	8	...	...	12	...	112	1
Vellore.	40,958	6	...	...	...	9	32	42	10	400	44	21	4	...	...	...	403	168	7

* 18 of these attend to private scavenging also.

\$ Of zinc.

|| Corrugated iron.

† Attend to private scavenging also.

†† 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.	Toties for cleaning public latrines.	Toties for private scavenging.	Number of latrines scavenged by the municipality.	Carts.	Latrines.				Dust-bins.			Tank watchers.
												Pucks built.	Brick wall enclosures.	Mud wall enclosures.	Tatty.	Wooden.	Masonry.	Iron.	
Cuddalore	43,545	7	...	...	...	6	43	24	5	50	26	12	...	...	9	...	248	50	3
Kumbakonam	50,098	6	...	...	...	6	45	18	18	170	38	13	...	...	...	...	305	101	2
Bellary	53,460	10	...	1	2	19	64	47	23	1,452	60	17	...	...	...	...	617	24	9
Nagapattinam	53,776	5	1	...	1	12	96	16	80	1,108	41	...	15	...	2	...	203	17	11
Tanjore	54,745	6	...	...	...	24	78	32	13	706	66	...	28	...	...	...	21	...	...
Calicut	57,085	1	...	1	9	...	48	17	25	710	...	5	...	...	...	...	47	180	1
Salem	59,681	3	...	...	11	...	148	55	12	385	52	1	42	13	2	...	72	106	...
Madura	76,817	6	...	...	...	13	100	25	...	...	67	4	...	...	2	...	212	80	24
Trichinopoly	84,449	9	...	2	2	17	69	89	41	1,610	110	2	15	59	2	...	...	...	...
Total	1,456,422	157	5	36	108	213	2,360	953	717	22,918	1,149	167	344	196	184	498	5,267	2,410	181
Madras	397,026	2	...	20	50	144	1,326	455	15	15	661	...	217	...	...	...	2,003	1,515	...

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

	Per cent.		Per cent.
Bezvada	74.9	Nellore	60.9
Wajapet	78.3	Ellore	60.0
Tellicherry	72.5	Anakapalle	59.9
Trichinopoly	72.5	Cuddalore	59.3
Chidambaram	72.4	Mangalore	59.5
Cochin	71.0	Adoni	59.1
Nagapattinam	70.8	Berhampore	58.3
Vaniyambadi	70.0	Cannanore	58.3
Mavayaram	68.9	Bimlipatam	58.0
Palghat	68.2	Conjeveram	57.7
Rajahmundry	68.0	Tirupatūr	56.9
Guntūr	65.8	Tirupati	56.1
Karūr	65.6	Tanjore	55.3
Salem	65.6	Dindigul	55.1
Madura	65.4	Mannargudi	51.9
Cuddalore	65.1	Bellary	51.2
Gudiyatam	65.0	Ongole	51.2
Tinnevely	64.3	Tuticorin	49.1
Erode	63.8	Vizagapatam	48.8
Chicacole	62.9	Vellore	47.3
Masulipatam	62.0	Parlakimedi	44.5
Srirangam	61.7	Palamcottah	37.9
Ootacamund	61.3	Coonoor	29.8
Palni	60.9	Kumbakonam	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).		1891-92.	
	Amount sanctioned.	Amount spent.	Amount sanctioned.	Amount spent in 9 months ending December 1891.
For conservancy	Rs. 4,20,517	Rs. 3,90,348	Rs. 4,46,415	Rs. 3,16,565
For improvement of village or town sites	1,25,689	1,21,414	1,89,210	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	6,41,506	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.		Conservancy.		Improvement of town sites.		Improvement of water-supply, including cleansing, repairing, &c.		Sanitary arrangements during fairs and festivals.		Construction and repair of markets and slaughter-houses.		Other sanitary objects, including construction and repair of tanks, &c.	
					Amount sanctioned.	Amount expended in nine months ending December 1891.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.
Anantapur	4,007	24,900	15.9	7.7	Rs. 3,870	Rs. 3,058	Rs. 2,260	Rs. 1,777	Rs. 1,500	Rs. 1,085	Rs. 50	Rs. 103	Rs. 30	Rs. 30	Rs. 50	Rs. 47	Rs. 800	Rs. 46
Adoni	23,441	48,950	26.5	50.1	12,970	7,674	8,450	6,142	2,600	1,276	360	286	...	...	...	19	1,560	11
Bellary	53,460	1,03,970	48.2	51.2	48,100	24,621	28,570	20,057	7,230	2,362	3,250	762	1,250	1,214	800	150	8,750	1,450
Conjeveram	37,275	33,070	44.9	57.7	16,190	8,767	7,660	4,889	2,050	1,219	940	798	1,250	1,214	8,040	515	250	132
Cuddalore	38,967	43,340	28.1	84.7	12,200	10,337	9,600	8,279	...	...	600	1,210	...	...	150	11	1,850	837
Erode	8,864	15,080	36.1	63.8	4,080	2,602	3,020	2,298	100	6	260	255	30	42	370	...	300	...
Karur	9,200	18,370	31.0	53.6	5,360	3,843	3,290	2,223	2,000	918	60	199	...	...	170	219	340	284
Cuddalore	13,983	40,160	32.0	59.3	15,776	9,358	8,324	5,966	...	...	2,952	1,787	...	...	3,000	864	1,400	712
Berhampore	23,599	35,070	37.4	58.3	9,380	5,477	5,890	4,438	3,900	636	240	121	...	...	60	22	280	229
Chicacole	18,302	22,170	22.8	62.9	5,060	3,183	2,060	2,037	1,730	1,021	240	121	...	...	70	...	34	...
Parlakimedi	15,865	12,980	31.3	44.5	4,070	1,811	2,200	1,441	...	...	330	206	...	...	...	...	1,460	74
Cannanore	30,441	44,190	36.7	79.7	16,220	12,338	7,280	5,424	4,480	4,796	1,560	2,223	...	...	2,000	5	900	490
Ellore	25,092	23,940	41.9	60.0	10,050	6,033	6,170	4,365	2,669	1,126	70	69	...	34	400	...	750	480
Rajahmundry	24,555	33,950	52.9	88.0	17,500	11,908	9,690	7,120	4,890	3,231	1,430	719	...	...	1,320	706	200	132
Bezvada	10,008	30,080	38.5	74.9	22,500	16,856	7,170	5,157	7,510	2,300	690	80	...	...	2,280	2,280	1,170	1,170
Guntur	19,648	38,520	46.7	65.8	19,150	12,615	8,740	6,718	4,350	2,662	3,426	3,160	...	...	2,000	600	600	675
Masulipatam	35,056	41,220	38.5	62.0	15,860	9,865	7,350	6,670	6,560	2,527	1,020	904	...	...	270	183	750	672
Kurnool	20,329	31,210	29.2	110.0	9,115	10,025	6,563	7,155	2,312	150	86	...	...	...	150	150	172	...
Dindigul	14,182	34,370	39.1	65.1	13,440	7,416	5,000	3,995	3,530	1,770	3,000	637	...	...	700	622	1,200	721
Madura	76,847	2,30,220	21.4	65.4	49,273	32,200	31,140	19,627	10,250	9,460	2,500	1,000	1,000	5	1,000	508	4,500	721
Palni	13,315	12,700	56.8	60.9	7,215	4,397	2,755	2,321	1,715	1,000	656	70	...	...	217	17	390	185
Periyakulam	16,146	11,200	45.1	77.0	5,061	3,901	2,390	1,850	1,795	1,000	656	70	...	...	117	17	390	185
Calicut	57,085	75,715	22.9	81.5	17,350	14,133	9,480	6,913	6,020	6,877	144	54	...	...	200	103	750	260
Cannanore	26,386	29,230	39.3	58.3	11,400	6,689	7,430	4,066	2,720	1,890	400	76	...	...	470	332	470	335
Cochin	15,608	21,040	31.0	71.0	6,530	4,642	5,070	3,772	...	...	30	30	...	...	270	17	1,160	820
Palghat	26,330	53,400	31.6	68.2	16,910	11,541	6,690	3,887	9,550	7,053	280	60	...	...	1,020	555	...	...
Tellicherry	24,681	43,290	22.7	73.8	15,745	9,589	9,115	6,393	3,300	2,401	500	27	30	...	2,000	530	800	438
Nellore	27,605	42,910	36.7	60.9	12,105	7,783	7,430	4,066	3,500	3,223	50	...	...	...	100	29	1,025	585
Ongole	9,200	13,810	36.1	51.2	5,380	3,678	2,650	1,928	890	1,000	400	433	...	...	1,000	30	...	...
Gudiyatam	16,400	19,550	33.4	65.0	8,330	5,241	3,960	2,827	2,440	1,408	380	413	...	...	150	...	187	79
Tirupat	18,228	11,400	42.6	59.8	4,890	2,741	2,960	2,069	1,000	188	500	447	10	30	350	...	40	...
Vellore	40,268	72,370	29.9	47.3	21,090	10,400	13,900	9,148	5,000	710	1,000	548	...	...	500	...	980	...
Wajapet	10,827	12,660	30.0	29.8	2,530	1,865	2,430	1,810	...	...	50	46	...	...	50	...	...	...
Coonoor	4,778	68,740	68.2	73.8	2,530	1,865	2,430	1,810	...	...	50	46	...	...	50	...	...	...
Ootacamund	48,383	1,09,070	65.4	61.3	59,283	17,897	5,870	4,377	3,550	2,266	792	530	...	...	850	537	48,200	9,990
Salem	50,611	68,750	40.0	65.6	71,300	43,769	19,070	16,753	13,750	14,406	1,200	804	...	...	500	15	36,250	11,704
Tirupatūr	16,378	15,800	30.8	58.9	6,015	4,071	18,660	14,141	4,500	1,144	500	1,291	...	...	287	8,900	1,268	...
Vaniyambadi	15,583	10,770	32.6	72.4	3,380	2,327	3,320	2,106	1,790	1,267	30	376	...	...	300	...	685	...
Mangalore	18,837	15,350	22.6	59.0	8,115	5,083	3,225	2,381	...	...	310	90	335	...	200	180	75	...
Cuddalore	33,069	51,460	24.3	59.0	26,040	15,062	9,690	6,445	...	...	1,870	318	7,000	5,184	10	10	1,470	1,705
Mangalore	50,008	1,61,620	80.2	17.1	1,29,780	7,463	7,810	4,587	7,350	4,810	890	226	...	...	100	53	3,690	2,537
Kumbakonam	10,409	24,300	35.8	61.9	3,722	4,547	3,690	2,017	4,250	1,885	1,200	467	...	...	100	102	1,07,500	8,578
Mannargudi	23,044	34,000	60.9	68.9	13,965	9,626	8,555	4,174	2,220	1,418	1,022	542	130	180	2,000	1,544	2,735	1,808
Mavayaram	53,776	70,450	50.5	70.8	35,060	25,232	18,010	11,126	12,150	11,003	4,580	3,031	150	150	2,000	1,544	2,735	1,808
Nagapattinam	54,745	72,850	34.1	63.3	24,960	13,751	15,260	9,946	2,260	1,218	3,400	1,356	...	...	1,500	72	250	...
Tanjore	17,964	31,890	24.0	37.9	5,270	1,990	2,900	1,835	1,070	...	770	68	...	...	1,300	25	310	1,231
Palamcottah	18,837	30,770	24.3	49.1	9,060	5,824	5,190	3,846	2,870	1,599	600	320	70	35	100	...	400	134
Tinnevely	19,281	33,240	43.5	49.1	14,470	7,114	5,278	3,308	5,990	2,728	2,050	931	...	...	...	...	258	...
Tuticorin	19,773	24,490	30.0	61.7	9,570	7,120	5,012	4,494	2,698	1,065	20	146	600	85	10	34	...	...
Tritchinopoly	84,440	3,11,750	16.6	72.5	51,010	37,667	38,910	24,400	13,080	10,709	3,970	2,924	...	...	4,520	1,774	1,430	1,621
Anakapalle	13,341	17,160	41.8	59.9	7,180	4,301	3,360	2,148	2,000	852	500	157	...	...	...	...	970	301
Bimlipatnam	8,583	13,550	33.8	58.0	4,890	2,657	2,560	1,800	1,380	585	500	157	...	...	...	...	120	60
Vizagapatnam	30,291	44,150	40.3	48.8	20,440	9,989	10,250	7,632	6,350	851	2,630	843	...	...	510	98	1,000	560
Visakhapatnam	22,577	28,290	55.8	77.4	14,960	11,350	8,610	6,297	4,300	3,478	180	608	...	...	120	60	1,450	877
Total	1,456,423	20,52,995	37.6	55.8	9,97,380	5,57,140	4,46,410	3,16,565	1,82,240	1,22,925	66,375	41,544	12,535	8,594	35,927	12,206	2,46,328	54,496
Madras	406,848	11,15,120	38.4	80.7	4,28,940	3,46,301	2,86,090	2,08,155	1,06,000	84,257	25,320	35,807	...	...	...	211	11,530	17,991

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate 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. 108). 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. 16). Improvement of water-supply (Rs. 545); construction and repair of latrines, slaughter-house, drains and markets and removal of prickly-pear (Rs. 1,600). 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.	Fair in quality and quantity; from a large tank and 12 wells. A few wells require walls and platforms. From step wells and springs reserved for drinking and guarded. A water-supply scheme is now under consideration.	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. Natural. Pucka drains exist in the southern portion of the town. Cess-pools abound.	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.
Adoni.	2	11,921		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 prevent pollution. From Lakal 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 Conjeevaram, is bad.	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, pukka built, and are emptied by municipal agency on payment. 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 rubbish, &c., is collected in dust-bins, of which there are 126, then removed to the rubbish depot 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		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 prevent pollution. From Lakal 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 Conjeevaram, is bad.	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, pukka built, and are emptied by municipal agency on payment. 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, &c., are carried to the depots and eventually sold. There are 15 pucks and 11 mud-wall latrines against 12 pucks and 9 mud-wall latrines in 1890. These in use are freely resorted to, but the number is insignificant. Private scavenging 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.
Conjeevaram.	4	9,919		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.	The street sweepings and night-soil are removed in carts to depots 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.
Cumbalure.	3	12,989	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 depots and there burnt in cineraria, 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 need of repair. Night-soil is taken to the depot and buried in pits. In some places streets and lanes are used for purposes of nature. There are 124 dust-bins.	26.7	Unsatisfactory.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per annum.	General Health.
Bijapur.	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 Calingayyan channel, a few wells, and to some extent from the Canvay; 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 carried to the depot, 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 depot had to be closed owing to its proximity to habitations. The rubbish, &c., from markets are burned in cineraria. Private scavenging is carried on to a limited extent. The streets are swept once daily in the morning, and the side ditches cleared and deepened in the evening. The street sweepings are carried to the rubbish depots outside town limits, and partly burnt in cineraria and partly sold. There are 13 public latrines, which are freely resorted to. The contents of latrines are removed to the rubbish depot 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 boy.	33.6	With the exception of cholera it was fairly good.
Karur.	1	9,205	Wells were sunk and repaired and other improvements to water-supply effected (Rs. 180) and Rs. 492 spent in the construction and repair of dust-bins, drains, markets and slaughter-houses and latrines.	Obtained from the Amaravathy 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 pukka built drain exists in Komatiy Street. Side-cuttings exist. A drainage scheme is under contemplation.	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 pukka built, and 173 dust-bins. The latrines are kept clean and are freely resorted to. Private scavenging is in force.	39.3	Fairly good. Cholera prevailed sporadically.
Cuddalore.	19	999	Rs. 713 were spent in surveying the town for a drainage scheme. One cart-stand was constructed (Rs. 280) and Rs. 1,787 were spent on improvements to water-supply.	The Bhooaga 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 from 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 pukka built, and 173 dust-bins. The latrines are kept clean and are freely resorted to. Private scavenging is in force.	27.0	On the whole fairly good. Cholera prevailed to some extent.
Berhampore.	4	5,699	Nothing important. Rs. 60 were laid out in improvements to water-supply and Rs. 353 in repairs to latrines, dust-bins, cineraria, market and slaughter-houses and latrines.	Principally from four tanks, viz., the Thammayya, Ramalingam, Kommapally 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 depots outside town limits, where they are burnt in cineraria. There are 22 latrines, and the night-soil is removed to a selected place 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.
Chittoor.	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 depots 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 depots at the north and south end of the town and buried in pits.	19.2	Said to be good. No epidemics.

33805

ABSTRACT OF SANITARY REPORTS OF MUNICIPALITIES—continued.

Municipalities.	Aves. in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per 1,000.	General Health.
Pattadak.	3	6,122	Rs. 288 were spent in sinking a well.	From wells and tanks. The water supply is fairly good, but 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.
Cannada.	6	6,086	Construction and repair of tanks (Rs. 623); construction of a reservoir (Rs. 1,477); construction of dust-bins and a slaughter-house (Rs. 128); repairs to latrines and drains and removal of prickly-pear (Rs. 270).	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 washed 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. 258).	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 pukka drain exists along the main bazaar. House sewage flows into streets or irrigation channels. There are 26 licensed cess-pools and 50 unlicensed cess-pools. There is considerable improvement in them.	The town refuse is stored in four dépôts 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.	18	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 Godavari 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 well-layers 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 23 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	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 pukka built.	Rubbish is first collected in dust-bins and then taken to fields situated on the outskirts of the town. There are 33 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 19 public latrines; most of them are simply	34.6	Public health was unsatisfactory. Cholera prevailed during three months in the year. Small-pox also prevailed sporadically.

for the construction of a market.	8,764	Nothing 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 in force and arrangements are being made to extend it.	large masonry enclosures; they are freely resorted to. Private scavenging is finding favour among the residents.	29.9	Fair; cholera prevailed during three months, and small-pox more or less all through the year.
Beavada.	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 pukka and seven zinc sheeted temporary latrines, which are freely used and kept clean.	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.	64.6	Unsatisfactory. Cholera and small-pox prevailed.
Kurnool.	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.	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.	33.4	Indifferent. Cholera prevailed twice in an epidemic form.
Dindigul.	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.	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.	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.	Cholera broke out in a very severe form in October; otherwise the general health was fair.	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 annum.	General Health.
Pondicherry.	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 and water-supply effected (Rs. 24). Six latrines and 6 dust-bins were constructed (Rs. 170); one well, a slaughter-house, and some drains were repaired (Rs. 36). Dust-bins were constructed (Rs. 225); a latrine and a market repaired (Rs. 315).	No change; from a tank, wells and a river. The tank supply is a very satisfactory one. Defective. The chief source of water-supply is the river Varaha-nadi. 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. 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. 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; 28 wells are reserved for drinking. All wells have parapet walls and circular stone drains. 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	No regular system; side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains. 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 a few cess-pools, which are not kept in a cleanly condition. 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. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	49.7	Unsatisfactory. Cholera prevailed in the town from March to May.
Periyakulam.	27	609	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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 a few cess-pools, which are not kept in a cleanly condition. 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 regular system; side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains. 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 a few cess-pools, which are not kept in a cleanly condition. 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. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	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.	18	4,991	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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 a few cess-pools, which are not kept in a cleanly condition. 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 regular system; side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains. 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 a few cess-pools, which are not kept in a cleanly condition. 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. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	23.0	Fairly good.
Canunore.	4	6,596	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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 a few cess-pools, which are not kept in a cleanly condition. 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 regular system; side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains. 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 a few cess-pools, which are not kept in a cleanly condition. 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. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	46.8	Very unsatisfactory.
Cochin.	1	13,698	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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 a few cess-pools, which are not kept in a cleanly condition. 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 regular system; side cuttings exist and in places masonry drains. Almost all houses in the main streets have drains. 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 a few cess-pools, which are not kept in a cleanly condition. 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. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	23.0	Fairly good.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per annum.	General Health.
Palaikat.	9	4,038	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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. Good; obtained solely from wells. 20 public wells are set apart for drinking, and in addition there are many private ones.	No regular system. Side cuttings exist for surface drainage. House sewage flows into backyards.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	29.4	Fairly good on the whole.
Tellicherry.	4	6,145	Nothing important; Rs. 222 were spent in the repair of wells, latrines, a market and a slaughter-house. Rs. 80 were spent on minor improvements to water-supply and Rs. 840 in the construction and repair of latrines and urinals.	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. Good; obtained solely from wells. 20 public wells are set apart for drinking, and in addition there are many private ones.	No regular system. Side cuttings exist for surface drainage. House sewage flows into backyards.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	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 regular system. Side cuttings exist for surface drainage. House sewage flows into backyards.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	36.1	Unsatisfactory. Cholera prevailed.
Onole.	4	2,300	No works of importance, except the sinking and repair of wells and other improvements 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 a tank and ten wells, all of which are reserved for drinking and guarded against pollution; quality fair.	No regular system. Side cuttings exist for surface drainage. House sewage flows into backyards.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	28.8	Unsatisfactory. Cholera and dysentery prevailed.
Connoor.	3	531	No works of importance, except the sinking and repair of wells and other improvements 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.	No regular system. Side cuttings exist for surface drainage. House sewage flows into backyards.	No change. Sweepers and dust carts remove the street sweepings and refuse, &c., to depots and there periodically sold by auction. There are 4 double latrines—all mud-wall enclosures in good condition, and they are freely resorted to. The refuse is carted off to rubbish depots and annually sold as manure. Night-soil is taken to one of the rubbish depots 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. 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 public built and 6 sentry-box latrines, which are freely used. Private scavenging is in force and requires to be extended.	37.2	On the whole good.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
Kumbakonam.	3	16,699	Repairs to a tank and 2 wells and other improvements to water-supply (Rs. 161); 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 Angalar, 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. Pucca houses possess masonry drains and the house sewage flows into masonry 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 depot 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.
Mannargudi.	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.	8	7,681	Improvements to water-supply (Rs. 823); construction of a market (Rs. 1,544); and other sanitary works, such as the construction and repair of latrines, dust-bins, drains, &c. (Rs. 1,318).	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.
Nagapattinam.	7	7,682	A well was sunk and others repaired (Rs. 386); Rs. 2,013 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-pea 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 1,105 private ones scavenged by municipal toties. The contents of latrines are removed in carts and buried outside the town.	33.6	Unsatisfactory. Cholera and small-pox prevailed.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
Tanjore.	8	6,848	Certain minor improvements to water-supply (Rs. 1,366) and repairs to drains (Rs. 1,231).	Obtained from the Sivaganga 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 chunnam 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	6,988	Nothing important. A market and a slaughter-house were repaired (Rs. 25), 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., removed to the ciperator 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 176 dust-bins. Private scavenging is in force.	27.8	Was unsatisfactory on the whole. Cholera, small-pox, fevers and dysentery prevailed.
Tinnevely.	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 Teppaculam 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 250 cess-pools which are imperfectly cleaned.	Indifferent. The street sweepings, &c., are collected in dust-bins and carried to the night-soil depot, 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.
Thiruvartur.	3	5,427	Certain improvements were effected to water-supply (Rs. 830) prickly-pea 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	2,825	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-pea and rank vegetation.	Obtained from the rivers Cauvery, Coleroon and Nataraittal 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 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.

Municipalities.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
Tiruchinopoly.	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 depot, a drain, markets and slaughter-houses. Construction of drains (Rs. 151) and repairs to latrines, drains, markets, cart-stand and removal of prickly-pears and rank vegetation (Rs. 168). The construction of a slaughter-house and repairs to tanks were in progress.	Obtained from 24 tanks fed by channels from the Wyacoodan, a branch of the Canvey. 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 depots, 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 202 dust-bins. Private scavenging is in force.	31.6	Reported to have been fairly good. Cholera prevailed at the end of the year.
Anakkopalle.	12	1,118	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). 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-pears and rank vegetation (Rs. 645) and Rs. 507 were spent in connection with the water project under consideration.	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 pucks built. The night-soil is buried in pits outside the town; 3 latrines are on that trench system. The latrines are freely resorted to.	32.4	Fairly good on the whole.
Bimlipatam.	9	964	Said to be good, chiefly from 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 L 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 pucks built latrines are provided which are freely used.	The rubbish is collected in dust-bins and carted to the depot 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 pucks and 20 temporary latrines which are freely resorted to. Two night-soil depots 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.	29.8	Very good.
Vizagapatam.	3	10,097	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; 43 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	Reported to be fair. There were a few sporadic cases of cholera.	26.3	

Vizagapatam.	27	5,644	Tanks were dug and wells sunk (Rs. 504); latrines repaired (Rs. 141), and Rs. 785 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. Some 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.	15,081	5,644	Improvement of water-supply (Rs. 33,800); construction and repair of latrines, dust-bins, and drains (Rs. 17,561) and repairs to slaughter-houses (Rs. 211).	Obtained from the Red Hills and Cholavaram 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 depots in outlying parts of the town. The night-soil is collected in buckets on wheels and ballock carts with lids and taken to depots; the carts going direct while the buckets are conveyed in boats. The night-soil is buried at the depots 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 Godavari district and the smallest in Nilgiris.

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	95,439	1,82,021	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.		Estimated income 1891-92.	Rate per cent. of allotment to estimated income.	Rate per cent. of sanitary expenditure to amount sanctioned.	1891-92.			
				Unions.	Other villages.				Sanitary allotment.		Conservancy.	
									Amount sanctioned.	Amount expended for nine months ending December 1891.	Amount sanctioned.	Amount expended.
Anantapur	598,749	5,094	899	11	5	Rs. 1,48,330	13.0	50.5	Rs. 19,800	Rs. 9,758	Rs. 8,500	Rs. 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	1,752,993	4,856	2,871	7	25	4,38,608	10.2	51.3	44,648	23,912	14,102	9,157
Bellary	657,189	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	22,966	21,481	10,145	8,883
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	1,416,035	3,096	4,186	14	22	3,58,430	3.2	78.8	11,550	9,098	8,670	6,659
Godavari	1,700,525	6,499	2,023	12	91	6,77,391	6.7	50.6	45,199	22,866	13,836	8,809
Kistna	1,483,680	8,150	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	7,629
Madura	2,047,890	8,352	3,967	36	17	5,74,160	10.6	46.2	60,970	28,189	25,090	16,445
Malabar	2,204,946	5,734	432	...	34	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
Nilgiris	73,921	937	8	...	5	1,37,110	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	8.8	54.6	32,727	17,869	23,090	14,959
Tinnevely	1,642,281	5,374	1,494	23	71	4,83,970	13.6	43.3	65,873	28,516	19,863	13,389
Trichinopoly	1,110,811	3,544	1,483	10	30	2,70,910	9.7	41.2	26,039	10,723	10,641	7,687
Visagapatam	1,715,677	3,449	2,663	12	19	3,82,413	6.1	63.5	23,460	14,885	11,350	8,167
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.		Improvement of water-supply, including cleaning, repairing, and construction of tanks and wells.		Sanitary arrangements during fairs and festivals.		Construction and repair of markets and slaughter-houses.		Other sanitary objects, including construction and repair of latrines, dust-bins, drains, &c.	
	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.
Anantapur	Rs. 430	Rs. 601	Rs. 2,210	Rs. 728	Rs. 310	Rs. 137	Rs. 6,800	Rs. 1,697	Rs. 1,250	Rs. 1,091
North Arcot	4,628	2,448	14,715	11,270	819	232	9,442	4,173	1,592	684
South Arcot	3,325	948	21,609	18,366	906	441	3,950	...	667	...
Bellary	1,600	996	4,329	2,087	1,220	239	5,427	607	3,231	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	...	...	888	1,387
Coimbatore	2,949	1,958	15,585	6,064	740	268	9,442	538	1,696	950
Cuddapah	1,217	1,346	4,237	1,575	380	150	3,248	458	1,883	718
Ganjam	950	497	960	1,740	210	17	...	...	770	185
Godavari	7,526	2,784	11,149	9,166	1,010	271	11,678	1,245	...	671
Kistna	4,600	1,245	13,330	3,936	1,220	355	...	...	1,330	599
Kurnool	2,371	840	2,897	750	690	130	...	...	1,287	938
Madura	3,880	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	17,299	16,668	487	440	...	...	...	135
Nilgiris	478	236	250	248	...	...	...	...	200	44
Salem	1,696	810	20,030	13,420	486	206	3,732	1,598	1,086	168
Tanjore	1,710	381	6,096	1,531	1,168	675	...	...	680	323
Tinnevely	12,738	3,024	21,696	7,828	1,117	712	4,159	1,065	6,323	2,528
Trichinopoly	1,998	298	6,783	1,109	140	19	5,627	953	1,860	707
Visagapatam	3,890	1,599	3,900	4,058	540	190	3,000	366	680	527
Total	59,751	24,020	1,62,034	1,11,130	14,493	6,229	95,256	21,438	37,008	14,686

1891-92—continued.

District Boards.	Improvement of village sites.		Improvement of water-supply, including cleansing, repairing, and construction of tanks and wells.		Sanitary arrangements during fairs and festivals.		Construction and repair of markets and slaughter-houses.		Other sanitary objects, including construction and repair of latrines, dust-bins, drains, &c.	
	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.	Amount sanctioned.	Amount expended.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Anantapur ..	830	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	4,173	1,592	684
South Arcot ..	3,325	948	21,699	18,368	906	441	3,950	...	667	...
Bellary ..	1,600	996	4,829	2,087	1,220	239	5,427	607	3,231	2,397
South Canara ..	...	...	1,055	858	1,262	814	761	300	520	205
Chingleput ..	1,482	1,136	9,811	11,502	896	623	...	...	888	1,387
Coimbatore ..	2,949	1,858	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
Godavari ..	7,528	2,784	11,149	9,168	1,010	271	11,678	1,245	...	611
Kistna ..	4,600	1,245	13,330	8,336	1,220	358	...	...	1,330	599
Kurnool ..	2,371	840	2,897	750	890	130	...	...	1,287	938
Madura ..	3,880	1,092	8,810	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	17,299	16,683	487	440	...	...	...	135
Nilgiris ..	478	236	250	248	...	...	...	...	200	44
Salem ..	1,695	810	20,030	13,420	486	206	3,782	1,598	1,068	168
Tanjore ..	1,710	381	6,094	1,581	1,163	675	...	...	680	323
Tinnevely ..	12,738	3,024	21,678	7,823	1,117	712	4,159	1,065	6,323	2,528
Trichinopoly ..	1,988	298	6,783	1,109	140	19	5,827	958	1,860	707
Visagapatam ..	3,890	1,599	3,900	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 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-pears, &c. A few latrines, dust-bins and markets were constructed and repaired at a cost of Rs. 2,159.	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 87 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.
Bollary.	5,976	112	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-pears, &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.
Chingaleput.	2,838	338	Many wells were sunk (Rs. 3,073) and certain tanks and wells repaired and deepened and other improvements made (Rs. 7,045). A sum of Rs. 1,136 was spent towards the improvement of village sites. 15 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 Chingaleput 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.

Districts.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per mille annum.	General Health.
Columbatore.	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-pears. A few latrines, dust-bins and markets were constructed and repairs to certain others executed at an outlay of Rs. 1,069.	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. 1,136) and other improvements made (Rs. 188). Rs. 1,846 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 exist 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 Amami 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.	8,096	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.
Godavari.	6,499	262	A few tanks were dug (Rs. 782) 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-pears 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 Godavari 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.

Districts.	Area in square miles.	Average Population per square mile.	Sanitary Works.	Water-supply.	Drainage.	Conservancy.	Death-rate per 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. 1,345 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. 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. 433) and certain others repaired (Rs. 469). 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. 89); several markets were constructed (Rs. 7,632) and one repaired (Rs. 56). 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.	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	Offair 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 cinerators. 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	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	386	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 platforms.	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	repaired at a cost of Rs. 854 and village sites improved at a cost of Rs. 50.	platforms and houses are subject to pollution. 63 wells and one tank are set apart for drinking purposes and guarded.	No system. Side-cuttings exist in the principal streets of large villages and they have sometimes rudely built stone revetments. Drainage of houses discharges either into side-cuttings or public streets.	14 public latrines against 11 in 1890 exist, which are freely resorted to and kept in good condition. More latrines are required. The refuse is stored in backyards of houses and removed to fields when required. In union villages street rubbish is carried outside the villages and deposited in convenient places. The sweepers engaged to clean streets do their work very indifferently.	20.1	Unsatisfactory, cholera having prevailed throughout the district.
Nilgiris.	937	79	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. 940).	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 Giddalur, 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. 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 depot, it is thrown in heaps near prickly-pear clumps and finally carried away to fields for manure. There are 30 public latrines, but they are not freely resorted to.	25.4	Was on the whole fairly satisfactory.
North Arcot.	7,250	240	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 depots 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.	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 depots 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. 12,200). 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. A few wells were sunk (Rs. 341) and others repaired (Rs. 17); certain latrines, dust-bins and markets also were constructed (Rs. 350) and others repaired (Rs. 134). Rs. 111 were spent for miscellaneous sanitary purposes. Rs. 734 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.	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.	8,827	238	A few wells were sunk (Rs. 341) and others repaired (Rs. 17); certain latrines, dust-bins and markets also were constructed (Rs. 350) and others repaired (Rs. 134). Rs. 111 were spent for miscellaneous sanitary purposes. Rs. 734 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.	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.	Scavenging 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.	8,629	581	Ra. 7556 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 certain others executed.	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. 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 except in a few places. Side ditches exist in most places, which serve as storm drains. Sewage water runs into the backyards of houses.	The sweepings of important towns and villages are carried 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 scavenging 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.
Tinnevely.	6,374	306	Ra. 7556 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 certain others executed.	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 pucca-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.

Trichinopoly.	3,544	413	A few tanks and wells were repaired (Rs. 646) and Ra. 208 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 tanks which feed the tanks set apart for drinking purposes are subjected to impurities of all kinds.	No system. Illicit 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.
Visagapatnam.	3,449	497	Ra. 3,869 were devoted to sinking and repairing certain tanks and wells and in making other improvements to water-supply. Ra. 1,599 in laying out and repairing certain streets and in removing rank vegetation, &c., and Ra. 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.	Taluk 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 Tadipatri.	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 Pennur at Tadipatri 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 Tadipatri are bought by ryots and used as manure. Public latrines exist in the above referred places and also in 6 villages in the Tadipatri taluk. Night-soil is removed daily by scavengers. Private privies exist in Gooty and Tadipatri. In other places people generally resort to adjoining fields and hills.
	Pennkonda, 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 Tahsildar's 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	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.
	Baidrug	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 Baidrug.	.....	No system. Villages generally not clean. Except at Baidrug 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.
	Alur	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.
Mysore.	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 Harpanahalli. 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.

Bel	Kudligi	From vents 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.
	Harpanahalli	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 villages. 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.
	Hedagally	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 vetties.
	Sandūr (Zegindary)	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 Sandūr and the establishment was increased during the year. No public latrines; people resort to open fields for purposes of nature. Private privies exist in Sandūr and are cleaned by scavengers. There are also cess privies in Sandūr and another village. On the whole the villages in Sandūr State are reported to be tolerably clean.
	ruvalūr	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-channels. 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 Tiruvallūr.
	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.
Chingleput.	Saidāpet	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, Pallavaram and Poonamallee masonry drains.	Six villages were conserved. There are public latrines at Saidāpet. The sweepings of streets and the contents of latrines are deposited outside the towns and sold.
	Chingleput	From the Palar and its channels, tanks, ponds and wells; quality good, quantity insufficient owing to want of rain. In Chingleput and Tirupōrūr ponds and wells are reserved for drinking purposes and watchmen 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 Tirupōrūr. A cess-pool exists near the Local Fund Chutram 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.

Towns or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Madurai ...	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 pavements exist in the cumbah 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.
Conjeevaram ...	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 Metturpattanam, 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 tank 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 Bhavani 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 Gopichettipolliam. 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 carried to a distance and sold by auction when accumulated. Houses were kept clean by owners and their scavenging fairly attended to.
Pollachi ...	From wells and jungle streams. Sufficient. A few deep and draw-wells are reserved for drinking purposes in Pollachi 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 while 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 these have parapet walls and their surroundings clean. The tanks with one exception are not used for drinking. The jungle streams are used to a limited extent.	Natural. Rain water finds its way to streams. Sewage water from houses is absorbed in the earth.	In 6 villages 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 the market site and sold annually.

Bhavani ...	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 down. No drains. The tanks are rain-fed and the surface water flows into them.	No system in the tank as a whole. Side-cuttings exist in a few villages. Drains exist into rivers, jungle streams or tanks. Drains are provided in Bhavani and they are cleaned daily by an establishment. Except in the houses of well-to-do people in Bhavani 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 Bhavani 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 Audiur. Public latrines exist in Bhavani.
Kollegal ...	Same as last reported. From rivers, tanks, wells, ponds and jungle streams. Sufficient on the whole. One tank in cumbah Kollegal is watched over, but subject to pollution.	No system. The drainage of Kollegal 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. No system. Side-channels exist in Udumalpet and other large villages.	Conservancy establishments are employed at Kollegal 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.
Udumalpet ...	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 Udumalpet, but the tank is subject to pollution.	No system. House sewage flows into backyards and sinks there.	Conservancy establishments are entertained at Udumalpet and two other villages. The sweepings at Udumalpet are stored and sold by auction while the night-soil is buried at a distance from the town. Latrines exist at Udumalpet and a few other villages. No system elsewhere. Sanitation is looked after by the Village Magistrates and Revenue Inspectors.
Karur ...	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. Side-cuttings exist in the busbar streets.	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 Aravakuruchi or Pallapatti. Sweepers are employed in two villages.
Dharsapuram ...	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.		A sanitary staff is employed in the union town and the rubbish, &c., removed daily to six depots. 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.
Badvel ...	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 scavenging 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 Pennar 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.

District.	Taluk or Registration Circle.	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 Pennér 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 Réjampet town. Cess-pools in the backyards of houses are never cleaned. In the rainy season sewage water finds its way into the nullahs and eventually to tanks and rivers.	Byots 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 these 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 source 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 Pennér 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.
	Pulivendla	No change. From wells, rivers, tanks 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 scavenging 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.
	Raysachóti	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 Raysachóti 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.

Ganjam.	Kadiri	From draw-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.
	Vayalpad	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 Vayalpad masonry 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 Vayalpad and Piler. The night-soil from public and private latrines are removed in baskets in Vayalpad and thrown in fields and in Piler 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 Bahada 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.
	Chitacole	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 Chitacole taluk.
Ponds.	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 ghats 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.
	Parlakimedi and Tekkali (Zamin-daries).	No change. Same as in Chitacole taluk	No change. Same as in Chitacole taluk.	No change. Same as in Chitacole taluk.
	.....	Sources same as last reported. From the Godáviri 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.

District.	Taluk or Registration Circle.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Kistna.	Répalé	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.
	Bápata	From wells, tanks and irrigation channels. Quantity insufficient during the hot season. Quality good. 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 Répalé taluk.
	Guntur	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 hill 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.
	Narsaopet	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 mistry exercises supervision over all the villages of the taluk. Street sweepings are used as manure.
	Gudiváda	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 Gudiváda 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.
Nandigama		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.	Répalé	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.
	Vishakonda	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 Vishakonda which are kept clean.	No change. One village was conserved, and the sweepings thrown outside the village and sold.
	Núvíd Zemindár.	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 Nuvíd.	No change. Four villages were conserved. The sweepings, &c., were used as manure in most cases.
	Vissanapet Zemindár.	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.
	Ránallabót	From wells, rivers, spring channels and the Kurnool-Oddapah 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 tanks 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 utilizing the sweepings as manure. In the conserved villages public latrines exist which are cleaned by toties employed.
	Nandyál	From river, streams, wells, Kurnool-Oddapah 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.

Districts.	Taluk or Registration Circle.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Kurnool—cont.	Koilkuntla	No change. From wells, tanks and rivers. Generally good and efficient, 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 taluk.	No change. Two villages were conserved and the sweepings sold. As for other particulars same as in other taluk.
	Sirvel	No change. From draw-wells, rivers, tanks and channel. Good and efficient. The villagers generally guard the drinking water wells from pollution.	No change. Natural. In other respects same as in other taluk.	No change. Four villages were conserved and the sweepings sold. The other villages are kept clean by the people themselves utilizing the sweepings, &c., as manure. In 2 of the conserved villages public latrines exist.
	Cambam	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 (sidecuttings). 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 utilizing the rubbish, &c., as manure.
	Mārkāpur	No change. From 4 streams and wells. Generally good except in villages at the foot of the Nālamalai 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 Mārkāpur is carried to a distance and sold. In other respects same as in other taluk.
Madura	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 depots 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 Sholavandūn 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 equals alone resort to them.

Madura.	Melūr	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 parts 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.
Malabar.	Kodakānal 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 Kodakānal. 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 sink 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. Buried 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.
	Nellore	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.
	Atmakūr	From the Pennār 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. Privately-pear abounds.
Nellore.	Gūddūr	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 is different.
	Gūddūr	From wells, ponds, dornvas and tanks, good and sufficient on the whole.	No change since last report. No system. Natural. Drainage channels exist in Gūddūr.	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.

Districts.	Towns or Registrar's Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Nellore—continued.	Onge	The chief sources are rivers, wells and ponds. Tanks and vats 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 vats. No special arrangement for drainage of houses.	No system. Conservancy staffs are employed in Chennakurri, Samanapadu and the unions of Addaki and Kottupam. The house sweepings and dung are deposited in pits adjoining houses and eventually used on fields.
	Kanigiri	No change. From ponds, wells and vats.	No change. Mostly natural. Side-outfalls 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. Generally good.
	Pôlur	Obtained from tanks, ponds and wells. Good.	Generally good.	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.
	Venkatagiri do.	From wells, tanks, ponds and rivers, 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.	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.
	Podili do.	From wells, tanks, rivers, channels and vats.	No system. Side ditches exist in Podili village. House sewage flows into backyards where it is absorbed or into streets.	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	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 tanks are generally built of stone.	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.	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.
	Chandragiri	No change. Same as in Chittoor tank. 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 pits dug in streets or backyards which are never emptied.	

Palmanér	No change. Same as in Chandragiri tank. 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.
Gudiyttam	No change. Same as in Chandragiri tank. 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 latrines.
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.
Pôlur	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 Pôlur 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.
Wâlsâ	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.

North Arcot.

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

Districts.	Towns or Registration Circles.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
North Arcot—cont.	Puttur	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 efficient and good in others. Watchmen are employed in large villages. Wells have generally parapet walls, platforms and drains in Puttur and Tirutani. They have no parapet walls in Maderpauk, no drains in Kālahasti and neither platforms nor drains in others. Many of the tanks in Tirutani, Punganūr and Kangundi and two in Kālahasti are masonry built. They are occasionally cleaned out, except in Puttur, where they have never been cleaned, and Punganūr, where only one tank has been cleaned out. 44 tanks were repaired and cleaned out this year from famine funds in Maderpauk.	The drainage of streets is natural and that of houses artificial, except in the towns of Kālahasti, Punganūr, Venkatagiri, Kangundi, where there are side-drains. There are a few cess-pools in Puttur, Tirutani, Kālahasti, Punganūr and Arni, which are emptied when full. In Arni it is allowed to discharge into Periyār tank.	No conservancy arrangements exist, except in the towns of Puttur, Tirutani, Kālahasti, Venkatagiri, Kuppam and Arni and four villages in Punganūr. 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 and Attur	From rivers, jungle streams and wells chiefly. Generally good. One tank in Tirumangalam 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 Kasipur) side-cuttings exist. Drainage water finds its way into rivers and fields. Sewage water from houses flows into streets and low lying lands. In Salem taluk cess-pools exist which are emptied once a year.	In big villages conservancy establishments were entertained. The sweepings are stored and sold as manure. The other villages are kept clean by the people themselves utilizing the sweepings as manure; night-soil from public latrines is buried and sold as manure.
	Makal	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 conservancy 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.
	Hoūr 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 conservancy. Street sweepings, &c., are stored and sold as manure. Public latrines exist in a few places. Night-soil is stored and sold as manure.
Salem.	Tirupatūr	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 conservancy. Street sweepings and rubbish are sold as manure. The other villages are kept clean by the people themselves utilizing the rubbish as manure.

Tutankari	From wells, tanks and rivers. One tank in the cuthah 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 tank there are side ditches in the streets. Rain-water runs into fields and open spaces.	Four villages were conservancy, 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.
	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.	.....
Chidambaram and Vriddhachalam.	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 scavenging establishments are maintained. In villages refuse is generally stored on private lands and used as manure.
	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. Scavenging establishment was therefore maintained for the few towns big enough and compact enough to require it. Domestic cleansing fairly good.
Cuddalore	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 conservancy and the sweepings used as manure. The other villages are kept clean by the people themselves. There are four public latrines at Tiruvadi; night-soil is burnt.
	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 conservancy. There are latrines at Manjannakudi, which are cleaned daily. There are no private latrines, the people generally resorting to fields for purposes of nature.
Tanjore	No change. From rivers, tanks and wells. In the hot season springs are dug in the river beds and fields. Two tanks in Tranquabar and one in Tirukadayur are reserved for drinking purposes, and watchmen 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 conservancy are stored near houses and eventually removed to fields and used as manure. In conservancy villages they are removed to a distance and sold. No public latrines. Private privies exist, but they are not regularly cleaned.
	No change. River channels, tanks and wells form the chief sources. Most of the wells have parapet walls. In Shiyali 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.
Kumbakonam	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 conservancy 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.
	No change. Rivers, wells and tanks form the chief sources. In Tiruturaiyandi and Marupet 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.
Shiyali	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 conservancy. There are latrines at Manjannakudi, which are cleaned daily. There are no private latrines, the people generally resorting to fields for purposes of nature.
	No change. From rivers, tanks and wells. In the hot season springs are dug in the river beds and fields. Two tanks in Tranquabar and one in Tirukadayur are reserved for drinking purposes, and watchmen 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 conservancy are stored near houses and eventually removed to fields and used as manure. In conservancy villages they are removed to a distance and sold. No public latrines. Private privies exist, but they are not regularly cleaned.
Māyavaram	No change. River channels, tanks and wells form the chief sources. Most of the wells have parapet walls. In Shiyali 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.
	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 conservancy 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.
Nannilam	No change. Rivers, wells and tanks form the chief sources. In Tiruturaiyandi and Marupet 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.
	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 conservancy. There are latrines at Manjannakudi, which are cleaned daily. There are no private latrines, the people generally resorting to fields for purposes of nature.
Tiruturaiyandi	No change. River channels, tanks and wells form the chief sources. Most of the wells have parapet walls. In Shiyali 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.
	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 conservancy 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.
Tanjore.	No change. Rivers, wells and tanks form the chief sources. In Tiruturaiyandi and Marupet 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.
	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 conservancy. There are latrines at Manjannakudi, which are cleaned daily. There are no private latrines, the people generally resorting to fields for purposes of nature.

Districts.	Taluk 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.
	Pudukkottai	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 toties.
	Mannargudi	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.
	Oripidaram and Pudukkottai.	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.
	Tenkasi	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 on the night soil.
Tinnevely.	Sankaranainarkoil	No change. From wells, tanks, ponds, 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 mistry on Rs. 10 is employed for the whole taluk with funds to employ temporary sweepers in village he inspects to clean them.
	Tinnevely	No change. From rivers, channels, tanks and wells. Abundant and good. Most of the wells have parapet walls, platforms and drains. Sources not conserved for drinking. Tanks are occasionally cleaned out.	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 cleaning of the other villages is attended to by the people themselves, the sweepings, refuse, &c., being stored in manure pits, backyards and subsequently taken to the fields.

Tinnevely.	Strilliputtur	From tanks and wells. Quality fair. Wells are protected by parapet walls and many of them are set apart for drinking only. No change. Chieftly 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 for the whole. One square tank is set apart for a portion of the year in the cumbah town for drinking purposes only.	Natural. House drainage flows into streets.	In unions and two other villages scavengers are appointed to keep the streets clean. An itinerant staff is employed to attend to the cleanliness of the other villages of the taluk.
	Nanguneri	No change. Chieftly 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 for the whole. One square tank is set apart for a portion of the year in the cumbah 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.
	Arumbasandram	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 stored in pits and subsequently sold as manure. The backyards of houses are generally filthy, refuse from houses, manure, &c., are stored in backyards.
	Sattur	No change. From wells, tanks and rivers. Fairs. 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.
	Tenkasi	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.
Tiruchinopoly.	Tiruchinopoly	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 Laligudi are cleaned regularly, but not the private ones.
	Masiri	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 Caavery, its branches, wells, tanks and streams. 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.
	Perambalur	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 watchmen 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 Perambalur which are daily cleaned.

District.	Taluk or Registration Circle.	Water-supply.	Drainage.	Conservancy and Domestic Cleansing.
Tiruchinopoly.	Udayarpalayam	From tanks, wells and the Coleroon and its branch channel the Ponnéri. 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 drainage flows into backyards where it soaks into the soil.	No change. Four villages were conserved. The street sweepings are sold. The other villages are kept clean by the people themselves. House refuse is stored in backyards and used as manure. Public latrines exist in the conserved villages. Night-soil is removed by tories to a distance.
	Vinayagaram 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 cases V-shaped cut stone drains. Drainage water flows into paddy fields and irrigation tanks. Cess-pools exist in Pal-konda union which are emptied daily.	No change. In unions and 4 other villages conservancy establishments were employed to clean the streets and public latrines. Private arrangements are made to clean private privies. In conserved villages the sweepings are burnt or otherwise disposed of. In the other villages they are deposited in backyards and removed to fields for manure.
	Vinayagaram Taluk Board.	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 Kotavaasali 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 side channels exist. Drainage water finds its way into low lands, streets and irrigation channels and nullahs. In 1 village masonry drains are being built. Refuse water from houses flows into backyards and streets and thence into low grounds.	Three villages were conserved. In the others the people themselves attend to their cleaning, accumulating the rubbish, sweepings, &c., near houses and eventually using them as manure. Public latrines exist in 2 villages; the night-soil is burnt outside the villages. Private privies exist in one village and private arrangements made to clean them. People generally resort to fields, &c., for the purposes of nature.
Vizagapatnam.	Narasapatnam 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 4 cess-pools in Narasapatnam which are generally employed once a month.	No change. Four unions and 3 other villages were conserved. An itinerant 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 Narasapatnam 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. Watchmen are employed for these tanks. Many wells have parapet walls. Platforms and drains to wells are rare.	No change. Natural. In Taluk Headquarters and in unions side-channels exist. Drainage water flows into fields and vacant places. Refuse water from houses flows into street drains, streets and fields or is allowed to soak in backyards. Ten cess-pools exist in one village.	No change. Conservancy establishments were employed in unions. An itinerant staff was employed to see to the cleaning of other villages. Sweepings, rubbish, &c., in unions were deposited outside and cinerators have been constructed for burning them. In the other villages there are stored in streets and backyards and eventually carried to fields. Public latrines exist in two places, night-soil is removed to a distance.

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 areas 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	16	..	16	1 do. do.
Ganjam	8	..	8	2 do. do.
Godavari	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.
Nilgiris	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	
Tinnevely	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.

APPENDIX I.

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	Conjeevaram	24th to 26th Oct. 1891.	25rd Jan. 1892.	No. 346-M., dated 20th Feb. 1892.	Anantapur	Anantapur	21st Nov. 1891	2nd Jan. 1892.	No. 268-M., dated 9th Feb. 1892.
Coimbatore	Karār	9th to 11th Sept. 1891.	17th Dec. 1891.	No. 291-M., dated 18th Feb. 1892.	Bellary	Adóni Bellary	17th and 18th Nov. 1891. 13th to 16th Nov. 1891.	18th Jan. 1892.	No. 345-M., dated 20th Feb. 1892.
Godavari	Ocanada	27th Feb. to 5th 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	Erode	5th June 1891.	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.	Berhampore	Berhampore	18th to 19th Feb. 1891.	17th April 1891.	No. 797-M., dated 26th May 1891.
	Madura	7th to 14th Aug. 1891.			Chicacole	Chicacole	2nd and 3rd March 1891.		
	Palni	31st Aug. to 3rd Sep. 1891.			Parlakimedi	Parlakimedi	25th and 26th Feb. 1891.		
	Periyakulam	15th to 17th Aug. 1891.			Bavada	Bavada	4th Nov. 1891	2nd Jan. 1892.	No. 265-M., dated 9th Feb. 1892.
	Calicut	25th to 28th Nov. 1891.			Guntūr	Guntūr	6th and 7th Nov. 1891.		
Malabar	Cannore	2nd to 6th Dec. 1891.	26th Feb. 1892.	No. 693-M., dated 12th April 1892.	Masilipatam	Masilipatam	30th Oct. to 1st Nov. 1891.		
	Paigat	21st to 24th Nov. 1891.			Kurnool	Kurnool	10th and 11th Nov. 1891.	2nd Jan. 1892.	No. 232-M., dated 4th Feb. 1892.
	Tellicherry	25th Nov. to 1st Dec. 1891.							
Nellore	Nellore	27th to 30th Oct. 1891.	29th Jan. 1892.	No. 443-M., dated 7th March 1892.	Malabar	Cochin	20th to 22nd Jan. 1891.	12th Feb. 1891.	No. 338-M., dated 10th March 1891.
	Ongole	1st and 2nd Nov. 1891.			Nijigiris	Coonoor	26th to 28th May 1891.	25th June 1891.	No. 1132-M., dated 18th July 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.
Nilgiris ...	Ootacamund ...	23rd to 26th June 1891 and 8th and 10th July 1891.	22nd Sept. 1891.	No. 1839-M., dated 26th Oct. 1891.	North Arcot ...	Gudiyatam Tirupati ...
	Mangalore ...	7th to 14th Dec. 1891.	26th Feb. 1892.	No. 594-M., dated 25th March 1892.		Vellore ...
South Canara ...	Kumbakonam ...	7th to 9th Nov. 1891.	10th and 11th Nov. 1891.	14th Dec. 1891.	Salem ...	Walaipet ...
	Mannargudi ...	10th and 11th Nov. 1891.	12th Feb. 1892.	30th Nov. and 1st Dec. 1891.		Salem ...
Tanjore ...	Mayavaram ...	6th and 8th Nov. 1891.	12th Feb. 1892.	1st, 2nd, 3rd and 5th Oct. 1891.	South Arcot ...	Tirupatūr Vaniyambādi ...
	Negapatam ...	11th to 14th Nov. 1891.	12th Feb. 1892.	6th Oct. 1891.		Chidambaram ...
Tinnevely ...	Tanjore ...	15th to 17th Nov. 1891.	12th Feb. 1892.	17th and 18th July 1891.	Visagapatam.	Cuddalore ...
	Palamcottah ...	31st July to 3rd Aug. 1891.	30th Oct. 1891.	12th March 1891.		Bimlipatam Anakapalle ...
Tinnevely ...	Tinnevely ...	27th to 30th July 1891.	30th Oct. 1891.	20th March 1891.	Visagapatam.	Visagapatam ...
	Tuticorin ...	4th to 6th Aug. 1891.	14th Oct. 1891.	14th to 17th March 1891.		Visanagrum ...
Trichinopoly ...	Trichinopoly ...	16th to 26th July 1891.	14th Oct. 1891.	6th, 7th and 9th March 1891.	Visagapatam.	Visanagrum ...
	Srirangam ...	23rd and 25th July 1891.	14th Oct. 1891.	18th and 16th July 1891.		Visanagrum ...

Places visited (not Municipalities).

By Sanitary Commissioner.		By Deputy Sanitary Commissioner.	
District.	Names of places.	District.	Names of places.
Coimbatore ...	Mettupálaiyam. Kurchi. Katampatti. Pollachi. Gomungalam. Udampet. Polliput. Delavaipathnam. Dhárápúram.	Anantapur ...	Gooty (Union). Kottapettah.
	Hqicottpettah. Nrasingarowpettah. Dowlaishweram. Guntakoli. Bheemadole. Kuralagudem. Poollu. Kykarrum. Hoongatore. Rathumpudy. Thadupallikudam. Pattipadu.	Chingleput ...	Puliyur. Saligramam. Kódambákam. Sembium. Perilar. Chiklapakam.
Godavari ...	Kodaikánal. Butligunta. Nollcott. Annayanáyakanár. Palkanoth. Thambarapathy. Ayagoody.	Ganjam ...	Gopálpur. Jaggernanthpur. Purgottapur. Casibugga. Munsoorcotta. Ichápur. Mandasa. Nürsingapetta (Union).
	Ellsthur. Tiruvangoor. Chamancherry. Quilandi. Pallicura. Malady. Murad. Badagara. Dhurmadum. Kodacndavoo. Kodamboor. Yodacod. Kutturparamba. Canote. Nidambul. Peria. Manantoddy. Saltan's Battery. Kelloor. Ullaohari. Pannaveram. Baliapatam.	Kistna ...	Bodapadoo. Goordooarroo.
Madura ...	Pelloor. Pulloor. Tungatoo. Tettoo. Kávali. Moosoonoor. Gowraveram. Wooloovapaud.	Kurnool ...	Cumbum.
	Nellakóta. Gúdelúr.	Salem ...	Naranappanohavady. Tiruchengó (Major union). Komáramangalam. Konniar. Moonchavady. Paohal. Muscaliputty. Wallasi. Mallur. Suramangalam. Casinaikenputty. Monavally. Nannary. Molapoddy. Burjur. Aukynoyampally. Elloocalanathan. Nottrampully.
Malabar ...	Muthiapillay. Perumpandy. Valiapettah. Pathinovelee. Maruthanallur. Veelangeman. Amrapethee. Alangudi. Pooniakudi. Nidamangalam.		Chittoor (Major union).
	Munjashwar. Coombla. Kísaragód. Bekul. Hosadrug.	North Arcot ...	Chittoor (Major union).
Nellore ...		Visagapatam ...	Banastaluri. Chitavalasa. Kasimkót. Agnampody.
Nilgiris ...			
Tanjore ...			
South Canara ...			

APPENDIX II.

VITAL STATISTICS OF THE GENERAL POPULATION.

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

Number.	1			2			3			4			5			6			7			8			9		
	Population (exclusive of Europeans and Eurasians) according to Census of 1881.			Districts.			Population (exclusive of Europeans and Eurasians) for which Returns were received.			Number of births registered (exclusive of Europeans and Eurasians and still-births).			Ratio of births per 1,000 of population.			Number of males born to every 100 females born.			Excess of births over deaths per 1,000 of population.			Excess of deaths over births per 1,000 of population.					
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.			
1	678,904	657,113	1,336,017	Anantapur	678,904	657,113	1,336,017	10,194	9,798	19,992	10.4	9.6	10.0	104.0	0.4	...											
2	401,085	487,459	888,544	Bellary	401,085	487,459	888,544	17,075	16,381	33,456	19.7	18.7	19.2	104.3	0.6	...											
3	806,530	850,614	1,657,144	Chingleput	806,530	850,614	1,657,144	19,072	18,572	37,644	19.0	18.2	18.6	104.9	0.5	...											
4	569,792	550,922	1,120,714	Coimbatore	569,792	550,922	1,120,714	30,000	28,701	58,701	30.0	28.7	29.3	104.8	0.6	...											
5	869,357	879,996	1,749,353	Cuddapah	869,357	879,996	1,749,353	17,212	16,475	33,687	17.2	16.5	16.9	104.5	0.6	...											
6	888,567	902,283	1,790,850	Ganjam	888,567	902,283	1,790,850	18,415	17,123	35,538	18.4	17.1	17.8	106.9	1.3	...											
7	780,510	767,845	1,548,355	Godavari	780,510	767,845	1,548,355	20,370	20,200	40,570	20.4	20.2	20.3	100.8	0.4	...											
8	359,299	346,919	706,218	Kistna	359,299	346,919	706,218	28,663	27,851	56,514	28.7	27.9	28.3	102.9	0.8	...											
9	192,066	197,918	390,984	Kurnool	192,066	197,918	390,984	13,630	13,727	27,357	13.6	13.7	13.7	99.8	0.2	...											
10	1,032,353	1,138,774	2,171,127	Madras	1,032,353	1,138,774	2,171,127	9,006	8,379	17,385	9.0	8.4	8.7	108.2	1.7	...											
11	1,172,047	1,189,006	2,361,053	Madura	1,172,047	1,189,006	2,361,053	28,328	24,427	52,755	28.3	24.4	26.4	108.6	0.9	...											
12	615,154	604,739	1,219,893	Malabar	615,154	604,739	1,219,893	28,569	26,947	55,516	28.6	26.9	27.8	106.1	0.6	...											
13	40,322	39,002	79,324	Nellore	40,322	39,002	79,324	17,811	17,170	34,981	17.8	17.2	17.5	108.7	0.9	...											
14	907,059	910,194	1,817,253	Nilgiris	907,059	910,194	1,817,253	1,203	1,230	2,433	1.2	1.2	1.2	101.9	0.7	...											
15	778,145	820,825	1,598,970	North Arcot	778,145	820,825	1,598,970	32,016	30,803	62,819	32.0	30.8	31.4	103.7	0.7	...											
16	905,516	908,763	1,814,279	Salem	905,516	908,763	1,814,279	32,072	31,490	63,562	32.1	31.5	31.8	104.7	0.9	...											
17	472,088	487,179	959,267	South Arcot	472,088	487,179	959,267	31,122	31,114	62,236	31.1	31.1	31.1	104.7	0.0	...											
18	1,028,070	1,103,468	2,131,538	South Canara	1,028,070	1,103,468	2,131,538	15,706	15,029	30,735	15.7	15.0	15.4	104.9	1.1	...											
19	825,508	873,548	1,699,056	Tanjore	825,508	873,548	1,699,056	33,673	32,259	65,932	33.7	32.3	33.0	104.1	0.5	...											
20	583,127	628,338	1,211,465	Tinnevely	583,127	628,338	1,211,465	23,460	23,057	46,517	23.5	23.1	23.3	100.4	0.6	...											
21	1,254,536	1,230,041	2,484,577	Trichinopoly	1,254,536	1,230,041	2,484,577	20,061	20,050	40,111	20.1	20.1	20.1	108.0	0.5	...											
22	15,269,835	15,575,836	30,845,671	Vizagapatam	15,269,835	15,575,836	30,845,671	43,100	41,100	84,200	43.1	41.1	42.1	102.5	0.5	...											
				Total, Madras Presidency	14,111,225	14,402,509	28,513,734	471,144	453,094	924,238	47.1	45.3	46.2	103.0	0.2	...											

* 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 6,096, 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.

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 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			8,979	8,581	17,560	104.6							
2	Bellary	11,007	121.4	11,577	11,523	23,100	103.0	30.7	30.6	30.6	25.3	25.5	25.4	
3	Chingleput	2,942	345.3	10,843	780	32,193	103.5	33.3	32.4	32.8	25.9	28.5	26.7	
4	Coimbatore	7,842	211.3	22,351	24,801	43,152	107.4	27.7	24.4	26.0	19.7	17.7	18.7	
5	Cuddapah	8,745	123.1	14,682	13,866	28,548	106.9	25.7	25.1	25.4	28.0	27.7	27.8	
6	Ganjam	8,311	210.5	9,943	8,822	18,765	111.0	14.6	13.5	13.5	24.5	20.6	22.6	
7	Godavari	7,345	243.9	20,506	19,416	39,922	106.6	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	10,785	22,411	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	28.2	26.6	27.4	30.9	29.6	30.3	
11	Madura	8,401	226.1	19,090	18,455	37,545	103.3	30.4	27.8	29.0	22.1	18.7	20.4	
12	Malabar	5,765	410.2	26,324	23,508	50,332	114.1	22.9	19.8	21.4	18.8	16.6	17.4	
13	Nellore	8,739	130.6	12,899	12,839	25,738	102.9	20.6	20.4	20.5	16.7	15.9	16.3	
14	Nilgiris	967	95.1	1,282	963	2,245	153.4	25.9	24.8	25.4	17.5	18.4	17.9	
15	North Arcot	7,235	243.5	24,335	23,389	47,824	104.8	27.0	25.0	26.3	21.7	20.5	21.1	
16	Salem	7,453	209.0	20,604	19,960	40,470	103.7	26.5	24.3	25.4	23.5	21.5	22.5	
17	South Arcot	4,873	372.4	82,813	81,266	164,079	104.8	30.2	34.4	35.3	33.6	31.6	32.6	
18	South Canara	8,902	245.9	10,359	9,962	20,721	110.6	22.0	19.3	20.6	24.6	21.6	23.3	
19	Tanjore	8,554	266.0	28,716	29,679	58,395	96.6	27.9	26.9	27.4	24.5	22.4	23.5	
20	Tinnevely	5,981	315.8	22,945	22,085	45,030	103.9	27.9	25.2	26.5	23.4	20.9	22.2	
21	Trichinopoly	3,551	341.2	17,777	17,541	35,298	101.5	26.3	27.8	27.0	24.5	23.3	23.9	
22	Vizagapatam	17,380	142.9	13,000	12,064	25,064	106.1	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.

Number.	Districts.	3												Total deaths registered during the year.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
1	Anantapur	1,307	1,146	1,043	1,054	1,261	1,062	2,838	2,624	1,401	1,104	886	934	17,560
2	Bellary	1,639	1,403	1,308	1,604	1,865	2,012	2,846	3,029	2,457	1,885	1,697	1,686	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	2,648	3,047	2,809	2,487	3,088	3,702	3,514	3,423	5,578	6,814	43,152
5	Cuddapah	2,037	1,733	1,457	1,548	1,063	1,811	3,178	3,788	2,913	2,462	3,211	2,707	28,538
6	Ganjam	1,607	1,405	1,248	1,183	1,259	1,575	1,497	1,532	1,808	1,839	1,657	2,057	18,636
7	Godavari	3,792	2,965	2,388	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	2,968	3,121	3,523	4,235	7,098	5,136	4,295	3,408	4,350	47,397
9	Kurnool	1,077	1,295	1,424	1,739	1,019	1,090	2,633	3,350	1,977	1,062	1,554	1,503	22,381
10	Madras	1,266	1,042	1,208	1,183	1,307	1,540	1,414	2,788	3,549	2,819	2,465	2,671	23,181
11	Madura	2,238	2,138	2,338	2,044	2,474	2,109	2,242	2,330	2,021	2,542	4,836	9,605	97,515
12	Malabar	4,518	4,406	4,274	4,777	5,838	5,004	5,114	4,769	3,754	3,382	3,621	4,278	50,332
13	Nellore	1,022	1,086	1,506	1,712	1,765	2,175	1,905	2,719	2,440	2,244	2,418	2,360	25,038
14	Nilgiris	97	108	103	150	363	295	257	211	159	174	140	186	2,250
15	North Arcot	4,518	3,795	2,797	2,075	2,697	2,638	3,079	4,527	3,753	3,863	5,244	7,148	47,534
16	Salem	3,562	2,767	2,668	2,072	2,759	2,590	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	5,210	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	1,781	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	5,088	5,487	4,756	5,364	5,688	7,951	58,395
20	Tinnevely	5,847	3,291	3,119	2,497	2,506	2,637	2,033	3,021	3,125	3,290	5,068	7,720	45,060
21	Trichinopoly	3,413	2,488	2,203	2,035	2,688	2,262	2,746	3,165	2,481	2,530	3,379	5,343	35,268
22	Vizagapatam	2,530	1,840	1,532	1,615	1,566	2,183	2,206	2,131	2,540	2,287	2,083	2,532	25,153
Total, Madras Presidency		92,441	61,814	46,530	47,063	40,362	52,617	63,950	73,333	51,507	63,139	76,216	97,535	747,553
Ratio of deaths per 1,000 in each month		2.3	1.6	1.6	1.7	1.7	1.9	2.2	2.6	2.2	2.2	2.7	3.4	26.2

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

Number.	Districts.	Population for which returns were received.					Number of deaths registered.					Ratio of deaths per 1,000 of population.				
		Native Christians.	Muhammadians.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadians.	Hindus.	Other classes.	Total.	Native Christians.	Muhammadians.	Hindus.	Other classes.	Total.
1	Anantapur	4,318	110,006	1,320,657	1,056	1,536,017	18	960	16,578	1	17,560	20.6	28.9	50.3	2.8	50.4
2	Bellary	13,917	25,034	859,514	259	978,524	81	2,210	21,107	2	23,400	18.5	17.3	53.5	...	25.1
3	Chingleput	12,780	37,855	1,600,343	166	1,657,144	257	484	32,132	12	32,873	20.7	27.8	26.9	73.3	26.9
4	Cuddapah	5,745	97,749	1,017,211	11	1,120,714	97	1,094	26,447	...	27,638	16.9	19.9	26.9	...	26.9
5	Ganjam	1,088	5,416	1,368,813	732	1,376,049	16	71	18,576	2	18,653	14.7	13.1	13.5	9.6	15.1
6	Godavari	3,231	38,798	1,748,734	87	1,790,860	100	737	39,035	...	39,972	30.9	19.0	23.3	...	25.1
7	Kistna	36,669	87,161	1,425,013	112	1,548,955	953	2,159	44,284	1	47,307	26.4	24.7	31.1	8.9	30.1
8	Kurpool	11,398	75,875	591,109	29	678,409	274	2,680	19,567	...	22,381	24.3	33.4	33.1	...	33.3
9	Madras	23,767	50,598	315,537	369	389,964	1,424	3,170	18,880	7	23,481	47.3	68.0	56.8	17.8	56.4
10	Madura	34,174	62,323	1,197,323	4	1,293,829	792	2,364	34,368	...	37,518	23.1	37.9	23.7	...	28.3
11	Malabar	40,114	641,369	1,680,266	370	2,363,122	901	16,038	32,207	0	30,332	24.7	26.0	19.9	16.3	21.6
12	Nellore	20,441	61,344	1,138,031	67	1,219,883	236	935	23,688	...	24,859	11.5	15.2	20.9	...	20.3
13	Nilgiris	5,178	8,531	79,790	45	83,544	183	117	1,940	...	2,240	33.4	33.1	24.5	...	25.4
14	North Arcot	9,458	82,449	1,722,642	7,765	1,822,312	103	1,759	46,072	...	47,934	10.9	21.3	36.7	...	26.3
15	Salem	15,941	51,081	1,225,171	81	1,292,274	286	1,260	38,924	...	40,470	17.9	20.7	25.8	...	26.4
16	South Arcot	39,113	48,299	1,723,251	5,364	1,815,916	1,033	1,273	61,723	50	63,079	26.4	26.3	36.3	...	29.5
17	South Canara	57,968	89,983	707,427	10,217	858,696	1,801	1,801	16,819	278	19,721	17.3	20.0	30.3	...	26.3
18	Tanjore	77,413	112,066	1,939,421	646	2,129,546	1,799	2,682	54,000	3	58,366	22.3	33.7	27.8	...	28.3
19	Tinnevely	140,255	80,767	1,408,977	57	1,609,059	2,601	2,423	39,036	...	44,060	19.2	26.9	27.3	...	26.3
20	Trichinopoly	60,892	34,104	1,119,434	55	1,214,485	1,458	708	33,030	...	35,238	23.9	25.3	25.3	...	26.3
21	Vizagapatam	2,420	16,970	1,435,234	725	1,455,349	27	161	24,907	8	25,195	11.1	9.9	17.4	...	11.9
Total, Madras Presidency.		616,747	1,591,395	26,047,961	29,131	28,515,734	13,729	46,916	686,540	268	747,553	23.3	26.7	26.3	...	26.3

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.	Fever.	Dysentery and Diarrhoea.	Injuries.					All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.							
							Suicides.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.			Cholera.	Small-pox.	Fever.	Dysentery and Diarrhoea.	Injuries.	All other causes.	Within year.	From 1st to 31st Dec.
							Males.	Females.													
A.—Districts.																					
1	Anantapur	1,245,669	4,382	354	2,612	240	15	33	153	280	9,741	27,269	5.5	0.4	7.0	0.6	0.4	16.4	20.9	20.9	
2	Bellary	1,569,654	2,542	248	6,180	844	30	30	144	46	204	10,781	20,777	5.1	0.6	7.7	4.3	0.4	14.8	23.9	23.9
3	Chingleput	918,803	4,768	592	7,128	3,804	26	30	246	106	407	13,825	30,742	5.1	0.6	7.7	4.3	0.4	14.8	23.9	23.9
4	Cuddalore	1,102,066	6,231	637	16,848	570	37	68	328	119	663	23,788	41,947	5.7	1.1	8.8	0.7	0.6	20.0	29.6	29.6
5	Cuddapah	1,102,066	6,231	637	16,848	570	37	68	328	119	663	23,788	41,947	5.7	1.1	8.8	0.7	0.6	20.0	29.6	29.6
6	Ganjam	1,319,154	136	399	13,697	188	24	36	184	98	354	2,908	17,801	0.1	0.3	10.4	0.1	0.3	2.3	13.3	13.3
7	Godavari	1,638,553	1,394	3,496	17,801	606	47	76	244	120	467	13,008	37,825	0.8	2.3	10.2	0.4	0.8	8.2	32.3	32.3
8	Kistna	1,473,603	4,117	7,929	14,708	1,010	65	77	304	148	588	16,961	44,701	2.8	5.3	9.6	0.7	0.4	11.5	39.3	39.3
9	Kurnoor	658,237	3,147	314	14,084	513	30	66	186	78	345	3,460	22,703	4.3	0.3	21.3	0.6	0.6	5.2	32.9	32.9
10	Madras	408,548	1,806	66	6,536	4,880	5	2	115	9	126	10,070	23,181	4.4	0.1	16.3	11.0	0.3	24.8	66.9	66.9
11	Madura	1,193,592	6,828	3,783	8,296	746	65	68	284	111	534	13,867	33,943	5.8	2.4	7.1	0.6	0.4	11.8	26.1	26.1
12	Malabar	7,181,724	4,983	5,984	17,110	4,677	81	97	466	161	768	11,354	64,554	3.3	3.3	7.9	3.1	0.3	5.9	20.4	20.4
13	Nellore	1,383,531	1,816	305	11,340	807	6	6	266	14	283	10,046	22,728	1.0	0.3	9.3	0.5	0.3	8.4	20.1	20.1
14	Nilgiris	73,921	70	70	1,398	128	...	...	...	...	19	123	1,830	1.1	0.9	18.9	1.6	0.1	1.8	24.4	24.4
15	North Arcot	1,730,498	4,777	2,538	15,553	1,856	37	52	334	157	590	17,085	45,453	5.9	1.7	9.0	1.1	0.6	9.9	26.1	26.1
16	Salem	1,400,493	5,266	1,106	14,308	1,195	41	56	308	148	523	15,191	37,898	3.3	0.6	9.6	0.8	0.3	10.3	26.1	26.1
17	South Arcot	1,738,321	15,363	4,706	14,463	2,108	37	23	337	211	597	24,888	61,616	8.9	2.7	8.3	1.3	0.3	14.1	35.6	35.6
18	South Canara	923,749	857	147	7,410	1,233	48	36	266	69	488	9,298	18,888	0.9	0.1	8.0	1.3	0.3	10.1	26.6	26.6
19	Tanjore	1,939,311	5,837	1,048	8,750	796	35	38	211	211	465	40,258	23,181	3.0	0.8	1.9	0.4	0.3	20.9	27.6	27.6
20	Tinnevely	1,535,280	3,519	3,108	5,334	1,551	74	105	314	88	836	26,167	40,335	2.3	2.1	3.5	1.0	0.4	17.1	26.6	26.6
21	Trichinopoly	1,110,311	4,711	296	6,180	871	30	36	233	133	438	19,900	32,663	4.3	0.3	8.5	0.5	0.4	17.8	26.6	26.6
22	Vizagapatam	1,354,216	27	311	10,993	379	...	...	...	...	96	1,743	22,668	0.0	0.1	14.5	0.3	0.3	1.3	16.9	16.9
Total of districts		26,521,797	61,287	37,697	294,798	30,634	613	625	2,386	1,398	9,321	250,697	626,573	2.4	1.4	9.3	1.1	0.4	10.8	26.9	26.9

* Exclusive of Europeans and Eurasians and "born dead."

† Exclusive of Europeans and Eurasians as the Census of 1881 does not show these diseases separately for towns under the column of Christians to be omitted.

‡ Exclusive of B.—Towns.

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

Number.	Districts and towns.	Population for which returns were received.	Cholera.	Small-pox.	Fever.	Dysentery and Diarrhoea.	Injuries.					All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.							
							Suicides.		Wounds and accidents.	Snake-bite and killed by wild beasts.	Total.			Cholera.	Small-pox.	Fever.	Dysentery and Diarrhoea.	Injuries.	All other causes.	For the year.	Mean of previous 5 years.
							Males.	Females.													
B.—Towns.																					
1	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 ...	53,490	153	21	323	104	2	12	1	15	1,000	1,706	...	0.4	0.0	1.9	0.3	31.9	31.9		
3	M. T. Adoni ...	22,441	419	...	310	4	...	1	...	5	262	1,000	18.6	...	0.2	0.2	1.7	44.5	23.1		
4	T. Hospet ...	10,219	...	...	188	4	...	...	...	4	20	217	0.1	...	18.4	0.4	1.9	21.2	24.1		
5	M. T. Conjeevorum.	37,275	196	27	260	162	4	2	8	14	731	1,399	5.3	0.7	7.2	4.3	0.4	19.6	37.5		
6	T. St. Thomas' Mt.	15,013	10	...	20	15	...	...	...	1	65	121	0.6	...	2.0	1.0	0.1	4.3	8.0		
7	T. Saidapet ...	10,290	77	4	32	17	...	...	...	2	138	270	7.6	0.4	3.1	1.6	0.2	13.4	26.2		
8	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		
9	M. T. Erode ...	9,964	93	10	41	31	...	1	0	7	147	332	9.7	1.0	4.2	3.1	0.7	14.9	33.6		
10	M. T. Karur ...	9,205	80	...	54	60	...	...	...	3	146	352	9.6	...	5.9	6.5	0.3	16.9	25.8		
11	M. T. Cuddapah ...	18,982	39	7	253	31	...	...	4	4	175	500	2.1	0.4	13.3	1.6	0.2	9.2	26.8		
12	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. Chittoor.	18,302	...	...	118	44	...	1	...	2	187	351	...	5.4	2.4	0.1	10.2	19.1	26.7		
14	M. T. Parlakimedi.	15,365	...	...	228	61	...	1	...	5	43	367	...	6.4	4.0	0.3	4.1	23.2	23.5		
15	M. T. Ellore ...	25,092	94	38	157	54	...	2	7	10	360	713	3.7	1.5	14.8	4.0	0.3	14.3	28.4		
16	M. T. Rajahmundry	24,555	40	87	184	135	...	1	13	3	330	793	1.6	3.5	7.5	5.5	0.7	13.4	32.2		
17	M. T. Cocanada	39,441	50	25	60	76	...	14	...	14	302	627	1.6	0.8	2.0	2.5	0.5	8.9	17.3		
18	T. Peddapuram	11,273	18	4	39	1	...	1	...	2	191	240	...	0.7	3.4	...	16.9	21.2	25.4		
19	T. Pithapuram	11,593	...	...	74	3	...	1	...	4	75	124	1.6	0.3	1.9	0.1	0.3	6.6	10.7		
20	M. T. Masulipatam.	35,056	112	189	62	42	...	...	...	2	632	1,048	3.2	5.4	2.2	0.9	0.1	18.0	29.8		
21	M. T. Beavada	10,098	62	42	161	120	...	...	...	5	260	650	5.1	4.2	15.9	11.9	1.5	26.7	34.3		
22	M. T. Guntur	19,649	71	46	214	71	...	1	13	3	267	679	3.6	2.3	10.8	3.6	1.0	13.1	34.5		
23	T. Jagayapet	10,072	1	11	6	...	...	3	...	1	188	319	0.1	11.6	0.6	...	0.7	18.6	31.6		
24	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		
25	M. T. Madura ...	76,847	462	200	353	358	0	3	38	1	51	1,319	2,743	6.9	2.6	4.6	0.6	17.2	65.6		
26	M. T. Dindigul	14,182	151	15	17	10	...	...	10	4	14	361	658	10.4	1.1	1.2	0.7	1.0	25.4		
27	M. T. Periyakulam.	16,440	3	143	82	62	...	...	4	2	6	204	500	0.2	8.7	1.0	3.7	0.4	12.4		
28	M. T. Puthi ...	13,315	292	18	22	7	1	...	7	...	8	315	682	21.9	1.4	1.6	0.5	0.0	23.7		
29	M. T. Tellicherry	24,581	6	59	82	38	1	...	7	2	10	340	581	0.2	2.4	3.3	1.6	0.4	14.1		
30	M. T. Calicut	37,085	67	103	188	162	...	...	3	2	5	1,156	2,720	1.2	20.4	3.2	2.8	0.1	19.9		
31	M. T. Palghat	36,339	163	89	108	63	...	1	11	5	18	625	1,063	4.6	2.2	3.0	1.7	0.5	17.2		
32	M. T. Cochin	15,088	98	81	68	82	...	...	8	...	4	307	680	6.2	5.2	3.7	5.2	0.2	23.4		
33	M. T. Cannanore	26,386	20	8	228	62	6	...	8	...	17	200	555	0.8	3.1	8.6	2.3	0.6	8.9		
34	T. Ponani	12,421	43	6	37	19	...	...	1	...	1	63	169	3.5	0.5	2.9	1.3	0.1	6.1		
35	M. T. Nellore	27,505	521	4	143	13	...	...	3	...	3	991	18.9	0.1	5.2	0.5	0.1	11.2	56.0		
36	M. T. Ongole	9,200	17	7	56	50	...	...	10	10	125	265	1.8	0.8	0.1	5.4	1.1	13.6	22.8		
37	M. T. Ostacaminid.	12,835	8	1	62	34	...	...	2	...	2	185	272	0.3	0.1	5.0	2.7	0.2	18.4		
38	M. T. Coonoor	4,778	10	4	40	23	...	...	2	...	2	89	108	2.1	0.8	8.4	4.8	0.4	18.0		
39	M. T. Vellore	40,958	288	78	208	137	1	1	22	...	24	469	1,234	7.0	1.9	5.1	3.3	0.6	12.2		
40	M. T. Walajapet	19,387	40	...	97	61	...	...	2	...	2	160	344	3.8	...	0.3	0.2	16.8	35.0		
41	M. T. Gudiyatan	16,000	43	64	81	51	...	...	1	...	1	43	437	2.4	5.8	3.9	3.9	0.05	10.1		
42	M. T. Tirupati	13,232	6	...	123	6	...	...	5	1	7	182	437	0.5	0.3	3.6	...	0.1	3.7		
43	T. Arcot	10,718	123	6	47	1	...	...	1	...	1	214	348	11.5	...	0.0	0.4	0.1	7.9		
44	T. Ambur	20,390	47	6	36	5	...	...	1	...	1	182	348	11.5	...	0.0	0.4	0.1	7.9		
45	M. T. Salem	59,631	428	14	386	135	...	...	4	...	4	3	96	4.5	0.6	2.8	0.5	0.4	0.3		
46	M. T. Vaniambadi.	15,933	113	6	141	10	...	...	8	5	13	710	1,685	7.2	0.2	6.5	2.3	0.2	11.9		
47	M. T. Tirupur	14,278	72	54	186	51	...	...	1	...	4	184	454	7.1	0.4	8.8	0.6	...	11.5		
48	T. Shendamanga- lam.	12,575	27	1	18	...	...	...	1	1	2	88	136	2.1	0.1	1.4	...	0.2	7.0		
49	M. T. Cuddalore	43,545	340	27	231	159	...	1	7	3	11	449	1,236	8.0	0.6	5.3	3.6	0.3	10.3		
50	M. T. Chidambam- ram.	19,837	244	19	175	61	...	1	2	3	3	200	702	12.8	0.9	8.8	3.1	0.2	10.4		
51	T. Panruti ...	20,172	140	53	57	...	1	...	1	...	2	283	635	6.9	2.6	2.8	...	0.1	14.0		
52	M. T. Mangalore	32,099	...	...	208	126	...	...	14	...	14	485	838	...	...	6.5	3.9	0.4	16.1		
53	M. T. Tanjore	54,745	61	27	397	373	...	...	6	3	9	744	1,593	1.1	1.3	6.1	6.8	0.2	13.6		
54	M. T. Kumbako- nam.	50,098	188	20	334	215	...	...	7	...	7	897	1,658	3.8	0.5	6.7	4.3	0.1	17.7		
55	M. T. Nagapatnam.	53,776	347	36	296	247	4	5	14	26	894	1,796	6.4	0.7	5.5	4.6	0.5	15.5	32.2		
56	M. T. Mayavaram.	39,440	55	13	164	97	5	...	13	2	20	412	701	2.4	0.6	4.5	4.2	0.8	17.3		
57	M. T. Mannarvudi.	19,460	77	10	104	102	1	...	...	6	217	476	5.9	0.5	3.3	5.3	0.3	11.2	24.5		
58	M. T. Timmelveyl.	23,221	183	37	66	80	...	...	2	7	9	359	724	7.9	1.6	2.4	3.4	0.4	15.5		
59	M. T. Palamcottah.	17,964	82	25	51	40	...	...	1	...	2	394	497	4.8	2.4	3.0	2.2	0.1	16.4		
60	M. T. Tuticorin	16,281	42	135	392	142	...	...	1	...	2	219	772	8.9	0.3	4.2	8.7	0.1	13.4		
61	T. Kavalpatnam	11,806	44	2	1	80	...	...	1	...	1	82	180	3.7	0.2	0.1	6.7	0.1	4.4		
62	T. Kulasekarapat- nam.	14,972	16	79	96	23	...	...	...	...	233	445	1.0	5.3	6.4	1.5	...	15.5	29.7		
63	T. Rajahpoliem	12,021	...	...	5	...	1	4	...	6	141	162	...	...	0.4	...	0.5	11.7	12.6		
64	T. Nachiarcoil	15,856	20	12	9	...	2	2	4	11	221	273	1.1	0.6	0.5	...	0.6	12.1	14.9		
65	T. Sivagiri	30,632	...	...	...	...	...	...	2	...	2	219	221	...	...	...	...	0.1	10.1		
66	T. Viravanallur	12,318	71	8	...	...	1	...	...	...	2	176	255	5.8	0.5	...	...	0.1	14.3		
67	T. Kalladakurichi	10,836	72	3	21	...	1	...	...	...	1	168	377	6.9	0.3	0.9	...	0.1	15.1		
68	T. Sivakasi	10,583	3	239	8	...	2	3	...	5	310	579	0.3	22.0	0.9	0.1	...	25.6	38.4		
69	T. Tenkasi	11,967	45	4	87	32	...	1	1	2	240	370	3.8	0.3	4.8	1.8	0.2	20.0	59.9		
70	M. T. Trichinopoly.	84,440	445	101	580	298	...	16	1	17	1,242	2,694	5.3	1.2	6.3	3.5	0.2	14.7	31.2		
71	M. T. Srirangam	19,773	41	6	108	37	...	1	6	7	422	621	2.1	0.3	5.3	1.9	0.3	21.3	31.4		
72	M. T. Vizagapatnam.	30,291	3	1	261	144	1	1	7	10	343	782	0.1	0.08	9.3	4.7	0.3	11.3	25.8		
73	M. T. Vizianagaram.	22,577	...	...	275	41	...	2	...	3	805	424	...	...	1.2	1.3	0.1	13.6	27.6		
74	M. T. Bimlipatnam.	8,583	...	...	48	60	...	3	1	5	136	248	...	...	5.6	7.9	0.8	15.8	29.0		
75	M. T. Anakapalle.	13,341	...	2	167	29	...	1	14	14	221	439	...	0.1	12.5	3.2	1.0	10.6	27.3		
76	T. Bobbili	14,943	...	...	99	...	2	...	3	8	102	400	...	...	6.6	...	0.3	6.8	18.3		
77	T. Salur	11,866	...	...	220	35	1	...	...	3	12	270	...	...	18.5	3.0	0.2	1.0	35.9		
Total, Towns		1,734,723	7,546	3,656	10,243	5,198	63	48	434	66	611	24,977	52,181	4.3	2.1	5.9	8.0	0.3	14.4	30.0	

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.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Males.	Females.	Total.	Ratio of deaths per 1,000 of population.	Total.	Males 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.																				
1	Anantapur	8	8	930	1,408	305	876	281	245	242	191	224	222	177	170	154	171	1,298	1,350	2,648	7.0	7.4	7.2	6.1	
2	Bellary	71	11	1,483	430	317	537	678	624	642	623	583	633	659	542	591	594	3,945	3,768	7,713	8.9	7.0	13.9	16.7	
3	Chingleput	7	7	2,000	1,419	831	486	422	431	467	590	623	656	673	711	1,041	1,051	8,065	7,768	15,833	7.5	7.7	7.6	6.3	
4	Coimbatore	13	13	1,452	940	1,310	1,111	977	902	944	940	1,223	1,273	1,408	1,407	1,115	1,477	1,553	7,107	6,715	13,822	8.3	7.7	8.4	7.7
5	Cuddapah	12	12	1,288	1,034	1,513	1,250	1,080	970	900	915	1,141	1,124	1,158	1,301	1,400	1,240	1,570	7,400	6,705	14,105	11.0	9.0	10.0	13.3
6	Ganjam	8	8	7,174	2,448	1,270	1,092	970	1,104	1,161	1,323	1,323	1,000	1,221	1,027	1,440	1,402	8,102	8,051	17,783	10.2	9.0	9.9	9.3	
7	Godavari	14	14	2,202	750	2,009	1,427	994	1,018	806	1,170	1,140	1,550	1,701	1,433	1,304	1,541	7,446	7,210	14,555	9.5	9.4	9.5	9.1	
8	Kistna	15	15	1,837	1,234	1,104	978	761	799	806	1,118	1,210	1,358	1,247	1,143	1,141	1,171	7,357	6,958	14,315	21.4	20.8	21.1	21.4	
9	Kurnool	9	9	767	1	1	1	1	1	1	1	1	1	1	1	1	1	3,031	3,004	6,035	16.8	18.2	17.0	10.1	
10	Madras	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4,301	4,301	8,770	7.1	6.4	6.8	6.1	
11	Madurai	12	12	1,063	610	756	628	671	646	732	630	647	678	646	641	835	1,340	4,400	4,908	17,808	8.3	6.9	7.6	7.2	
12	Malabar	17	17	440	440	1,558	1,547	1,615	1,512	1,570	1,770	1,646	1,533	1,254	1,285	1,320	9,742	9,008	17,808	17.0	17.0	17.0	17.0		
13	Nellore	12	12	1,373	944	1,063	882	814	806	903	1,003	804	1,008	1,080	1,080	1,080	6,756	6,756	11,539	17.2	16.8	16.8	16.8		
14	Nilgiris	5	5	48	48	65	79	70	90	200	222	202	140	105	107	111	818	1,408	1,408	17.2	16.8	16.8	16.8		
15	North Arcot	14	14	3,690	2,351	1,517	1,346	1,068	1,082	1,105	1,160	1,317	1,201	1,095	1,295	1,347	1,067	8,142	7,965	16,107	9.9	8.7	8.8	8.8	
16	Salem	12	12	4,470	2,138	1,367	1,117	1,085	1,080	1,040	1,136	1,179	1,217	1,094	1,244	1,541	1,900	7,060	7,543	14,603	9.3	8.1	8.7	8.9	
17	South Arcot	10	10	3,164	1,958	1,308	1,131	1,048	1,019	1,031	1,138	1,180	1,210	1,053	1,232	1,025	1,247	7,583	7,343	14,926	9.3	8.1	8.7	8.9	
18	South Canara.	6	6	1,276	1,059	1,018	813	614	540	567	677	704	604	542	518	462	637	4,002	3,556	7,558	4.0	2.3	2.9	2.7	
19	Tanjore	14	14	3,545	1,271	313	290	333	329	305	398	504	504	421	421	423	504	440	2,427	2,458	4,885	2.4	2.3	2.3	1.1
20	Tinnevely	12	12	1,818	802	623	307	306	350	328	408	408	408	408	408	408	408	1,024	2,853	5,968	3.0	3.1	3.1	3.1	
21	Trichinopoly.	8	8	1,405	805	672	631	463	446	567	400	554	548	474	510	510	510	3,319	3,371	6,790	5.7	5.4	5.6	5.1	
22	Vizagapatnam.	18	18	2,987	1,633	2,278	1,556	1,250	1,250	1,182	1,725	1,700	1,740	2,106	1,800	1,633	2,101	10,770	9,164	20,773	14.8	13.8	14.3	14.7	
Total, Madras Presidency.		238	238	44,440	24,735	18,045	10,763	17,071	17,679	18,006	20,428	21,317	21,406	21,546	23,296	27,311	120,229	130,747	247,025	8.9	8.4	8.6	8.1		

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

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.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	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 Diarrhoea were reported.	Number in each district.													Number from which deaths from Dysentery and Diarrhoea were reported.	Males.	Females.	Total.	Males.	Females.		Total.
1	Anantapur	8	990	174	91	14	19	15	14	10	28	48	25	18	17	21	138	106	244	0.7	0.6	0.7	0.7
2	Bellary	11	1,353	169	38	35	31	29	33	54	75	95	80	61	61	60	655	321	656	0.7	0.6	0.7	0.7
3	Chingleput	7	2,000	1,062	177	184	186	170	224	267	842	399	400	078	907	2,103	1,985	1,088	4.6	4.1	4.2	3.9	
4	Coimbatore	13	1,452	237	95	85	113	94	101	96	90	122	138	103	215	184	712	713	1,445	0.8	0.8	0.8	0.8
5	Cuddapah	12	1,258	230	55	55	46	20	34	33	50	54	60	78	85	73	298	303	601	0.5	0.5	0.5	0.6
6	Ganjam	8	7,174	80	23	18	16	18	16	24	24	48	42	35	33	28	204	125	329	0.3	0.2	0.2	0.4
7	Kadavari	14	2,202	78	52	38	47	01	80	48	88	131	147	75	43	66	406	408	874	0.5	0.4	0.5	0.5
8	Kistna	15	1,837	271	45	45	75	94	52	63	108	328	136	101	95	83	643	591	1,234	0.8	0.8	0.8	0.8
9	Kurnool	9	757	59	24	30	15	21	22	32	765	137	100	35	17	24	300	250	550	0.6	0.7	0.6	0.5
10	Madras	1	1	1	163	141	147	170	204	206	224	063	831	558	489	830	2,139	2,341	4,480	11.1	11.8	11.6	0.9
11	Malabar	13	1,003	130	33	40	87	106	73	00	73	60	61	80	200	290	610	576	1,180	0.9	0.9	0.9	0.7
12	Nellore	17	440	539	378	894	408	393	267	345	662	668	444	308	414	444	2,704	2,590	5,103	2.3	2.0	2.2	1.8
13	Nilgiris	5	1,874	110	36	58	50	54	67	61	47	56	64	60	73	88	327	333	660	0.5	0.5	0.5	0.5
14	North Arcot	14	3,636	497	154	141	100	76	77	71	129	178	140	8	13	10	106	73	179	2.2	1.8	2.0	1.1
15	South Arcot	12	4,479	305	97	91	90	59	49	67	93	129	98	218	358	516	1,160	1,900	2,160	1.3	1.1	1.2	0.7
16	South Arcot	10	5,146	918	110	128	112	90	102	107	160	151	140	180	95	227	1,730	651	1,301	0.9	0.8	0.8	0.5
17	South Canara	6	1,276	426	114	148	84	80	75	107	122	109	161	110	130	317	1,204	1,028	2,322	1.4	1.2	1.3	0.6
18	Tanjore	14	3,545	381	173	101	106	90	90	117	180	178	135	128	238	268	630	840	1,470	1.5	1.4	1.4	0.7
19	Tinnevely	12	1,616	356	257	123	102	197	75	120	102	87	65	97	200	315	940	959	1,838	1.1	1.7	1.7	0.6
20	Trochinopoly.	8	1,495	282	103	70	63	88	40	41	40	46	46	33	126	208	494	413	907	0.8	0.6	0.7	0.6
21	Vinayakam.	18	1,664	218	92	59	40	65	66	85	66	83	87	63	47	46	325	323	648	0.5	0.5	0.4	0.4
22	Total, Madras Presidency.	236	227,44,449	6,568	2,314	1,926	1,910	1,872	1,745	2,085	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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Number.	Districts.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total Births.		Births registered according to classes.			Ratio of births per mille of population.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

Ratio per mille of population

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.

Number.	Districts.	3												4									
		Population for which returns were received.						5						6						7			
		Total.		Males.		Females.		Total.		Males.		Females.		Total.		Males.		Females.		Total.		Males.	
1	Anantapur	417	135	417	135	417	135	417	135	417	135	417	135	417	135	417	135	417	135	417	135	417	135
2	Bellary	79	46	79	46	79	46	79	46	79	46	79	46	79	46	79	46	79	46	79	46	79	46
3	Chingleput	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683	1,061	683
4	Coimbatore	145	127	145	127	145	127	145	127	145	127	145	127	145	127	145	127	145	127	145	127	145	127
5	Cuddapah	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
6	Ganjam	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
7	Godavari	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194	194
8	Kistna	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
9	Kurnool	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33	33
10	Madras	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004	1,004
11	Madura	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127	1,127
12	Malabar	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283	1,283
13	Nellore	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115
14	Niliris	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
15	North Arcot	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
16	Salen	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225	225
17	South Arcot	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109	109
18	South Canara	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
19	Tanjore	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
20	Tinnevely	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
21	Trichinopoly	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
22	Visagapatnam	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
Total		10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968	10,968

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

		Births.										Deaths.										
Districts.	Municipal towns.	Popula- tion, Census of 1881.	Class.				Total Births.			Class.				Total Deaths.			Causes of death.					
			Christians.	Hindus.	Muhammadans.	Other Classes.				Christians.	Hindus.	Muhammadans.	Other Classes.				Cholera.	Small-pox.		Fever.		
							M.	F.	Total.					M.	F.	Total.		M.	P.	M.	P.	M.	P.
Ganjam	Chicacole	18,302	1	425	13	232	207	439	1	336	16	183	109	352					58	60		
	Berhanpore	23,599	19	780	36	422	413	835	18	416	26	233	227	460					60	60		
	Parlakimedi	15,365	1	644	13	333	325	658	1	344	12	193	164	357					118	119		
Vizagapatam.	Vizagapatam	30,291	17	980	60	517	529	1,046	27	732	40	392	407	799	3			1	136	146		
	Binnipatam	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	606	10	321	305	626					160	175		
	Anakapalle	13,341	1	567	6	297	276	573	1	480	3	222	211	433				2	98	106		
Godavari	Cotanada	30,441	14	558	12	275	309	584	13	492	27	291	241	532	20	24	10	15	33	36		
	Rajahmundry	24,555	10	675	58	387	376	763	3	721	70	422	372	794	17	24	46	41	107	117		
	Ellore	25,092	17	591	107	358	367	725	21	576	123	330	300	630	44	82	13	25	64	64		
Kistna	Masulipatam	35,056	17	929	125	576	405	1,071	15	887	140	521	530	1,051	61	62	91	98	87	87		
	Guntur	10,646	15	495	191	309	332	701	15	431	184	379	301	680	87	34	29	17	103	111		
	Bezvada	10,098	7	531	77	311	304	615	7	551	95	344	300	643	29	24	20	22	54	77		
Nellore	Nellore	27,505	37	526	106	369	392	871	14	778	209	545	450	995	277	246		4	65	60		
	Ongole	9,200	24	295	45	186	178	364	10	227	28	154	111	265	11	6	6	1	23	24		
Madras	Madras	405,848	1,484	14,506	2,071	9,377	8,694	18,001	1,761	18,587	3,170	11,500	12,308	23,808	918	908	30	36	3,079	3,083		
Chingleput	Conjeeveram	37,275	1	1,482	43	788	737	1,525	1	1,350	48	717	682	1,399	100	96	15	12	126	126		
South Arcot.	Cuddalore	43,545	23	1,298	37	663	606	1,269	38	1,140	48	508	637	1,235	150	190	11	16	106	106		
	Chidambaram	19,837	3	480	30	263	209	522	2	605	35	342	300	702	120	124	8	11	90	90		
Trichinopoly.	Trichinopoly	84,449	236	1,708	223	1,106	1,056	2,161	350	1,048	364	1,303	1,306	2,609	217	210	60	41	275	288		
	Srirangam	19,773	1	691	1	354	338	692	4	617	1	310	306	621	18	23	4	3	60	65		
Tanjore	Tanjore	54,745	128	1,354	74	795	761	1,556	110	1,398	80	808	789	1,597	28	33	46	24	135	135		
	Kumbakonam	50,093	28	1,478	34	774	706	1,580	35	1,580	43	814	844	1,658	100	88	14	13	106	106		
	Mayavaram	23,044	13	794	18	420	405	825	20	680	15	350	349	704	28	28	9	8	40	43		
	Nesapatam	53,776	144	815	317	632	614	1,270	263	1,173	381	910	807	1,807	171	177	13	23	133	133		
	Mannargudi	19,499	11	408	6	245	237	482	7	456	15	241	233	477	40	37	6	4	81	84		
Madura	Madura	76,847	104	2,568	197	1,385	1,481	2,866	79	2,499	257	1,351	1,304	2,745	245	217	94	106	181	173		
	Periyakulam	16,446	34	490	60	293	287	580	23	427	50	212	258	470	1	2	67	86	41	41		
	Dindigul	14,193	137	652	109	438	431	869	100	407	72	206	202	408	83	60	11	4	14	4		
	Palni	13,315	9	670	68	388	359	747	6	618	38	340	316	656	160	136	8	10	14	8		
Tinnevely	Tinnevely	23,231	6	727	38	384	387	771	3	685	36	373	361	734	94	80	17	20	34	33		
	Palamcottah	17,964	68	543	32	356	302	658	61	420	20	261	240	501	44	30	15	10	25	25		
	Tuticorin	16,281	248	331	21	288	312	600	229	464	50	380	302	772	23	19	65	70	107	106		
Kurnool	Kurnool	20,320	9	287	327	306	318	623	22	302	352	336	341	680	75	65			137	144		
Cuddapah	Cuddapah	18,982	2	176	189	190	171	367	6	270	234	257	257	514	21	19	4	4	119	126		
Bellary	Bellary	53,400	74	1,215	650	1,032	907	1,939	92	1,140	600	861	807	1,728	71	85	9	13	163	160		
	Adoni	22,441	3	464	279	303	353	746	2	502	400	498	612	1,000	203	216			158	153		
Anantapur	Anantapur	4,907	1	142	68	114	92	206	3	139	60	101	101	202	46	46			10	16		
North Arcot.	Vellore	40,958	34	1,210	370	858	766	1,624	45	804	306	603	580	1,245	148	144	44	38	96	96		
	Gudiyatam	16,080	1	411	67	274	205	479	1	349	65	214	200	414	28	20	34	30	39	43		
	Walajapet	10,387	3	414	49	250	213	463	2	323	39	107	167	274	23	17			55	60		
	Tirupati	13,322	3	558	94	206	179	385	2	418	17	228	200	427	46	26	1	5	54	60		
Salem	Salem	59,631	51	2,038	176	1,221	1,044	2,265	42	1,500	147	860	823	1,689	222	200	4	10	185	200		
	Vaniyambadi	15,933	3	319	44	307	286	593	1	239	239	221	233	454	60	53	4	2	67	64		
	Tirupatur	14,278	4	377	222	323	280	603	1	333	194	271	256	527	29	43	32	23	68	66		
Coimbatore.	Coimbatore	38,967	65	1,478	75	818	798	1,616	88	1,262	83	736	694	1,433	82	64	59	45	117	114		
	Erode	9,864	18	265	31	153	161	314	9	276	47	165	167	332	52	44	7	3	19	23		
	Karur	9,205	13	382	30	230	196	426	9	306	39	166	167	333	51	38			34	30		
Nilgiris	Ootacamund	12,335	208	194	30	224	217	441	117	143	38	149	140	289	6	2		1	35	30		
	Coonoor	4,778	75	112	33	107	105	210	61	92	25	105	73	178	6	4	3	1	80	79		
South Canara.	Mangalore	32,090	327	714	216	604	598	1,202	204	467	163	410	424	834					99	117		
Malabar	Tellicherry	24,561	76	396	386	437	432	869	46	261	244	206	285	551	27	4	30	20	45	46		
	Calicut	57,065	131	945	903	1,039	940	1,979	174	1,238	1,318	1,331	1,422	2,700	87	39	525	645	115	73		
	Palghat	36,330	27	1,046	191	653	610	1,263	16	890	164	548	522	1,070	86	83	87	43	86	86		
	Cochin	15,686	394	117	61	281	291	572	378	163	194	304	371	735	55	56	46	37	36	36		
	Cannanore	26,386	178	326	363	464	393	857	83	211	313	340	268	607	10	10	5	3	137	136		
Total		1,868,270	4,571	53,475	9,416	84,745	32,716	67,461	4,631	54,935	11,033	35,176	35,373	70,549	4,409	4,338	1,530	1,641	7,706	8,301		
			37.2	36.1	36.0			36.2	37.9	37.1	42.2			37.8								

(a) Inclusive of 221 Europeans and 798 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.										Still-births or born dead.	Ratio per 1,000 of population.										Average ratio of previous five years ending 1890.	
			Causes of death—continued.											Ratio per 1,000 of population.											
			Dysentery and diarrhoea.	Suicides.				Injuries.				All other causes.		Cholera.	Small-pox.	Fever.	Dysentery and diarrhoea.	Injuries.	Total Births.	Total Deaths.	Births.	Deaths.			
				M.	F.	M.	F.	M.	F.	M.	F.												M.	F.	
Ganjam	Chicacole	18,302	24	20	1	...	1	...	...	...	...	99	89	2	3	...	...	33.9	19.2	24.7	26.9				
	Berhanpore	23,599	25	31	...	...	...	...	...	...	...	143	130	6	8	...	...	35.3	19.5	30.8	41.7				
	Parlakimedi	15,365	37	24	1	...	...	...	...	...	...	83	80	7	3	...	...	42.8	23.2	21.9	23.2				
Vizagapatam	Vizagapatam	30,291	71	76	1	7	...	1	...	...	...	174	182	...	1	0.1	0.03	34.5	28.3	29.5	29.5				
	Bimlipatam	8,582	23	38	...	...	...	...	...	...	...	81	69	...	1	...	...	37.2	29.8	39.5	26.7				
	Vizianagrum	22,577	26	15	1	...	1	...	...	...	...	143	164	...	1	...	...	33.6	27.7	34.3	31.2				
	Anakapalle	13,341	12	17	...	...	...	...	...	...	...	112	109	...	...	...	...	42.2	32.4	35.3	26.7				
Godavari	Cocanada	30,441	45	32	1	...	...	...	...	...	...	168	136	...	1	...	...	19.1	17.4	29.5	25.5				
	Rajahmundry	24,555	57	78	...	...	...	...	...	...	...	187	143	...	12	1.7	0.8	30.2	32.3	28.4	32.0				
	Ellore	25,092	25	30	...	...	...	...	...	...	...	181	182	...	9	3.8	1.4	28.4	29.6	27.5	24.8				
Kistna	Masulipatam	35,056	20	13	...	...	...	...	...	...	...	319	314	...	6	4	3.2	30.9	29.8	29.8	19.6				
	Guntur	10,646	41	30	...	...	...	...	...	...	...	156	104	...	31	15	6.6	34.0	34.6	28.7	24.1				
	Bezvada	10,098	61	59	2	...	...	...	...	...	...	139	122	...	10	5.3	4.1	15.9	11.9	6.9	...				
Nellore	Nellore	27,505	9	4	...	...	...	...	...	...	...	172	135	...	1	10.0	5.1	5.3	0.1	24.3	36.1	28.8	23.4		
	Ongole	9,200	23	24	...	...	...	...	...	...	...	74	54	...	17	1.8	0.8	6.1	5.1	1.1	29.5	28.8	25.5	25.4	
Madras	Madras	405,848	2,184	2,389	6	2	70	40	2	1	1	5,210	5,181	274	215	4.7	0.1	16.6	11.3	6.3	44.5	55.6	40.7	39.6	
Chingleput	Conjeevaram	37,275	90	77	1	...	...	...	...	...	...	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	...	...	...	...	...	...	...	322	232	14	11	7.9	0.6	5.4	3.7	0.3	31.1	28.3	21.7	17.1	
	Chidambaram	19,837	26	35	...	...	...	...	...	...	...	97	103	7	4	12.3	0.9	8.8	3.1	0.2	38.3	35.3	22.6	24.2	
Trichinopoly	Trichinopoly	84,449	103	141	...	...	...	...	...	...	...	629	640	15	11	5.4	1.2	6.3	3.6	0.2	25.5	31.6	19.9	26.4	
	Srirangam	10,773	18	19	...	...	...	...	...	...	...	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	...	...	...	...	...	...	...	393	354	23	29	1.1	1.3	6.2	0.8	0.1	28.4	29.1	27.0	27.3	
	Kumbakonam	50,068	100	115	...	...	...	...	...	...	...	429	458	74	60	3.3	0.5	6.7	3.3	0.1	30.7	33.1	27.9	32.5	
	Mayavaram	23,044	51	49	...	...	...	...	...	...	...	218	195	14	17	2.4	0.7	4.5	0.7	0.5	35.8	30.5	29.5	30.1	
	Negapatam	53,776	126	126	...	...	...	...	...	...	...	357	406	37	33	6.5	0.7	5.7	4.6	0.3	29.7	33.6	21.3	27.0	
	Mannargudi	19,409	62	60	...	...	...	...	...	...	...	111	106	11	7	4.0	0.5	3.3	6.2	0.3	24.8	24.5	29.0	24.7	
Madure	Madure	76,847	165	192	...	...	...	...	...	...	...	642	673	46	51	6.0	2.6	4.6	4.6	0.7	37.2	35.7	36.5	31.4	
	Pondicherry	16,466	37	37	...	...	...	...	...	...	...	112	92	11	12	0.2	8.7	5.0	3.8	0.3	35.2	30.4	35.5	25.6	
	Dindigul	14,183	7	2	...	...	...	...	...	...	...	174	207	15	15	10.7	1.1	1.3	0.6	0.8	41.4	49.7	28.6	28.6	
	Palni	13,315	5	2	...	...	...	...	...	...	...	157	158	...	...	10.9	1.3	1.7	0.6	0.6	56.1	49.7	30.9	28.4	
Tinnevely	Tinnevely	23,231	38	42	...	...	...	...	...	...	...	185	174	8	...	2.9	1.6	2.4	3.4	0.4	35.2	31.1	25.8	29.8	
	Palamcottah	17,994	30	30	...	...	...	...	...	...	...	156	140	5	3	4.8	1.4	3.0	2.2	0.1	36.6	27.8	31.7	28.2	
	Tuticorin	16,281	60	63	...	...	...	...	...	...	...	124	96	...	...	2.6	8.8	14.2	5.7	0.1	36.8	47.4	36.9	35.0	
Kurnool	Kurnool	30,329	23	14	...	...	...	...	...	...	...	94	82	11	11	2.1	0.4	13.4	1.7	0.2	19.3	27.0	21.9	35.4	
Cuddapah	Cuddapah	18,062	17	15	...	...	...	...	...	...	...	82	118	11	...	3	6.9	...	13.8	1.8	0.6	30.6	33.4	33.5	31.4
Bellary	Bellary	53,460	50	55	2	...	...	...	...	...	...	587	547	...	...	2.0	0.4	6.1	1.9	0.3	36.2	32.3	33.2	32.4	
	Adoni	22,441	1	3	...	...	...	...	...	...	...	125	137	2	1	18.7	...	13.1	0.1	0.2	33.2	44.5	36.8	22.1	
Anantapur	Anantapur	4,907	3	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	53	1	1	7	15	...	...	...	275	239	12	18	7.1	1.9	5.1	3.4	0.5	39.4	30.3	32.8	23.4	
	Gudiyatam	16,900	31	20	...	...	...	...	...	...	...	82	87	10	4	2.9	3.8	4.9	3.1	0.05	28.7	24.8	29.2	29.8	
	Walajapet	16,367	35	26	...	...	...	...	...	...	...	83	81	15	8	3.8	0.3	8.9	0.2	4.5	36.0	39.3	31.8	31.8	
	Tirupati	13,292	29	18	1	...	...	...	...	...	...	94	88	...	...	3	5.4	5.3	5.9	0.2	29.0	33.0	14.0	20.4	
Salem	Salem	59,631	72	64	...	...	...	...	...	...	...	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	...	...	...	...	...	...	...	98	91	16	7	7.1	0.4	8.5	0.6	...	47.9	28.4	23.7	21.5	
	Tirupetur	14,278	35	16	...	...	...	...	...	...	...	85	75	...	...	5.0	3.8	13.0	8.6	0.3	42.2	36.9	25.0	23.4	
Coimbatore	Coimbatore	33,967	76	73	4	...	...	...	...	...	...	414	365	13	9	3.7	2.2	5.9	3.9	0.5	41.4	36.7	42.9	32.2	
	Erode	9,884	8	29	...	...	...	...	...	...	...	76	71	...	...	9.7	1.0	4.2	3.1	0.7	31.8	33.6	41.2	26.9	
	Karur	9,305	27	34	...	...	...	...	...	...	...	62	84	8	...	5	9.7	...	5.9	6.6	0.3	46.2	38.3	40.1	32.3
Nilgiris	Ootacamund	12,335	18	17	...	...	...	...	...	...	...	88	100	3	4	0.6	0.1	5.2	2.3	0.2	35.0	24.1	31.9	24.7	
	Coonoor	4,778	12	13	...	...	...	...	...	...	...	63	34	1	...	2.1	0.8	5.4	5.2	0.4	43.9	37.2	23.6	25.4	
South Canara	Mangalore	32,099	60	66	...	...	...	...	...	...	...	252	233	25	20	...	...	0.5	3.9	0.4	39.1	26.0	37.1	31.1	
Malabar	Tellicherry	34,581	20	19	1	...	...	...	...	...	...	154	190	32	31	0.3	2.4	3.3	1.6	0.5	36.3	22.4	29.3	24.0	
	Calicut	37,065	99	70	...	...	...	...	...	...	...	563	601	85	27	1.1	20.5	3.2	3.0	0.2	34.6	48.3	35.3	37.9	
	Palghat	36,339	23	25	1	1	5	6	...	...	...	322	310	5	...	4.3	8.2	3.0	1.7	0.5	34.7	29.4	34.2	26.3	
	Cochin	15,638	40	40	...	...	...	...	...	...	...	183	208	17	...	7	5.2	3.9	3.5	0.2	35.4	46.8	33.0	31.6	
	Cannanore	26,395	53	31	...	...	...	...	...	...	...	138	128	...	...	5	0.8	0.3	8.7	...	32.4	23.0	23.9	25.3	
Total	Total	1,862,270	4,788	4,829	44	30	294	233	30	20	6	2	16,385	15,996	1,075	830	4.7	1.7	3.8	5.1	0.3	36.2	37.8	33.0	30.9

94

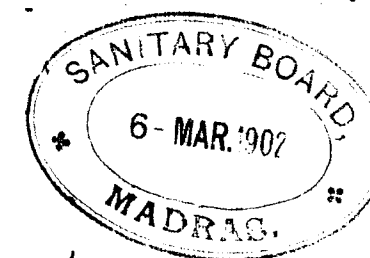
PART II.

SANITARY ENGINEERING.

98

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.
Bellary ...	Water-supply ...	In progress ...	Rs. 1,000	By Executive Engineer. By Public Works Department. Do. do.
* Berhampore ...	Do. ...	Complete ...	...	
* Beavada ...	Drainage ...	Do. ...	...	
Chidambaram ...	Water-supply ...	In progress ...	...	
Cocanada ...	Do. ...	Complete ...	900	By Local Fund Engineer. By Municipality.
Coimbatore ...	Do. and drainage ...	Do. ...	600	
Conjeeveram ...	Water-supply ...	Do. ...	400	
Cuddapah ...	Drainage ...	Do. ...	1,000	
Erode ...	Do. ...	Do. ...	250	By Public Works Department. Do. do.
Guntur ...	Water-supply ...	In progress ...	...	
Karur ...	Drainage ...	Complete ...	250	
* Kurnool ...	Water-supply ...	Do. ...	...	
* Negapatam ...	Drainage ...	Do. ...	...	By office surveyor.
Nellore ...	Water-supply and drainage ...	In progress ...	700	
Ongole ...	Do. ...	Complete ...	350	
Salem ...	Do. ...	Do. ...	700	
Tanjore ...	Do. ...	Do. ...	1,000	By office surveyor. Do.
Tinnevely ...	Do. and drainage ...	In progress ...	...	
Tirupati ...	Drainage ...	Complete ...	524	
Trichinopoly ...	Water-supply ...	Do. ...	...	
Vellore ...	Do. ...	Do. ...	...	By office surveyor. Do.
Visagapatam ...	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.
1	Adoni ...	Water-supply.	Rs. 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.
5	Coonoor ...	Water-supply.	RS. 80,000	25 3 91	11 12 91	...	Scheme approved, and the Council was asked to finance it.	.....
6	Trichinopoly.	{ Do. ... Do. revised.	4,56,000 4,44,245	8 4 91 1 10 91	24 7 91 ...	...	Sanctioned for execution. Approved.	{ Government granted Rs. 2,22,000 towards a cost of Rs. 3,66,435 to Municipality.
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. Kumbakonam 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. Beavada Drainage.
9. Berhampore Water-supply.
10. Salem Drainage.
11. Karur Do.
12. Erode Do.
13. Cuddapah Do.
14. Nellore Water-supply.
15. Guntur Do.
16. Tinnevely Do.
17. Visagapatam 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 choked 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 or 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	Guntūr ...	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 tools are obtained.
8	Ongole ...	Do. ...	7th April 1891	That a filtration gallery be driven near the village of Geddalaguntapollim, 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.

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	Cannanore ...	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	Pálghat ...	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 Panamathuputti 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. 9,98,000.	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. 2113 M.
16	Periyakulam ...	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 Varaganadhi for reception of pure water, and that stone-ware 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	Tinnevely	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 Tinnevely District Board might be participants 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 Kormanpullam tank; that stone-ware 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 iron watertight wells with pumps over them and that arrangements be made for a staff for working 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 were inspected, and gives very succinctly information regarding their progress in 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, Guntur, Bezvada, Masulipatam, Kurnool, Bellary, Nellore, Ongole, Kumbakonam, Salem, Coonoor, Ootacamund, Cuddapah, Cochin, Calicut, Cannanore, Tellicherry, Palghat, Coimbatore, Trichinopoly, Tuticorin, Tinnevely, Palamcottah, Madura, Periyakulam, Dindigul, Palni, Cuddalore and Anantapur, and the Assistant Sanitary Engineer 12 towns, viz., Coimbatore, Coonoor, Trichinopoly, Tanjore, Salem, Karur,

Conjeeveram, Bellary, Cuddapah, Erode, Tirupatūr and Vaniyambadi. The following towns received more than one visit—Bellary, Kumbakonam, Salem, Coonoor, Coimbatore, Karur, Ootacamund, and Cuddapah. 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	823	...
Number of miles by road	671	295
Total miles travelled	9,587	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) ADONI.	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 visits.

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) KARUR.	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 Noris 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) BERRHAMPORE.	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) PARLAKIMEDI.	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) GODAVARI.	(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 Samalkottah 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) GODAVARI.	(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 Godavari 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, an G.O., dated 10th March 1891, No. 333 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 1½ 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) GODAVARI.	(14) RAJAHMUNDY.	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 Godavari river. The most immediate necessity of the town is a proper water-supply, and, as the town stands on the banks of the Godavari, 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) GUNTUR.	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. 8,70,320 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 adopting the latter scheme, 24th September 1891, No. 1561 M. (but the order was not received until 10th November 1891),

made a grant of a moiety of the cost, viz., Rs. 2,13,525. The scheme was forwarded on 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 for the works; much work cannot be done until the pipes arrive and the plans of the engines are received, and to procure them will take, at the very least, six or eight months.

District.	Town.	Population, 1881.	Population, 1891.
(10) MADURA.	(21) PALNI.	13,815.	16,941.

45. The Council of this town provided in its estimates for 1891-92 a sum of Rs. 300 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 the town drainage flows. The town was visited by the Sanitary Engineer in October, and the main lines of drainage works necessary decided upon; a report was submitted to Government. But in view of work on hand, the Council was requested to re-allot the Rs. 300 in 1892-93, as it was not possible to send a surveyor during the current official year. Moreover, it was desirable to have some other supervision than what could be given from Madras and this, it is thought, can be done during the construction of the water works at Dindigul, from which town Palni is some 36 miles distant.

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

46. An inspection 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, for the river, from which the drinking water is obtained, is very seriously polluted in its passage through the town by being used for all kinds of purposes, while the drainage of the town, situated on both banks of the Varaganathy, runs into this very river, whence the drinking supplies are obtained. Drainage is an undoubted requirement all over the town, and, in a report to Government, it was recommended that water should be led into tanks on the river banks by conveying it by pipes from a some short distance above the town where the water was unpolluted. The report was sent to Government on 23rd October 1891. Report of Council with G.O., dated 8th January 1892, No. 43 M., Miscellaneous, received only in January 1892.

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

47. In view to urge the Council to take some steps to improve its sanitary condition, the Sanitary Engineer visited the town in July 1891. Government had also in G.O., dated 5th March 1891, No. 312 M., drawn the attention of the Sanitary Engineer to the notes made by the Sanitary Commissioner on his inspection. After inspection of the town the Council was recommended to take steps to improve the water-supply and drainage of at least the Moplah quarters, where very insanitary conditions prevail, and desired the Council to provide funds for taking the necessary surveys and levels. The Council, however, did not consider itself in a position to undertake the work required and resolved not to make the grant asked for. Government, however, on receiving this resolution, requested, in its order, dated 31st August 1891, No. 1396 M., Miscellaneous, that provision for the necessary surveys and levels might be made in the budget for 1892-93. Until funds are placed at disposal, nothing can be done.

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

48. Owing to the removal of most of the troops, which were formerly stationed here, this town is not in a particularly flourishing state, and the Municipality is comparatively poor. 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) NILGIRIS.	(30) COONOR.	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 Coonor, 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. 36,017-5-6 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) NILGIRIS.	(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) GUDIYATAM.	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 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 Palar 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) WALAJAPET.	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 Gogai.

(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) TIRUPATŪR.	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 surplusage 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) VANIYAMBADI.	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 Palar, 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 drainage is 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 Palar, 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 Shattiatope 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 $1\frac{1}{2}$ 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 the 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) KUMBakonam.	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.
Main Channel	Rs. 87,229	Rs. 90,487	Rs. 2,856	Rs. 93,343
Railway Bridge	8,600	8,600		3,606
North, Centre and South branch channels, road, &c.	14,080	17,892	1,747	19,639
Total	55,115	51,985	4,603	57,588
Street drainage	31,493	NIL.	NIL.	31,493
Land for channels, &c.	22,692	Compensation under settlement.		
Grand Total	1,10,080			

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 Kumbakonam has also been abnormal; no less than 7.18 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) MANNARGUDI.	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 Mannargudi.

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 yet 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 Vennar 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 kunkur rock, which lies some 6 or 7 feet below the sandy bed of the Vennar, (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 Vennar 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 28th 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 Tambraparni 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. Russell's proposed scheme of water-supply from the Ottenkolum and for distribution and for drainage purposes. The results of the investigation so far have not been favourable to Mr. Russell'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 Tambraparni 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 Uppanr Odilai and Tambraparni. 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) SRIRANGAM.	19,773.	21,658.

98. The Chairman of the Council of Srirangam 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.
No. 1	Rs. 21,500	Rs. 9,000	Rs. 4,000	Nil.	Rs. 34,500
No. 2	21,600	8,542	3,687	1,281	34,910
No. 3	23,491	3,898	1,327	681	29,295

Abstract No. 1 (Original scheme).

	Town.	Railway.	Sepoy lines.
Infiltration works	Rs. 23,253	Rs. 2,583	Rs. 1,084
Engine and boiler house	11,046	4,622	1,943
Engines, boilers and pumps	67,256	28,692	12,052
Pipes	1,70,327	20,900	8,778
Valves and fountains	15,337	1,787	750
Laying pipes	21,944	2,557	1,073
Contingencies including establishment at 12½ per cent.	3,18,163	61,141	25,679
	39,587	7,859	3,327
Total	3,58,000	69,000	29,000

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

	Town.	Railway.	Sepoy lines.	Jail.
Infiltration works	Rs. 22,922	Rs. 2,547	Rs. 1,069	Rs. 383
Engine and boiler house	10,927	4,334	1,817	532
Engines, boilers and pumps	67,031	28,650	11,150	3,269
Pipes	1,77,585	20,720	8,700	2,000
Valves and fountains	15,185	1,769	740	180
Laying pipes	21,724	2,533	1,068	255
Contingencies including establishment at 12½ per cent.	3,15,374	55,452	24,539	6,618
	39,626	7,268	3,091	832
Total	3,55,000	65,220	27,629	7,550

Abstract No. 3 (Scheme finally proposed).

	Town.	Railway.	Sepoy lines.	Jail.
Infiltration works	Rs. 22,922	Rs. 2,547	Rs. 1,069	Rs. 383
Engine and boiler house	10,927	4,334	1,817	532
Do.	2,575	2,445	512	867
Engines and pumps	64,870	7,150	3,000	1,080
Do.	4,830	4,890	380	650
Pipes	1,77,585	20,720	8,700	2,000
Additional cost	5,078			
Valves and fountains	15,185	1,769	740	180
Laying pipes	21,724	2,533	1,068	255
Additional cost	434			
Contingencies including establishment at 12½ per cent.	3,25,720	45,887	17,822	5,446
	40,715	5,736	2,229	680
Total	3,66,535	51,623	20,051	6,126

* 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 Military 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) ANAKAPALLE.	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) BIMPATAM.	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 Vizianagram 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.

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 and Taluk and District Boards.	Number of estimates received.	Amount.	Number of plans received for scrutiny.	Number of new plans furnished.
Municipalities.		RS.			Taluk Boards.				
Adoni ...	9	24,074	...	...	Cocanada ...	1	250	...	...
Anakapalle ...	2	720	2	1	Chittoor ...	1	275	1	...
Anantapur ...	1	5,548	1	1	Calicut ...	1	251	1	1
Bollary ...	13	89,266	3	1	Madura ...	3	1,404	3	...
Bervada ...	7	5,436	7	3	Madnapalle and Kadiri ...	3	6,300	8	1
Conjeeveram ...	3	8,101	3	1	Namakkal ...	2	4,900	2	...
Cocanada ...	3	1,772	3	...	Pyapali ...	1	415	...	...
Calicut ...	1	500	1	1	Palghat ...	4	1,853	4	2
Cannanore ...	2	1,070	2	1	Rapalle ...	3	980	...	...
Cochin ...	2	1,081	2	1	Tirupattur ...	3	1,120	...	...
Coonoor ...	3	964	3	1	Trivellore ...	1	378	1	...
Chidambaram ...	1	270	1	3	Tinnevely ...	3	2,645	3	1
Cuddalore ...	4	3,523	4	1	Trichinopoly ...	1	420	...	...
Dindigul ...	1	500	1	...	Tindivanam ...	10	6,205	...	1
Erode ...	1	310	1	...	Vellore ...	2	435	2	3
Guntur ...	1	6,200	1	1	Vridhachalam ...	4	1,378	4	...
Madura ...	3	2,275	2	2					
Magargudi ...	1	400	1	...	District Boards.				
Mavayaram ...	1	2,900	1	...	Cuddapah ...	1	6,700	1	1
Nellore ...	5	7,890	5	3	Kistna ...	1	800	...	...
Negapatam ...	1	230	1	...	Malabar ...	1	250	1	...
Ongole ...	3	2,500	3	1	Nellore ...	8	5,095	2	1
Ootacamund ...	3	2,320	3	1	North Arcot ...	2	725	1	1
Palni ...	1	232	1	...	Nilgiris ...	1	10,000	3	2
Palamcottah ...	1	520	1	...	South Arcot ...	1	2,000	1	...
Rajahmundry ...	1	...	1	...	Salem ...	2	4,000	2	...
Salem ...	5	2,176	5	2					
Srirangam ...	1	365	1	1					
Tellicherry ...	1	2,720	1	1					
Tirupattur ...	2	1,433	2	2					
Tanjore ...	11	4,070	9	4					
Trichinopoly ...	2	1,270	1	3					

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 or Boards.	Hospitals and dispensaries.	Slaughter-houses.	Latrines.	Markets.	Miscellaneous plans.
Municipalities.						Taluk Boards.					
Anakapalle ...	...	...	...	...	1	Calicut ...	...	...	1	...	...
Anantapur ...	1	...	1	...	...	Madnapalle and Kadiri ...	...	...	...	...	1
Bollary ...	...	...	1	...	...	Palghat ...	...	...	2	...	...
Bervada ...	...	...	1	1	1	Tinnevely ...	...	...	...	...	1
Calicut ...	...	...	1	...	...	Tindivanam ...	...	...	...	...	1
Cannanore ...	...	...	3	...	...	Vellore ...	...	...	3	...	...
Chidambaram ...	...	...	...	...	...						
Cochin ...	...	...	1	1	1	District Boards.					
Conjeeveram ...	...	...	...	1	...	Cuddapah ...	...	...	...	...	1
Coonoor ...	...	...	2	...	...	Nellore ...	...	...	...	1	...
Cuddalore ...	...	1	...	1	...	North Arcot ...	...	...	...	...	1
Guntur ...	...	...	...	...	...	Nilgiris ...	...	...	...	...	2
Madura ...	...	...	2	...	...						
Mangalore ...	...	...	1	...	...						
Nellore ...	...	1	1	1	...						
Ongole ...	...	1	...	...	...						
Ootacamund ...	...	...	1	...	...						
Salem ...	...	1	1	...	...						
Srirangam ...	...	...	1	...	...						
Tanjore ...	...	1	...	...	4						
Tellicherry ...	1	...	...	...	1						
Tirupattur ...	...	1	1	...	...						
Trichinopoly ...	...	...	3	...	...						

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 prejudicial 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	1.400	1.730	1.580
Volatile solids	do.	0.320	0.390	0.320
Chlorine	Do. do.	0.308	0.390	0.355
Total hardness	Clark's scale.	49.000	49.000	49.000
Permanent hardness	Do.	15.750	26.250	22.750
Free ammonia	Milgrms. 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	16.000
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 ₂)	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 Gúdálúr with 15 gallons per head and lower Gúdálúr 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 Pennycuik, 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.

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 *matériel* 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.

APPENDIX.

APPEN

Statement showing progress made in respect of water-supply and

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.	Estimate under preparation or not.
1. Anantapur	1	Anantapur	21-12-01, S.E.	(1) 9-8-90	...	...	Completed
2. Bellary	2	Adoni	1890	...	...	...	...
	3	Bellary	29-2-91, 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
3. Chingleput	4	Conjeevaram	28 to 30-8-91, Asst. S.E.	(1) 19-12-90	Yes	Completed	Not
	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
4. Coimbatore	6	Erode	16 to 18-8-91, S.E.	...	Yes	Not	Not
	7	Kurur	10 and 19-12-91, Asst. S.E.	...	Yes	Not	Not
5. Cuddapah	8	Cuddapah	21 to 25-6-91 and 5 to 10-8-91, Asst. S.E. 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	Berhampore	17 and 18-1-91, S.E.	(1) and (2) 20-2-91	...	Completed	Prepared by Executive Engineer
6. Ganjam	10	Chicacole	...	...	Yes	...	Not
	11	Parlakimodi	...	...	...	...	...
	12	Cocanada	28 to 30-1-91, S.E.	(1) and (2) 31-1-91	Yes	Completed	...
7. Godavari	13	Ellore	6-2-91, S.E.	(1) and (2) 7-2-91.	Yes	...	...
	14	Rajahmundry	2 and 8-2-91, S.E.	(1) 9-2-91	Yes	Will be in 1892.	...
	15	Bezvada	13 to 15-2-91, S.E.	...	Yes	...	...
8. Kistna	16	Guntur	10 and 11-2-91, S.E.	(1) and (2) 15-2-91.	Yes	Yes, by Local Fund Engineer	...
	17	Masulipatam	18 and 19-2-91, S.E.	(1) 25-2-91	...	...	...
9. Kurnool	18	Kurnool	24 to 26-2-91, S.E.	(1) 10-4-91	...	Completed by P.W.D.	...
	19	Dindigul	22, 25 and 26-10-91, S.E.	(1) 15-9-90	...	Completed	Prepared.
10. Madura	20	Madura	18 and 19-10-91, S.E.	(1) 28-4-90	...	Completed	Prepared.
	21	Palni	23 and 24-10-91, S.E.	(1) and (2) 27-10-91	Yes	Will be in 1892.	...
	22	Periyakulam	20 and 21-10-91, S.E.	(1) and (2) 23-10-91	...	...	...
	23	Calicut	22 to 25-7-91 and 1 to 3-8-91, S.E.	(1) and (2) 2-8-91.	...	...	...
	24	Cannanore	25 to 28-7-91, S.E.	(1) and (2) 30-7-91.	...	...	...
11. Malabar	25	Cochin	17 to 21-7-91, S.E.	(1) and (2) 3-9-91.	...	...	...
	26	Palghat	4-8-91, S.E.	(1) and (2) 6-8-91.	...	...	...
	27	Tellicherry	29 to 31-7-91, S.E.	No special reports sent. See page 14 of foregoing report.	...	...	...

DIX I.

drainage of District Municipalities during 1891.

supply.		Drainage.				Remarks.
Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	Under survey or not.	Estimate under preparation or not.	Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	
15-10-90	Rs. 1,53,742	...	...	...	...	Water-supply scheme under consideration of Government since October 1890, Government called on Council for a drainage scheme. Scheme will be submitted in 1892.
...	...	...	...	...	...	...
...	Approximate. 2,00,000	...	...	...	...	Scheme under preparation.
...	...	Completed.	...	...	...	Plans under preparation.
...	...	Completed.	...	...	...	...
9-9-91	19,454	Completed.	...	...	...	Estimate for extension of water-supply sanctioned on 4-11-91.
...	Rs. 22,480	...	...	...	...	* Inclusive of Rs. 23,430 for stoneware pipes for distribution purposes.
...	...	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. This town not yet visited.
...	...	...	...	...	...	Sections partly plotted.
...	...	...	...	...	...	Surveyor for drainage not yet obtainable.
...	...	Completed.	...	...	...	Do. for water-supply not yet obtainable.
...	...	Yes, by Council.	...	...	...	Joint water-supply scheme with Railway under consideration. Report of S.E. referred to Council by Government for a detailed report on water-supply and drainage (17-3-91).
...	...	...	...	...	...	Water-supply scheme under consideration. Delay is caused here owing to non-supply of artesian well apparatus.
12-12-90	Approximate. 81,900	...	...	...	...	...
11-7-91	4,19,575	...	...	...	...	Water-supply scheme sanctioned on 3-8-91. Council's proposals for financing it are awaited. Scheme sanctioned and funds provided; revised estimate under a reference to P.W.D. No orders received from Government on preliminary report.
...	...	Will be in 1892.	...	...	...	Do. do. do.
...	...	...	...	...	...	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.
...	...	...	...	...	...	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.
...	...	...	...	...	...	Council has agreed to make provision in its budget for 1892-93 for drainage survey.

Statement showing progress made in respect of water-supply and

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-	
						Under survey or not.	Estimate under preparation or not.
12. Nellore	28	Nellore ...	15, 16, 21 & 22-3-91, S.E.	.....	Yes ...	Yes ...	...
	29	Ongole ...	17 to 20-3-91, S.E. ...	(1) 7-4-91... ..	... ..	Completed	Yes ...
13. Nîlgiris	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.
	31	Ootacamund ...	14 to 21-5-91 & 6 to 13-8-91, S.E.	(1) 3-9-90 ... ..	... ..	Completed	Prepared.
14. North Arcot	32	Gudiyâtam ...	.....	.....	Yes ...	...	...
	33	Tirupati ...	1890	(2) 1-7-90	Yes ...	...	...
	34	Vellore ...	1890	(1) & (2) 12-5-90...	Yes ...	Completed	...
	35	Wâlâjapet ...	.....	.....	...	...	...
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	...
	37	Tirupatûr ...	20 and 21-12-91, Asst. S.E.	.....	...	...	...
	38	Vâniyambâdi ...	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.	...	...	...
17. South Canara ...	41	Mangalore ...	1890	(1) & (2) 3-10-90...	...	...	...
	42	Kumbakônum ...	14 to 16-4-91 & 22 & 23-8-91, S.E.	.....	Yes ...	...	...
18. Tanjore	43	Mannargudi ...	.....	.....	...	...	...
	44	Mâyavaram ...	.....	.....	...	...	...
	45	Negapatam ...	1890	16-12-90	Yes ...	...	...
	46	Tanjore ...	6 to 8-3-91, Asst. S.E.	(1) 2-6-90	Yes ...	Completed	Prepared.
19. Tinnevely.	47	Palamcottah ...	13 to 17-10-91, S.E. ...	(1) 25-11-91	Yes ...	Yes ...	...
	48	Tinnevely ...	13 to 17-10-91, S.E. ...	(1) 25-11-91	...	...	...
	49	Tuticorin ...	9 to 12-10-91, S.E. ...	(1) 30-11-91	...	...	...
20. Trichinopoly	50	Srîrangam ...	1890 ... ..	.....	...	...	...
	51	Trichinopoly ...	2 to 5-3-91, Asst. S.E. 21-8-91, S.E.	(1) 21-4-90	...	Completed	Prepared.
21. Visagapatam	52	Anakâpalle ...	.....	.....	...	...	...
	53	Bimlipatam ...	.....	.....	...	...	...
	54	Visagapatam ...	22 to 25-1-91, S.E. ...	(1) & (2) 30-1-91...	Yes ...	Yes ...	...
	55	Vizianagram ...	.....	.....	...	...	...

DIX I—continued.

drainage of District Municipalities during 1891—continued.

supply.		Drainage.				Remarks.
Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	Under survey or not.	Estimate under preparation or not.	Date on which scheme was forwarded.	Amount of estimate sent in or anticipated cost.	
...	Rs. ...	Yes	...	...	Rs. ...	Allotment of funds for levels sanctioned as designed by S.E. on inspection. Levels have been taken by office surveyor.
25-2-91	80,000	...	...	9-2-91	48,000	Water-supply scheme referred to P.W.D., and drainage scheme under execution.
12-12-80	48,000	...	...	...	35,000	Water-supply sanctioned on 3rd August 1891. Tenders await disposal by Council.
...	...	Completed.	Prepared.	7-9-91	96,000	Scheme sanctioned, Government granted Rs. 48,000.
9-12-91	3,18,000	...	...	...	2,63,000	Unsuccessful attempts have been made to introduce water-supply. V-shaped drains exist.
30-9-91	9,98,000	Completed.	...	1890	...	
...	...	...	...	...	...	
...	...	...	...	...	...	
...	...	...	...	...	...	
...	...	...	...	...	...	Vellar scheme and Rajahvofkal channel scheme under examination. No orders passed by Government on preliminary report.
...	...	Completed.	Prepared.	...	1,10,000	Drainage works under execution.
...	...	...	...	...	...	Not inspected.
...	...	Completed.	Yes *	...	...	Council not in urgent need of water-supply and drainage funds not available. * Will be submitted in January 1892.
2-5-91	4,52,000	...	...	...	...	Scheme sanctioned. Government grant Rs. 2,14,500.
...	...	Yes	...	...	...	Orders not received on preliminary report. Do. do. do.
8-4-91	* 4,56,000	...	...	...	...	Council not anxious to improve water-supply or undertake drainage. * This is the estimate sanctioned. A revised estimate amounting to Rs. 4,44,245 submitted on 19-11-91.
...	...	...	...	...	...	Not inspected yet.
...	...	Yes	...	...	...	Do. do. Surveys still incomplete.
...	...	...	...	...	...	Not inspected yet.

APPENDIX II.

COONNOOR DRAINAGE SCHEME.

Statement of work done during 1891.

No.	Main-head.	Sub-head.	Work done.		Work to be done.		Total.	
			Percent- age.	Value.	Percent- age.	Value.	Percent- age.	Value.
A.	Main bazar drains	(1) Surface drains	11	RS. A. P. 1,605 9 1	89	12,130 15 2	100	14,036 8 8
		(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 8	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 8 10	100	490 8 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.
<i>Departmental Stores.</i>	NO.	NO.	NO.
Stoneware 4-inch drains, straight pieces	2,102	7 (broken).	2,095
Do. do. bonds	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. bonds with manholes	2	...	2
	3,608	469	3,139
<i>Contractors' Stores.</i>			
Portland cement	Casks	...	24
Broken stone	C. ft.	...	3,105

Statement of amounts passed for payment at Coonoor.

No.	Main-head.	Sub-head	Amount.
1	Works	...	RS. A. P. 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.		Quantity of work done.		Cost including materials used.		Remarks.
Main-head.	Sub-head.	Percentage on estimated quantity.	Actual work done.			
Oval surface concrete in cement sewers.	4"	37½	1,700 R.ft.	RS. A. P. 871 0 2		These are incomplete; cement plastering and fixing shutters, &c., in progress.
	6"	42	5,900 "	4,235 15 0		
	9"	32	210 "	296 6 3		
	12"	43	500 "	1,112 7 6		
Sub-soil sewers, stone-ware 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		
Manhole	...	4	" 1	57 6 4		
Gully pits	...	5	" 5	185 1 4		
Gravelling lanes	...	50	407 Rg. yd. or 24,663 Sqr. ft.	1,118 18 0		
Check channel	...	50	...	128 10 0		* This work is not specifically provided for in estimate but under approval of Chairman is being done under provision of sundries and expected saving.
Flushing surface sewers.	...	In progress.	...	*55 1 6		
Sundries	...	...	...	290 14 10		For erecting working sheds and constructing templates for surface sewers, &c.
Carried over...				10,791 0 10		

Total work done brought forward	...	RS. A. P. 10,791 0 10		
MATERIALS AT SITE—				
Departmentally collected—				
Blue metal at mill house	...	65	186 14 2	
Granite blocks for metal	...	42	40 9 2	
		227	7 4	
Supplied by contractors—				
Blue metal at site	...	67½	209 6 0	
Portland cement barrels	...	159	2,424 12 0	
Chunam	...	17	12 12 0	
Sand	...	314	48 5 0	
6" stoneware pipes	...	24	19 12 0	
9" "	...	938	1,488 5 0	
12" "	...	304	874 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. 85,000.				
Percentage of expenditure on estimated cost, 45.				
In consequence of late interruption of traffic on the ghant, 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.	
			Percent- age.	Value.	Percent- age.	Value.	Percent- age.	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		1,02,863 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.		
<i>For Main Outfall Channel.</i>		
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 ... "	370	
<i>For Branch Channels.</i>		
Table-moulded bricks (burnt) ... No.	80,000	
Broken bricks for concrete paras.	400	
Lime stone "	100	
Cut stone Cft.	200	
<i>Departmental stores.</i>		
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	86	2	29	6	65
North branch channel	...	86½	...	11½	6	08
Centre branch channel	...	63	...	10	...	73
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; 3.66 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
2	Branch channels ...	Masonry ...	1,241 7 6
3	Contingencies and cost of establishment ...	Earthwork ...	250 4 7
			4,597 10 11
	Amount passed for payment up to 31st December 1891 ...		10,167 15 2

J. A. JONES,

Sanitary Engineer to Government.

118

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 Tinnevely (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.

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 Nilgiri 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, Tinnevely 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 Godáviri (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 Godáviri 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, Tinnevely 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 diarrhoea.

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 Mannargudi. 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 Parlakimedi 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, Nilgiris 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 diarrhoea 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 Bezvada. In this latter town, the death-rates for the two preceding years were excessive, being 50.4 and 57.8 per mille respectively. Palni

	1890.	1891.	
Adóni	19.2	44.5	and 47.6, respectively, per mille, caused
Cochin	27.4	43.9	mainly by cholera and small-pox as in the
Anantapur	28.7	40.9	preceding year. It is observed that the
Dindigul	30.2	40.0	death-rates in the towns noted in the
Nellore	20.9	36.0	margin were much higher than the figures
Guntúr	20.4	34.5	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.

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 Bezvada, Cocanada, Kumbakonam, Tirupatúr, Vaniyambádi and Wárajápet 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, Nilgiris, 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 Bezvada (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 Diarrhoea.*—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 diarrhoea 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, Bezvāda returned the highest death-rate (11·9 per mille); next come Tuticorin, Bimlipatam, Tanjore and Karūr, with rates ranging from 8·7 to 6·5 per mille. The least affected town was Adōni 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 diarrhoea, 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 Mannārgudi, Kumbakōnam, Cannanore and Elore 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, Anakāpalle, Tirupatūr, Vaniyambadi, Mannārgudi, Elore and Madura. The Councils concerned will report what steps, if any, they have taken or intend to take in the matter. In Karūr, Bezvāda, Parlākimedi, 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 Parlākimedi, Cochin, Ootacamund, Tirupati, Gudiyātam 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), Parlākimedi (44·5), Palamecottah (37·9), Coonoor (29·8) and Kumbakōnam (17·1). In Coonoor and Kumbakōnam 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	5,67,140	56·8

(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, Godāvāri, Nilgiris 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 discreditably 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 Tinnevely (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 Kumbakonam 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 Bezvada and Karur drainage, and the Conjeeveram, Berhampore and Salem water-supply, schemes in 1893; and the Erode drainage, and the Nellore and Guntur 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.)

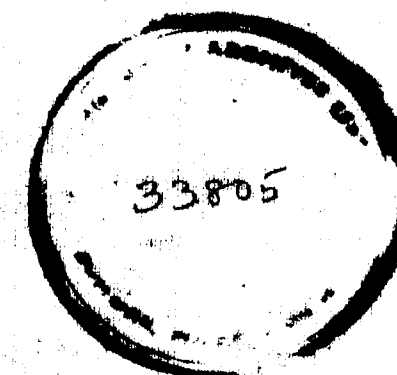
J. F. PRICE,
Chief Secretary.

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.



R
D8. 2117 M91
M92

Ext. A. Raitt.

Gobt. of {1892} Madras.
LOCAL AND MUNICIPAL.

Issued

Recd.

Encl.

G.O., &c., 9th July 1892,
Nos. 1596, 1597 L.

JULY.

Reports.

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

*Sanitary
Engineer's*